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INTERNATIONAL

SOUTHEAST ASIA'S SOURCE OF STABILITY

In 1967, as the Cold War was at its height, five countries — Indonesia, Malaysia, the Philippines, Singapore and Thailand — decided to embark on a path of regional cooperation with the initial goal of opposing communism. Today, after bracing the peaks and troughs of more than five decades in which it expanded its membership to a total of 10 nations and enlarging areas of cooperation, the organisation, which is seen as a rare example of cooperation in one of the most culturally and politically diverse regions, is trying to protect itself from becoming the new age proxy battlefield.

On September 5, at the 43rd summit of the Association of East Asian Nations (ASEAN) in Jakarta, Indonesian President Joko Widodo opened the event by saying the grouping had agreed to not be a “proxy” to any powers, in a veiled reference to the growing competition between China and the U.S. to assert influence in the region. “Don’t turn our ship into an arena for rivalry that is destructive,” the leader warned as top officials from both countries were in attendance .

ASEAN, while being lauded by some and written off by others for the way it functions, continues to pride itself on its two core operating principles of non-interference in the internal affairs of its members and consensual decision-making. It also strives to maintain what it describes as “centrality”. Article 1.15 of the ASEAN Charter states that the group’s main objective is to maintain ASEAN’s centrality, which essentially means being in the driver’s seat.

It is perhaps due to this recipe for regional partnership that the 10 economies of Southeast Asia (Brunei, Myanmar, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, and Vietnam) that can be spotted at varied points on the administrative spectrum from democracy to absolute monarchy have managed to work together on lucrative economic goals.

Representing a strategically important region cradling some of the world’s busiest sea lanes, including those in the Strait of Malacca and the South China Sea, the 10 countries collectively rank as the world’s fifth-largest economy, having posted a combined annual GDP of around \$3.2 trillion in 2022. With a 600-million strong population, it is also an attractive market.

FALL OF ‘GEN. ARMAGEDDON’

His brutal but effective military campaign in Syria earned him the moniker of Gen. Armageddon. When Russian troops were forced to withdraw from the Kharkiv region in September-October 2022, President Vladimir Putin picked him as the commander of his “special military operation” in Ukraine. When he completed an orderly pull-back of some 30,000 Russian troops from the west bank of the Dnipro river in Kherson, sacrificing the Kherson city but saving the lives of his troops and turning the focus on bolstering defences along the eastern bank, he was called a General who would not shy away from taking bold decisions. He was also credited with building Russia’s massive defence fortifications along the 1,000-km long frontline which Ukrainian troops are finding hard to break through in their ongoing counteroffensive. Yet, Gen. Sergei Surovikin is now a disgraced figure in Moscow.

His story is that of a remarkable rise to the top echelons of Russia’s military and a quick fall from the top. And in between, there was Wagner, the Russian private military company founded by Yevgeny Prigozhin.



On June 23, when Prigozhin launched a mutiny against Russia's top military brass, Gen. Surovikin, appearing in distress, issued a video message, asking the former Kremlin contractor to end the rebellion. Gen. Surovikin's close ties with Prigozhin and Wagner were hardly a secret. They worked together in Syria where the General was the commander of the Russian troops.

Before the mutiny, Prigozhin had repeatedly attacked Defence Minister Sergei Shoigu and Chief of the General Staff Valery Gerasimov, but never targeted Gen. Surovikin. So when the mutiny was unfolding, it was clear that Gen. Surovikin was in trouble. The mutiny was averted through talks mediated by Belarusian leader Alexander Lukashenko. But Gen. Surovikin went missing on that day. His wife Anna said in an interview to the local media that he never returned home from work. In July, the Wall Street Journal reported, citing unnamed officials, that Gen. Surovikin, along with at least a dozen high-ranking military officers, was detained for interrogation.

MISSING MINISTER BRINGS SPOTLIGHT TO XI'S PURGES

China's Defence Minister Li Shangfu has become the latest senior Chinese official caught up in swirling political rumours, with reports on Friday suggesting that the People's Liberation Army General had been detained over ongoing corruption investigations.

Only in July, China's Foreign Minister Qin Gang, who had been appointed in March, disappeared without explanation from public view for several weeks before a brief announcement declared he had been removed from the post. Three months on, there still hasn't been any explanation over the reasons behind the sudden removal of one of the most prominent public faces of the Xi Jinping government, who also served as one of five State Councillors — the third highest position in the executive branch of government behind the Premier and Vice Premiers.

On Friday, reports said Mr. Li, who is also one of the five State Councillors, had been detained over ongoing corruption investigations into the military's Rocket Force — formerly the Second Artillery Corps — which has already seen several senior officials placed under investigation. Mr. Li was the first Chinese Defence Minister — who also serves on the Central Military Commission headed by Mr. Xi — who hailed from the Rocket Force.

While it remains unclear if the apparent removals of two of the most prominent Ministers were linked, some of the purges in the Rocket Force were announced days after Mr. Qin's removal.

Chinese officials on Friday declined to comment on the whereabouts of Mr. Li, who like Mr. Qin disappeared suddenly from public view. Also as was in the case of Mr. Qin, Beijing explained his absence in diplomatic meetings to "health reasons".

U.S. officials have said they believe Mr. Li to be in detention by authorities for questioning and to have been removed from his post, according to a Friday report in the Financial Times. Rahm Emanuel, the U.S. Ambassador to Japan, commented on the removals in a post on X (formerly Twitter), saying the political developments in Beijing under Mr. Xi were resembling the plot of an Agatha Christie novel. "First, Foreign Minister Qin Gang goes missing, then the Rocket Force commanders go missing, and now Defense Minister Li Shangfu hasn't been seen in public for two weeks," he wrote.

What is striking about both Mr. Qin and Mr. Li is they were handpicked and fast-tracked by Mr. Xi to their posts.



NATION

IS THE G-20 A SUCCESS FOR GLOBAL COOPERATION?

The story so far:

The G-20, comprising 19 countries and the European Union, that was founded in 1999, is finally in Delhi, with all eyes on the New Delhi declaration issued at the end of the summit. While India took presidency of the G-20 with what seemed to be insurmountable odds, a global economic crisis spurred by the COVID-19 pandemic, the Ukraine conflict in its second year with more entrenched positions between the Western alliance and the Russia-China combine, as well as growing geopolitical tensions in the Indo-Pacific, its biggest challenge has been ensuring a moment of truce that would allow for a joint communique to be agreed upon at the summit.

What are the takeaways from the summit?

The big takeaway is the New Delhi Declaration that forged a consensus between the G-20 nations, bitterly divided between the G7-EU and Russia-China, on the issue of Ukraine. The final language is a shift from the 'Bali Paragraphs', with language critical of Russia erased, on a firm proposal from G-20 hosts of past and future years — Indonesia, India, Brazil and South Africa. The final 83-paragraph declaration, with eight paragraphs on "geopolitical issues", on which consensus was reached included language on everything from climate action, financing, and fossil fuel phaseout, to debt restructuring, the biofuel alliance, health, digital infrastructure, regulating crypto currency and other issues.

Bringing the African Union into the G-20 fold will be credited to India, and future summits in Brazil and South Africa are likely to take India's Global South initiative forward. It will be interesting to see if other hosts also follow India's example in holding G20 meetings throughout its term in multiple cities.

On the sidelines of the summit, all eyes are on the possibility of reviving the Black Sea Grain Initiative for Russia and Ukraine, which found a mention in the G-20 declaration, as also the multi-billion mega infrastructure project from Saudi Arabia and the UAE to Europe, quarter backed by the U.S. and India.

What does the G-20 mean for India?

In the days leading up to the G-20 summit in India, international commentators referred to this as "India's moment" on the international stage. The term is interesting, as since 2008, the G-20 has been held in different countries by rotation, without it being seen as a transformational moment for the host country. One of the reasons for this is the unprecedented effort New Delhi has put into hosting the G-20, which it postponed twice, in 2021 and 2022, in order to ensure its preparations were in place. The G-20 in Delhi has also made its mark in terms of the Indian initiative to bring on board the "Voice of the Global South", ensuring that more than 125 countries of the developing world raised their concerns at a "feeder conference" in January 2023, that were included in the declaration.

"No document in the world would have such a strong voice for the Global South and the developing countries as the New Delhi Leaders' Declaration," said Indian G-20 'Sherpa' Amitabh Kant, the term for the leader's representative, at a press conference ahead of the summit.



Including the African Union at the summit, a proposal by the grouping of 55 African countries, endorsed by Mr. Modi, is also a feather in India's cap. The move helps tilt the balance within the G-20 away from the Power-11 of geopolitical powers, the G-7 (Canada, France, Germany, Italy, Japan, the U.K. and the U.S.), U.S. allies Australia and South Korea, the European Union and the Russia and China combine to the Developing-10 (Argentina, Brazil, India, Indonesia, South Korea, Mexico, Saudi Arabia, South Africa, Turkey and the African Union), who make up the rest of the members.

Finally, the moment is significant for India because of the government's push to popularise and "democratise" the G-20 within India, inviting about 1,00,000 delegates from over 125 countries to about 200 meetings in more than 60 Indian cities to partake in the event, according to G-20 Chief Coordinator Harsh Shringla. The political message of what the government calls the "People's G-20" is also not lost, coming just ahead of general elections in India in 2024, with many commentators remarking on the use of the lotus in the G-20 symbol, resembling that of the ruling party.

Who's here and who isn't?

India's G-20 has attracted heads of state from 17 of the 20 original members, and in a first, the African Union Chairperson President of Comoros Azali Assoumani flew in, to take over the AU seat at the G-20 table in Delhi's Bharat Mandapam venue on Saturday. U.S. President Joseph Biden, who met Mr. Modi for dinner on Friday, and Saudi Arabian Crown Prince and PM Mohammed Bin Salman who will receive a state visit on Monday, have been singled out for special attention as well. Some came despite the odds — with German Chancellor Olaf Scholz wearing an eye patch as he sustained an eye injury this week, and Brazilian President Lula, who is due for a hip surgery later this month. Mr. Modi has scheduled bilateral meetings with at least 15 of the more than 25 leaders present, although meetings with Chinese Prime Minister Li Qiang, Canadian Prime Minister Justin Trudeau and Indonesian President Joko Widodo are among those not scheduled so far. Of those not attending is Mexican President Obrador, who does not travel abroad as much deputing his Economy Minister. The most notable exceptions, however, are from Russia and China. India has also invited nine countries as special guests to its G-20 — these include the leaders of Singapore, the Netherlands and the UAE, which as major economies are nearly always on the list. Spain is also a permanent invitee, but Spanish President Sanchez cancelled at the last minute after coming down with COVID-19.

Is the absence of Russian and Chinese Presidents a miss?

While President Vladimir Putin, dealing with the Ukraine conflict, made it clear some time ago that he would not attend, as he hasn't since 2021, and even called Prime Minister Modi to explain his absence last week, Chinese President Xi Jinping has been more inscrutable about his non-attendance at the summit in Delhi. Many ascribe Mr. Xi's decision not to come, although he has attended every other G-20 Summit since 2013 in person or virtually, to the spiralling state of India-China bilateral relations, with the military standoff at the Line of Actual Control continuing. In addition, some suggest that Mr. Xi is sending a message of disapproval for the G-20 itself, for its continued inclusion of Ukraine, a "geopolitical issue" in what was set up originally as a group purely for international economic cooperation.

While not having two important members of the UN Security Council (UNSC) P-5 at the summit is disappointing for New Delhi, the absence of the leaders has made for a less fractious summit, and eventually the outcome document language was seen as a win for both Russia and China as well.



STOCKTAKING CALAMITY

The climate crisis intricately wove itself into the G-20 summit in Delhi, particularly during the discussions on clean energy, sustainable development and the collective responsibility necessary to avert it. The United Nations' Global Stocktake, a report that was released just ahead of the G-20 meet, set out the scope of challenges that awaited the major economies of the world even as it presented little beyond what is already known. This stocktake is to serve as a template to guide discussion ahead of the 28th Conference of Parties scheduled in Dubai this November and is meant to be an official reckoning of the work actually done by countries since 2015, in stemming greenhouse gas (GHG) emissions. That year, signatories to the UN convention on climate change agreed in Paris to keep global emissions from rising beyond 2°C and, as far as possible, limit it to 1.5°C. Though it acknowledges “some” headway, the world, as of now, is emitting gases in a manner that will certainly overshoot the Paris-agreed limit. The report unequivocally states that “much more ambition in action and support” is necessary for implementing domestic mitigation measures to reduce global GHG emissions by 43% by 2030, 60% by 2035 and reach net zero CO₂ emissions by 2050 globally. Based on current information submitted by countries, the emissions gap consistent with 1.5°C in 2030 is estimated to be 20.3 billion tonnes–23.9 billion tonnes of CO₂. These are gaps unlikely to be filled without a rapid upscaling of renewable energy resources and an eschewal of fossil fuel sources such as coal, oil and natural gas. However despite several acknowledgements by world leaders, most recently at the G-20, of the magnitude of the crisis, little has been achieved in terms of energy transition. G-20 countries account for 93% of global operating coal power plants and 88% of prospective ones.

The G-20 Leader's Declaration formally recognised the need for “...USD 5.8-5.9 trillion in the pre-2030 period required for developing countries...as well as USD 4 trillion per year for clean energy technologies by 2030 to reach net zero by 2050”. The report also dwells on the need to reverse deforestation and the adoption of electric vehicles as vital prongs to a clean energy economy; however, it does not single out individual countries or provide a more granular analysis of where the existing shortcomings are in the approach adopted by countries to curtail emissions. The Stocktake report however must not be dismissed as yet another technical document. During the upcoming climate talks, it must form the basis of negotiations to aid the discovery and adoption of genuine breakthroughs.

ANALYSING WHERE INDIA STANDS IN THE G20

On September 9 and 10, India hosted the 18th G20 Summit in New Delhi, focusing on the theme ‘One Earth, One Family, One Future.’ Food security, climate change, energy, development, healthcare, and digitalisation were deliberated upon at the global forum, formed to discuss economic and financial matters. The summit wrapped up successfully as India transferred the G20 Presidency to Brazil. This analysis evaluates India's performance in recent decades across various socioeconomic metrics in comparison to its fellow G20 members. The G20 is made up of India, Australia, China, Indonesia, Japan, South Korea, France, Germany, Italy, Russia, Turkey, the United Kingdom, the European Union (EU), Argentina, Brazil, Mexico, Canada, the United States, South Africa, and Saudi Arabia.

GDP per capita (\$) is the sum of gross value added by all resident producers in the economy divided by mid-year population. In 1970, with a GDP per capita of \$111.97, India ranked 18 out of the 19 regions analysed. While Indonesia lagged behind India in 1970, it moved ahead by 2022, pushing India to the last spot with a GDP per capita of \$2,388.62.



The HDI is a measure of life expectancy, access to education, and standard of living. HDI in the graph is measured on a scale of 0 (worst) to 1 (best). India's HDI improved from 0.43 in 1990 to 0.63 in 2021. However, despite its progress in absolute terms, India ranked at the bottom of the list.

India's performance has seen little relative improvement in metrics relating to health, even though there has been growth in absolute numbers. In 1990, the average life expectancy in India was 45.22 years, which was better than China's 33.27 years. By 2021, life expectancy rose to 67.24 years, ahead of South Africa. However, India's ranking remained the same, as China surpassed India. In 1990, with an infant mortality rate of 88.8, India ranked at the bottom of the 20 regions analysed. In 2021, the infant mortality rate improved to 25.5 and India ranked 19, just ahead of South Africa (26.4).

In 1990, with an LFPR of 54.2%, India ranked 18, above Italy (49.7%) and Saudi Arabia (53.3%). In 2021-22, its rank slipped to 19, only ahead of Italy's (49.4%). Notably, India's LFPR also decreased to 49.5% in this period.

Despite having seen several women in leadership positions, India's relative growth in the share of women in Parliament has been slow, with many countries and the EU outpacing India. From 8.1% in 1998, the share almost doubled to 14.9% in 2022. But when compared to the 18 countries and the EU, India's rank slipped from 15 in 1998 to 18 in 2022, just ahead of Japan (9.9%).

India has succeeded in curbing carbon emissions over the past three decades. It has been the lowest emitter of CO₂ in 1990 and 2020 among the 20 regions analysed. However, its progress in adopting eco-friendly energy sources to combat climate change has been relatively slow. Most G20 nations, excluding the U.S. and Mexico, generated less than 2% of their electricity from renewables in 1990. By 2015, only 5.36% of India's electricity came from renewable sources. India ranked 13 out of the 20 regions analysed.

INDIA'S MOMENT

The Leaders' Summit of India's presidency of the G-20 grouping, held over the weekend, resulted in major success with the unanimous adoption of the New Delhi Declaration — especially significant as there was little hope of one. Experts, diplomats and officials had downplayed expectations of India's negotiators being able to pull off what few have achieved thus far: a détente between the "western" G-7-EU axis and the Russia-China combine over the issue of the Ukraine war. At the UN Security Council, not a single statement has been passed so far as a result of vetoes by both sides. While Indonesian G-20 negotiators in 2022 were able to pull off a joint statement with references critical of Russia (the G-7 pushed for these), the consensus did not last, and Russia and China refused to have them repeated this year. As every Indian ministerial meeting ended without success in a joint statement, India's negotiating team took the more considered approach — to achieve consensus on other issues, before tackling the paragraphs on Ukraine. There was a breakthrough after the G-7 compromised on its insistence of language critical of Russia by having more neutral paragraphs. The Declaration statement achieved what is truly impossible in today's global polarisation. In that, India's "middle path" policy has been its biggest strength, along with Prime Minister Narendra Modi's personal outreach to many G-20 leaders over the year. Another key initiative was enlisting the "Global South", including many G-20 members, who were reluctant to take sides in the tussle, and wanted instead to shift priorities to global development issues. As a result, the 83-paragraph Declaration made progress on cryptocurrency regulation, and



crystallised a figure of nearly \$10 trillion needed for climate change adaptation and mitigation projects for the Global South, although it failed to agree on any fossil fuel “phase-out” deadlines.

There were several other initiatives too: the admission of the 55-member African Union has corrected an imbalance that so far only allowed the EU in as a regional grouping in the G-20. The Global Biofuel Alliance was an important step towards more research and delivery of alternative energy sources for a world still dependent on fossil fuels. Finally, an India-Middle East-Europe Corridor with the promise of U.S. investment has dazzling possibilities, but details of its funding and execution still need to be drawn out. India’s attempt to take the G-20 outside of the ordinary, single-venue template, to hold 200 meetings in over 60 cities, drawing more than 1,00,000 official visitors from 125 countries, has been noted as a unique initiative, albeit at considerable extra cost; it remains to be seen whether future G-20s will find it a viable example to follow. Above all, India’s G-20 leaves an indelible mark in its attempt to “popularise” an organisation seen till now as a staid and boring event bringing world leaders to a high table where arcane subjects are discussed, decisions made are not scrutinised, and without bringing real change to the lives of the wider global population. To that end, Mr. Modi’s decision to hold a virtual “review” meeting in November, before India gives up its presidency, is a chance to ensure implementation and scrutiny of the decisions made over the weekend, that has been dubbed “India’s G-20 moment”.

NEW CURRENCY, NEXT STEPS

Globally, countries have opted for different approaches in dealing with the contentious issue of cryptocurrencies. While some have brought in stringent regulatory frameworks, others have veered towards outright bans. India’s approach has also been mixed. In 2018, the RBI prohibited Indian banks from dealing with or facilitating cryptocurrency transactions. In 2020, the Supreme Court struck this down. In the Union budget 2022-23, a 30 per cent tax was proposed on income from the transfer of digital assets, along with a 1 per cent TDS (tax deduction at source) on such transactions. Considering the borderless nature of cryptocurrencies, Finance Minister Nirmala Sitharaman has said that any legislation for regulation or banning can only be effective through global collaboration. An IMF and the Financial Stability Board (FSB) paper, last week, noted that “a comprehensive policy and regulatory response” is needed to tackle the risks that crypto-assets pose to financial stability. On Saturday, the G20 Leaders Declaration endorsed the recommendations of the FSB and also welcomed the paper’s roadmap “that will support a coordinated and comprehensive policy and regulatory framework.”

The decision to ban cryptocurrencies is not an “easy option”, as the IMF-FSB paper notes. It may be even difficult to enforce — a ban in one jurisdiction could simply lead to crypto activity moving to other more friendly jurisdictions. Moreover, such an approach may end up pushing cryptocurrency transactions outside a country’s area of scrutiny. This can increase financial integrity risks. In contrast, regulation and supervision of licenced or registered crypto-asset issuers and service providers could help plug the information gaps, making it easier to monitor cross-border activities. Several other steps need to be taken. For instance, the paper argues for the need to implement the Financial Action Task Force anti-money laundering and counter-terrorist financing standards that apply to cryptocurrencies and service providers.

Finance ministers and central bank governors of the G20 countries will meet in October to discuss taking forward the roadmap outlined in the IMF-FSB paper. This is welcome progress. Considering the transnational nature of cryptocurrencies, global coordination is required.



EXPRESS VIEW ON G20 SUMMIT FOOD: NOT ON THE MENU

At the G20 summit that concluded in Delhi on Sunday, only one thing, it would appear, gave competition to geopolitics — millets. The atithi devo bhava experience for the delegates was replete with delicacies made from the humble grains, touted by the government as beacons of sustainability in a world rocked by health and environmental crises. There were foxtail millet starters topped with yoghurt and spiced chutney. The main course was jackfruit galette with forest mushrooms and little millet crisps and Kerala red rice. The guests rounded off their meal with a cardamom-scented barnyard millet pudding. If the high table showcased New Delhi's growing diplomatic clout, its menu was all about giving a global platform to the hardy grains that are staples in large parts of the country. Even at the hotels where the guests were accommodated, chefs embraced millets with gusto and used them in idlis and puris, pastas and risottos.

The government's championing of the versatile and climate-friendly food is welcome. But it seems to have come at the cost of the country's culinary diversity — the government appears to be pandering to the stereotype of India being a nation of vegetarians. Non-vegetarian fare was particularly conspicuous by its absence on the G20 menu. Chef Kunal Kapur's jowar and mushroom khichdi, for instance, was a plant-based twist on a slow-cooked dish made with meat, broken wheat and spices. As Kapur wrote in an Instagram post, "It is a recipe that takes its lineage from Harees" that finds a mention in the 10th-century cookbook *Kitaab Al Tabikh*.

It's well known that close to 60 per cent of Indians are not vegetarians. The culinary culture of the country is a product of the cultural interactions of its people and their ability to tap into their milieu — farms, forests, ponds, rivers and seas. That's what makes food practices in large parts of the country sustainable, not just the consumption of millets.

WHAT IS THE NATIONAL JUDICIAL DATA GRID AND HOW IT COULD HELP COURTS

The Supreme Court on Thursday (September 14) onboarded its case data on the National Judicial Data Grid. The NJDG portal is a national repository of data relating to cases instituted, pending and disposed of by the courts across the country.

Terming it a "historic" development, Chief Justice of India DY Chandrachud said, "Onboarding of Supreme Court data on NJDG portal under the open data policy is a step on our part to bring transparency and accountability in the judicial domain."

What is the National Judicial Data Grid?

NJDG (<https://njdg.ecourts.gov.in/njdgnew/index.php>) is a database of orders, judgments and case details of 18,735 District and subordinate Courts and High Courts created as an online platform under the eCourts Project. Its key feature is that the data is updated in real-time and has granular data up to the Taluka level.

Who runs the NJDG?

The NJDG was built as part of Phase II of the e-Courts project, which is a Centrally Sponsored Scheme. With over 18,735 courts computerised across the country, the data is integrated with the NJDG. The platform has been developed by the National Informatics Centre (NIC) in close coordination with the in-house software development team of the Computer Cell, Registry of the Supreme Court with an interactive interface and analytics dashboard.



Currently, litigants can access case status information of 23.81 crore cases and more than 23.02 crore orders/judgments.

How does the data help?

NJDG works as a monitoring tool to identify, manage & reduce pendency of cases. Take, for instance, the Supreme Court data.

For the year 2023, the total pendency of registered cases in SC is 64,854. But the Cases instituted last month were 5,412 while cases disposed of in the last month were 5,033. This shows that the pendency in SC is largely due to legacy cases since the Court is currently disposing of approximately the same number of cases filed on an annual basis.

It also helps identify specific bottlenecks in judicial processes. For example, if the number of land disputes in a particular state shoots up, it helps policymakers look into whether the law needs to be strengthened. Referring to the data of year-wise pendency of cases, the CJI said the apex court has less than a hundred cases pending before 2000 and it gives data tools to the Chief Justice to re-organise work and dispose of the oldest cases.

It also helps generate inputs related to particular areas of law. For example, to track cases related to land disputes, Land Records data of 26 States have been linked with NJDG.

NO FILTER

A Constitution Bench of the Supreme Court has ruled that its 2014 verdict, invalidating Section 6A of the Delhi Special Police Establishment Act, the law that governs the CBI, will have retrospective effect from the day the provision was introduced in 2003. Section 6A provided that any investigation into corruption charges against officials of the rank of Joint Secretary and above, can begin only after the Central government's approval. It was introduced to restore the Centre's 'Single Directive', a set of instructions to the CBI on the modalities of holding an inquiry. In the landmark case of Vineet Narain (1997), the apex court had struck down the directive on the ground that a statutory investigation cannot be impeded by administrative instructions. Six years later, Section 6A was introduced to restore the prior approval requirement. However, in 2014, the Court struck down this section too, holding that it violated the norm of equality by extending its protection only to a class of public servants and not everyone. The latest judgment rejects arguments by some who are facing investigation that they should be given the protection of Section 6A as they were charged with offences that date back to the time before the 2014 judgment, when the provision was in force. The Court has reiterated the position that post-Constitution laws cannot be inconsistent with the Constitution and when they are so declared by a court, the invalidation is with effect from their inception.

The judgment is of limited applicability now, as it will impact only allegations that date back to the period between 2003 and 2014. The law as it stands now is quite different. In 2018, when the Prevention of Corruption Act was amended, Section 17A was introduced to make the government's previous approval a mandatory requirement before any probe can be begun into decisions or recommendations made by a public servant. This initial stage filter has been created even while sanction is necessary for prosecuting any public servant at the stage of the trial court taking cognisance of the charge sheet. A prior approval requirement for initiating an anti-corruption probe is not inherently desirable. In its 2014 judgment, the Court had observed that such provisions are destructive of the objective of the anti-corruption laws, block the truth from



surfacing and sometimes result in a forewarning to those officials involved as soon as allegations arise against them. It may be necessary to have safeguards to filter out frivolous inquiries into the conduct of public servants making crucial and bona fide decisions, but it is equally in the interest of the public that these provisions do not become a shield for the unscrupulous.

ON THE CRIME OF 'FALSE PROMISE TO MARRY'

The story so far:

If a man promises to marry a woman but never intends to, and still has 'consensual' sex with her, it will amount to a criminal offence under Section 69 of the proposed Bharatiya Nyaya Sanhita (BNS), 2023. The Bill, which seeks to replace the Indian Penal Code (IPC), 1860, identifies 'sexual intercourse on false promise of marriage' as an offence. At present, the offence is not carved out separately in the IPC, but courts have dealt with similar cases through other provisions within the criminal law framework.

What does Section 69 say?

Chapter 5 of the Bill, titled "Offences against woman and children" describes 'sexual intercourse by employing deceitful means etc.' Section 69 creates two violations: one by deceitful means, and one by a 'false promise to marry.' Deceitful means will include the "false promise of employment or promotion, inducement or marrying after suppressing identity." The false promise to marry will be attracted only when a man makes a promise to marry a woman, with the intention of breaking it, for the purpose of getting her consent and sexually exploiting her. Both offences will attract a penalty of up to ten years of imprisonment.

While introducing the Bills, Home Minister Amit Shah said, "crime against women and many social problems faced by them have been addressed in this Bill. For the first time, intercourse with women under the false promise of marriage, employment, promotion and false identity will amount to a crime."

How has the IPC dealt with cases of 'false promise to marry'?

In 2016, a quarter of the total rape cases registered in Delhi pertained to sex under 'false promise of marriage', as per Delhi Police data. The National Crime Records Bureau in the same year recorded 10,068 similar cases of rape by "known persons on a promise to marry the victim" (the number was 7,655 in 2015).

Researchers Nikita Sonavane and Neetika Vishwanath explained that these cases happen in one of two ways — when rape is committed, and the promise of marriage is used to silence the victim, or where the promise is made to 'convince' the person into entering a sexual relationship. Activists note that such cases play out mostly among socially disadvantaged women, given that legal remedy cannot be easily sought.

BNS penalises those coercing women into sexual relationships. Previously, these cases were dealt with through a joint reading of Sections 375 and 90 of the IPC. Section 375, which defines rape, further defines consent as "an unequivocal voluntary agreement when the woman by words, gestures or any form of verbal or non-verbal communication, communicates a willingness to participate in the specific sexual act." Explanation 2 of Section 375 also lists seven types of consent which would amount to rape if violated; these include if a man has sexual intercourse with a woman "without her consent," or consent taken through fear of death, hurt or intoxication. In



2021, the Supreme Court reiterated that under Section 375, a woman's consent "must involve an active and reasoned deliberation towards the proposed act".

Section 90 says consent, given under "fear of injury" or "misconception of fact," cannot be considered as consent. Cases of false promise to marry are dealt with under the latter, where a 'misconception' is used to assess the validity of consent. Legal scholars have questioned the use of Section 90 to interpret consent, given that Section 375 already lays out a definition.

What is the difference between 'false promise' and 'breach of promise'?

The law has distinguished between a 'false promise' and a 'breach of promise' on the basis of proving if the man intended to marry at the time of engaging in sex. Courts have previously recognised the ambiguity in determining consent and intention in such cases. The SC observed that a false promise is "given on the understanding by its maker that it will be broken," but a breach of promise is "made in good faith but subsequently not fulfilled." Put simply, if a man can prove he intended to marry the woman before he entered into a sexual relationship, but later is unable to do so due to whatever reason, it is not legally punishable. The Supreme Court in 2022 held that consensual sex on a 'genuine' promise of marriage does not constitute rape.

"The court, in such cases, must very carefully examine whether the complainant had actually wanted to marry the victim or had mala fide motives and had made a false promise to this effect only to satisfy his lust, as the latter falls within the ambit of cheating or deception," the Supreme Court said.

How is intention to marry proved?

Cases of 'false promise of marriage' look at two central issues — how consent is obtained (through deceitful means, or by misconception), and whether the man ever intended to marry the woman.

The Supreme Court this year said every breach of promise is not rape, noting: "One cannot deny a possibility that the accused might have given a promise with all seriousness to marry her, and subsequently might have encountered certain circumstances unforeseen by him or the circumstances beyond his control, which prevented him."

But activists argue that 'circumstances' are shorthand for social norms that uphold the status quo, reinforcing gender roles, patriarchy and caste lines. Moreover, Section 69 in the BNS codifies the offence instead of creating a new one. Thus, in its present form, the Bill doesn't dissolve the confused distinction between 'false promise' and 'breach of promise,' and overlooks the inherent limitations in criminal law which feminist and anti-caste activists have pointed out, lawyer Surbhi Karwa stated in an article.

There are two critiques that may spill over to Section 69, if unscrutinised. One, as scholars like Nivedita Menon have argued, is that such applications promote restrictive ideas about women, marriage and consent; they hinder women's autonomy and re-victimise them. Courts have previously relied on a woman's age, sexual history and marital status to question their ability to 'trust' the promise of marriage. "If a fully grown-up lady consents to the act of sexual intercourse on a promise to marry and continues to indulge in such activity for long, it is an act of promiscuity on her part and not an act induced by misconception of fact," the Delhi High Court ruled in a case. Activists note that these train a 'victim-blaming' lens on the issue and shift the burden to women to prove their consent was vitiated.



The vagueness, and discretionary nature of rulings, often power the narrative that these are instances of 'love gone sour.' In 2017, Justice Pratibha Rani of the Delhi High Court, taking umbrage at the rising number of such cases, implied that women use rape laws as 'vendetta'. She stated, "...on [a] number of occasions... where both persons, out of their own will and choice, develop consensual physical relationship, [and] when the relationship breaks up due to some reason, the women use the law as a weapon for vengeance and personal vendetta." Similarly, in the August 21 case, the Supreme Court Bench of Justices Sanjay Kishan Kaul and Sudhanshu Dhulia remarked on a false pretext of marriage case: "So far as it is consensual and between adults, there is no problem. But when you choose to live by your own standards, you should also be ready to face all the possible consequences." However, feminist scholars have reiterated that rape law is often the only recourse available to women to seek damages or maintenance.

Two, the law promotes endogamy and shifts the conversation away from the real harm and abuse that women face, as researcher Nikita Sonavane has pointed out. Ms. Sonavane in a paper looked at 'false promise on marriage' rape judgments passed by a district court in Chhattisgarh where the prosecutrixes, belonging to a Scheduled Caste, took recourse under Section 376 and Section 90 of IPC. Her findings showed, "...impossibility of an inter-caste marriage was also used as a ground to acquit the accused of rape. The Court is in fact upholding the archaic practice of marrying within one's own caste."

The judgment in Uday versus State of Karnataka (2003) became the basis for several future outcomes. A woman from an OBC caste accused a Brahmin man of raping and impregnating her. The man promised to marry her but later reneged on the promise. A Supreme Court Bench ruled against rape, saying there was no evidence to show a lack of intention; instead, since the parties belonged to 'different castes,' the victim had to be 'clearly conscious' of the 'stiff opposition' the relationship would face, and this wasn't a case of misconception. Ms. Sonavane noted how this "promotes endogamy" and reified "the institution of caste while also penalising the prosecutrix for not adhering to caste norms."

Ms. Sonavane reimagined a 'feminist' interpretation of this judgment, which does not rely on 'character assassination' of women, moves outside a binary idea of consent and acknowledges the 'fraught social context in which women operate...'. Such cases would go beyond criminal law to offer reprieve to women through civil damages.

Without clarity on 'justifiable intentions', commentators add the Bill would empower a cycle where the consequences of crime are specified, but the consequences of harm, which women bear, are overlooked.

MISPLACED MYSTERY

The Government appears eager to keep some enigma around the five-day special session of Parliament, set to begin from September 18. Opposition parties had a point when they complained that the Government did not consult them before calling the special session. As in the parliamentary bulletin issued on September 13, only the agenda for the opening day is known. The Government has listed the Bill that seeks to change the appointment process of the Chief Election Commissioner and Election Commissioners, which the Opposition is preparing to corner the Government on as it gives the ruling party excessive control over the appointment process. The Government also proposes holding a debate on 'Parliamentary Journey of 75-years starting from Samvidhan Sabha – Achievements, Experiences, Memories and Learnings', an intriguing topic. The listed debate could well be the farewell address to the present Parliament (circular)

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building which was designed by Sir Herbert Baker and Sir Edwin Lutyens, and inaugurated in January 1927 by Viceroy Lord Irwin as the seat of the Imperial Legislative Council. The new building, which is triangular-shaped, has been waiting to receive parliamentarians since May 28 when it was inaugurated by Prime Minister Narendra Modi. It was not used during the monsoon session held between July 20 and August 11. No official explanation has been forthcoming on why the session was not held there.

Viceroy Irwin had presented the circular building as an emblem of “permanence”. The building will be retiring at 96 years, four years short of a century. For India’s growing population, its Parliament needs to be bigger and, consequently, the building too. But democracy is not about buildings. Parliament, after all, is a place for the Opposition to have its say though the Government might have its way. The Bharatiya Janata Party has an absolute majority in the Lok Sabha and while it may not have similar numerical strength in the Rajya Sabha, it remains the single largest party; thanks to allies and sympathetic parties, no government Bill has been stalled here for want of a majority. Still, the Government evades parliamentary scrutiny and gives no priority to taking the Opposition into confidence. The Government insists that it is going by the book. A meeting of floor leaders of all parties is being convened on Sunday, just 31 hours before the session begins. There is no dialogue between the Opposition and the Government to enable the smooth functioning of the Parliament. Changes to Article 370 were before Parliament on August 5, 2019, without any notice or consultation. If the Opposition parties have needlessly speculated about the agenda and aired their concerns about the special session, the Government is partly responsible.

DROP THE BAD IDEA OF SIMULTANEOUS ELECTIONS

In recent weeks, there has been increasing discussion about the possibility of having national and State elections at the same time, popularly known as ‘one nation, one election’. The formation of a committee, helmed by a former President of India, Ram Nath Kovind, to determine how this might be implemented, and what manner of constitutional changes might be required to make it a legal reality, have generated further debate. The primary arguments in favour of simultaneous elections are twofold: first, that it will decrease the costs of conducting elections (and of electioneering); and second, that it will free up political parties from being in ‘permanent campaign mode’, and allow them to focus on governance (and, for that matter, constructive opposition) for a five-year period.

Point and counterpoint

Against this, critics have pointed out that when you crunch the numbers, the actual financial savings are relatively minuscule. Furthermore, it is a relatively recent pathology of the Indian political system that central government Ministers and politicians spend a significant amount of time campaigning in State elections: if the concern, therefore, is that frequent State elections hamper governance and the business of Parliament, then simultaneous elections seem a needlessly complicated answer when a simple one is available: that State elections should be primarily fought by State party units, while national politicians can get on with the task of governance. The reality, however, is that the increasingly centralised — and presidential — character of Indian election campaigns means that this is unlikely to be a reality in the near future.

Critics of simultaneous elections have raised a few other objections. First, the logistical nightmare of conducting simultaneous elections in a country of a little over 1.4 billion people, in a context where even State elections need to take place in multiple phases.



The second, and graver concern, is the incompatibility of a rigid election timetable with some of the fundamentals of parliamentary democracy: as is well-known, at the time of Independence, central and State elections were conducted simultaneously. This arrangement broke down towards the end of the 1960s because of the use of Article 356 of the Constitution, which authorises the Union to suspend (or even dismiss) State governments in a narrowly-defined range of circumstances; but also, and apart from that, the essence of parliamentary democracy is that at all times, the government must enjoy the confidence of the House, failing which it must step down, and go back to the people for a fresh mandate.

Consequently, it is obvious that even if, legally and practically, one is able to synchronise central and State elections for one cycle, this will break down the moment a government falls. To this, two solutions have been proposed, both of which tend to make the problem worse. The first is that President's Rule (i.e., central rule) will be imposed in that State until the five-year-period is over. Needless to say, this will starkly undermine both federalism and democracy. The second is that elections will be held in that State, but the term of the new Assembly will only be until the next cycle (which could be in a year, or three years, or four years). Not only does this undercut both the justifications for simultaneous elections — cost and an avoidance of continuous campaign — but, rather, leads to perverse incentives (for example, how much 'governance' will a State government be able to do if elections are scheduled in a year?).

The possibility of more 'horse-trading'

The upshot of this is that there will be a strong push towards avoiding the fall of a government, even when it has lost the confidence of the House in the ordinary course of things. And, as we have seen in India, there is an almost institutionalised remedy for this: defections, or "horse-trading". It is, by now, clear that the Tenth Schedule's prohibition on horse-trading has been rendered more or less a dead letter, as politicians have found various ways to get around this (and courts have not been successful in stopping it). Thus, as was pointed out by lawyer and parliamentarian Kapil Sibal in an interview recently, simultaneous elections are likely to see an explosion of horse-trading, where the political parties with the biggest pockets will be the biggest beneficiaries.

While these intractable issues speak to the implementation of simultaneous elections, at a deeper level, there are two principled and interrelated arguments against the idea: federalism and democracy.

First, let us take federalism. Over the years, it has increasingly come to be accepted that Indian federalism is not simply a matter of administrative convenience but also a matter of principle that recognises the legitimacy of linguistic, cultural, ethnic, and other forms of collective aspiration, through the grant of Statehood. In this context, there is, of course, Indian democracy at the central level, but also, at the level of each State, democracy takes its own set of claims, demands, and aspirations. Simultaneous elections risk a blurring of these distinct forums and arenas of democracy, with the risk that State-level issues will be subsumed into the national (this is inevitable, given the cognitive dominance of the national, as well as the fact that national-level parties frequently campaign in a national register, for understandable reasons).

Keeping absolute power in check

A related point is that in our constitutional scheme, the federal structure is an important check upon the concentration of power (buttressed by the existence of the Rajya Sabha at the central level). The federal structure, in turn, is sustained by a plurality of democratic contests, and a plurality of political outfits, at the State level. Simultaneous elections, for the reasons pointed out



above, risk undermining that plurality, and risk precisely the kind of concentration of power that federalism is meant to be a bulwark against.

Second, on democracy: despite the ringing words with which the Preamble of the Constitution begins, the “People” have very little space in the Constitution, especially when it comes to exercising control over their representatives. Unlike many other Constitutions, where public participation in law-making is a guaranteed right, along with other rights such as the right to recall, in the Indian constitutional scheme, elections are the only form of public participation in the public sphere. There is a different conversation to be had about why this is not enough, but given this framework, relatively regular and frequent elections allow for more extended public participation and debate; simultaneous elections would shrink this scope substantially, without any countervailing changes to deepen it in other domains.

Therefore, it is clear that the administrative benefits from simultaneous elections are overstated at best, and non-existent at worst. However, the costs, both in the implementation and in the concept itself, are significant, and create non-trivial risks when it comes to protecting and preserving the federal and democratic design of the Constitution. These, therefore, are good reasons why the idea is a bad one, and ought not to be acted upon.

THE MARATHA QUOTA DEMAND

Maratha activist Manoj Jarange-Patil on Thursday broke his 17-day fast demanding reservation for the community in jobs and education after Chief Minister Eknath Shinde visited him at Antarwali Sarati village of Jalna district and asked for a month’s time to look into the issue. The demand for a Maratha quota is likely to gain momentum as Lok Sabha and Assembly elections approach.

Who are the Marathas?

Historically identified as a “warrior” caste, the Marathas comprise mainly peasant and landowning groups who make up almost a third of the population of Maharashtra. Most Marathas speak Marathi, though not all Marathi-speaking people are Marathas.

The Marathas have been the politically dominant community in Maharashtra — since the formation of the state in 1960, 12 of its 20 Chief Ministers, including Shinde, have been Marathas. The division of holdings and problems in the farm sector over the years have, however, led to a decline in the prosperity of middle- and lower middle-class Marathas.

Since when have the Marathas been demanding reservation?

The demand for Maratha reservation has been a political issue and reason for mass protests in the state ever since Mathadi Labour Union leader Annasaheb Patil led the first protest rally in Mumbai in 1981. During 2016-18, the Maratha Kranti Morcha (MKM) held massive statewide demonstrations — while the first phase of 58 rallies remained peaceful, the second phase of protests saw bloodshed and several alleged suicides.

Over the years, a succession of Maratha Chief Ministers have been unable to satisfy the community’s demands. In the latest phase of the agitation, Jarange-Patil began a hunger strike on August 29.



What has triggered the current phase of agitation?

The Marathas want to be identified as Kunbis, which would entitle them to benefits under the quota for Other Backward Classes (OBCs). The demand for OBC reservation arose after the Supreme Court, in May 2021, struck down the quota for Marathas under the state's Socially and Educationally Backward Class (SEBC) Act, 2018.

In June 2019, the Bombay High Court upheld the Maratha quota under the SEBC Act. However, the court ruled that the 16% quota under the Act was not "justifiable", and reduced it to 12% in education and 13% in government jobs, as recommended by the State Backward Class Commission.

The HC also said that total reservations should not exceed 50%, except in exceptional circumstances and extraordinary situations. This would be subject to availability of quantifiable and contemporaneous data reflecting backwardness, inadequacy of representation and without affecting the efficiency in administration.

What happened in the Supreme Court?

In May 2021, a five-judge Constitution Bench headed by Justice Ashok Bhushan struck down the provisions of the Maharashtra law providing reservation to the Maratha community, which took the total quota in the state beyond the 50% ceiling set by the court in its 1992 Indra Sawhney (Mandal) judgment.

In November 2022, after the SC upheld the Centre's 10% quota for Economically Weaker Sections (EWS), the Maharashtra government said that until the issue of Maratha reservation is resolved, the poor among the Marathas could not benefit from the EWS quota. In April this year, the court turned down Maharashtra's plea for a review of its decision, following which the state said it would file a curative petition.

The government also said that a commission would be set up to carry out a detailed survey of the "backwardness" of the community.

What is the state's position on the current agitation?

On September 1, police used batons and tear gas as they clashed with protesters. More than 40 people, including both protesters and policemen were injured. The clashes led to massive mobilisation in support of Jarange-Patil's fast, and there were very large protests and bandh calls in Kolhapur, Pune, Solapur, Yavatmal, Dhule, Buldhana, Nashik, and Amravati.

The protests put the state government on the defensive. Deputy CM Devendra Fadnavis apologised for the police action, and the government presented Jarange-Patil with copies of a Government Resolution (GR) based on a Cabinet decision of September 7 to issue Kunbi caste certificates to certain members of the Maratha community, and an older GR from 2004 promising reservation to eligible Maratha-Kunbis and Kunbi-Marathas.

However, Jarange-Patil was not pacified; he said the new GR did not accept his demands, and that the 2004 GR was yet to be implemented. He ended his fast after Chief Minister Shinde visited him and asked for time to look into the legal complexities involved.



How have OBC organisations reacted to the Maratha demand?

OBC organisations have come together to vehemently oppose the Maratha demand. OBC Jan Morcha president Prakash Shendge has threatened to launch a statewide agitation if the government gives the Marathas OBC reservation.

OBC leaders say they are not against Marathas getting reservation, but it should not be at their cost. OBCs already get only 19% reservation in Maharashtra compared to the 27% nationally, and cannot be expected to share the quota with the politically and numerically dominant Marathas, they say.

The 52% reservation in the state is currently divided into Scheduled Castes 13%, Scheduled Tribes 7%, OBCs 19%, Special Backward Classes 2%, Vimukta Jati 3%, Nomadic tribe (B) 2.5%, Nomadic Tribe (C) Dhangar 3.5%, and Nomadic tribe (D) Vanjari 2%.

Separately, there is a 10% EWS quota which is applicable to the non-quota section of the population irrespective of caste and religion, with an annual income limit of Rs 8 lakh.

PROBE AND PROBITY

Sifting through allegations of corruption and malfeasance against politicians, especially those in the Opposition, after cases are filed by a successor-government in Indian States is a knotty exercise. In States such as Andhra Pradesh, relations between the ruling regime and the Opposition have transcended political and ideological contestation and have veered deep into outright hostility and vendetta as seen in the ongoing rivalry between the ruling Yuvajana Sramika Rythu Congress Party and the Telugu Desam Party. Prima facie, the allegations by the Andhra Pradesh CID (AP-CID) about malfeasance in the Andhra Pradesh State Skill Development Corporation's functioning in 2014, are grave. The predecessor government (TDP) is accused of releasing funds for a skill development scheme for unemployed youth in the State, and allegedly diverting a major portion to shell companies, based on fake invoices, even as private partner entities which were roped in to invest in the scheme had not put in their requisite share. The AP-CID has claimed that there were other rule violations in the implementation of the scheme, even as the Enforcement Directorate (ED) launched a separate inquiry based on the FIR filed by the AP-CID in December 2021 leading to arrests of individuals who had purportedly benefited from the transfer of money from the government. The AP-CID has now named the former Chief Minister, N. Chandrababu Naidu (TDP), as the prime accused, leading to his arrest, with its Economic Offences Wing seeking to establish the link between him and other private beneficiaries of the government's release of money for the scheme.

A look at the evolution of the case, with Mr. Naidu being named the prime accused only recently, raises the suspicion of whether political vendetta is also guiding the investigations. Irrespective of the merits of the case, his incarceration will be seen in the light of the zealousness of agencies such as the ED to use arrests, especially those involving the political Opposition, as a political weapon in various cases. Rather than relying on documentary evidence in its investigations, the ED's recourse to high-profile arrests is now being replicated by State agencies as well. The onus is now on the AP-CID to establish a clear link between Mr. Naidu and the alleged irregularities in the scheme. Dealing with malfeasance and corruption cases is no easy task for State agencies. But if they are to tackle the problem of corruption in governance, such agencies must not be seen to be doing the bidding of the party in power. Else, such actions only result in the cynicism of the electorate about corruption and erode their trust in institutions.



WHAT IS THE BATTLE OVER THE 'PLOUGH' SYMBOL IN LADAKH?

The story so far:

The Supreme Court on September 6 reprimanded the Lieutenant Governor's administration of the Union Territory (UT) of Ladakh for procrastinating in reserving the 'plough' as a party symbol for those candidates contesting on the National Conference's (NC) tickets in the Ladakh Autonomous Hill Development Council-Kargil (LAHDC-K) elections. The double-bench of the SC set aside Ladakh's earlier election polling date of September 10 and directed the UT administration to re-notify election dates. It observed that the NC reserved the right to be "entitled to the exclusive allotment of the 'plough' symbol for candidates proposed to be put up by it". The SC, while dismissing the appeal of the Ladakh administration, put 'costs of ₹1 lakh on it' for wasting the court's time. A fresh notification issued by the Ladakh administration has fixed October 4 as the new polling date.

Why did the SC reprimand them?

The SC came down hard on the L-G administration because of its failure to abide by two orders of the J&K High Court and Ladakh — first issued by a single bench on August 9 and the second by a double-bench on August 14 — allowing the NC to retain 'plough' as its party symbol in Ladakh. 'Plough' is already a registered party symbol of the NC with the Election Commission of India (ECI). The apex court hinted at a deliberate delay by the administration.

Why was the NC denied its symbol?

The UT of Ladakh listed parties and symbols in July this year through an official notification but didn't register NC as a party there. Ladakh, which was part of the Kashmir division of the erstwhile State of J&K, was carved out as a separate UT in 2019 after the Parliament adopted the J&K Reorganisation Act. After that, in 2019 itself, the ECI recognised the NC as a party for the UT of Jammu and Kashmir.

The Ladakh administration denied the party symbol on the grounds that the reserved symbol 'plough' has to be notified by the ECI itself for Ladakh, and not by the UT of Ladakh. At present, the UT of Ladakh has no State Election Commission but an Election Authority to conduct the hill council polls.

How did the NC defend its symbol?

The NC is the current political party in power in the LAHDC-K. The party won 10 seats in the 30-member LAHDC-K to emerge as the single largest political party in the 2018 hill council elections.

The NC accused the Election Authority of Ladakh of bias in denying them the party symbol, saying that "the same Election Authority granted the Aam Aadmi Party its party symbol for the 2020 LAHDC-Leh polls". Quoting rules, the NC argued that if a political party, which is recognised as a State party in some State or States, sets up a candidate at an election in a constituency in any other State or UT in which it is not a recognised State party, then such candidate may be allotted the symbol reserved for that party.

What was behind the legal tussle?

The BJP carved out Ladakh as a UT largely on the long pending demands made by the Buddhist population of the region, which is split between the Muslim-majority Kargil district and the



Buddhist-majority Leh district. The BJP may not like the return of any regional force to Ladakh that will revive the politics in favour of the restoration of provisions of Article 370 or reunification of J&K with Ladakh.

The Gupkar alliance, steered by NC president Dr. Farooq Abdullah, has repeatedly demanded reunification and restoration of the special constitutional status to erstwhile J&K. In case the NC returns to power at the LAHDC-K in these polls, it will sell the victory as a vote for reunification and special status. NC vice president Omar Abdullah has already termed the L-G administration's move to deny the symbol as "a biased agenda" to benefit the BJP, which managed to win only one seat in the 2018 polls.

LIMITS OF IDENTITY

One of the most disconcerting features of the ongoing ethnic strife in Manipur remains the inability of civil society representatives to rise above their "ethnic" affiliations and work towards peace. This is exemplified by the acts of the Meira Paibi, an amorphous organisation of Meitei women, who have in the past mobilised against armed forces and police excesses, alcoholism, drug addiction and sexual violence in the State. During the conflict that has raged on since early May, however, the Meira Paibi has been working towards disrupting the operations of the Assam Rifles in their attempt to maintain peace, especially in the foothills. These areas, called "buffer zones", were created to ensure that there is no further escalation of violence between arms-wielding people of the two ethnic communities, but there have been violent attacks with the armed forces unable to act on time because of disruptions, allegedly, by the Meira Paibi among others. Clearly, the situation has been brought to a boil by the looting of weapons by both Kuki-Zo and Meitei groups and their use in the strife. But the inability of the State government and its police and the Union government-deployed armed forces in maintaining peace has also been due to civil society groups supporting those engaging in violence.

Some Meira Paibi representatives had, in a press conference in New Delhi on Wednesday, claimed that they do not recognise the buffer zones, calling them "unconstitutional". The presence of armed forces in peacekeeping is not an ideal solution in most circumstances. But with the ethnicisation of law enforcement, aided by a State government that seems to have lost its legitimacy of power across ethnic divides, leading to demands for a separate administration by Kuki-Zo representatives, the armed forces' presence and the need for buffer zones to maintain a semblance of peace have become essential in Manipur. Civil society groups such as the Meira Paibi can rise above their narrow ethnic identities to press for justice for women affected in the conflict and thus build solidarity networks that will aid the process of reconciliation and peace-building. Sadly, that does not seem to be the case today. Civil society organisations have whipped up the frenzy of ethnic hatred, partially due to the recurring trauma from the violence, as much as cynical political representatives have. And this has meant that the cycle of violence has endured. History suggests that a breakthrough can only be achieved through non-partisan leadership and civic dialogue among civil society and political representatives. As things stand, for that to happen there needs to be a credible alternative to the current leadership in the State.

EXPRESS VIEW ON ANANTNAG ATTACK: J&K WARNING

"All acts of terrorism are criminal and unjustifiable," the G20 New Delhi Leaders' Declaration read, "regardless of their motivation, wherever, whenever and by whomsoever committed." These words from the diplomatic high table became more salient, their resonance more sombre on



Wednesday, after the killing of Colonel Manpreet Singh, Commanding Officer of 19 Rashtriya Rifles in Kokernag, Major Aashish Dhonchak, and Deputy Superintendent of Police Himayun Muzamil Bhat by terrorists in Anantnag in Kashmir. Colonel Singh became an officer in the 12th Battalion of the Sikh Light Infantry, the same battalion where his father served as a Naik. He received the Sena Medal in 2021. Like Singh's children, Major Dhonchak's three-year-old daughter will not get to know her father. Bhat's father, who retired as IG Police, had to bury his son. These tragic deaths also bear a reminder: Peace and normalcy are still fragile, still all too vulnerable in Jammu & Kashmir. They must be protected through continuing vigilance.

In a sense, the killings in Anantnag run against the grain of the bigger picture over the last few years in J&K, now a Union Territory. According to Home Ministry data, there was a 32 per cent reduction in acts of terror between 2019 and 2022 over 2016-2019. Deaths of civilians were down by 14 per cent and of security personnel by 52 per cent. Data from 2020 up to June this year shows a steady decline in the local recruitment of terrorists. The increased security presence and attempts at dismantling local participation in networks of violence have had significant successes. However, there have also been some disturbing straws in the wind. Recently, there have been attacks on security targets south of the Pir Panjal range in Jammu, Rajouri and Poonch, which indicate a departure from the militancy, post-Burhan Wani. After the killing of Wani in South Kashmir in 2016, young, disaffected men were often recruited by handlers and given minimal training, before they attempted terrorist attacks. These actors also had, sometimes, a presence on social media. The shootout at Anantnag seems, more, a throwback to the 1990s, with heavily armed militants indicating a more well-equipped adversary. The successes of the security forces in recent years notwithstanding, it is clear that maintaining peace and order will require continuing alertness, a robust intelligence network and a strategic calculus that allows for nimble tactics.

The uneasy state of India's relations with Pakistan points to the complexity of the challenge that lies ahead. The G20 declaration also said that "effective counterterrorism measures, support for the victims of terrorism and the protection of human rights are not conflicting goals, but complementary and mutually reinforcing." For India, the deaths in Anantnag underline this reality even as they are a grim warning of the perils of letting down the guard.

EXPRESS VIEW: TV ANCHORS WITH HATEFUL TONGUE, ON BENDED KNEE, NEED TO BE CALLED OUT. BUT INDIA'S BOYCOTT LIST THREATENS PRESS FREEDOM, IT SHOULD BE WITHDRAWN

The decision by the 28-party Opposition alliance, INDIA, to draw up a list of 14 television anchors they will boycott, and then to release it Thursday, sets a disturbing precedent even in a discourse where naming and shaming have become de rigueur. Admittedly, many on the list practise, or are incentivised to practise, an upside-down journalism which seeks to flatter the government and discredit the Opposition, almost by rote. They — and those who sign their paychecks — have, perhaps, seen it as worth their while to abdicate their professional responsibility to ask questions of those in power that need to be asked. Many of them tread, and slip on, thinning lines, whipping up hate hour by hour. Indeed, for these very reasons, what INDIA has done is a stunning self-goal. In a democracy where spaces for dissent and disagreement are increasingly coming under threat, the Opposition's boycott list strengthens that which it claims to oppose. It shrinks the space for honest, good journalism and journalists — it threatens press freedom.



All its righteous rhetoric about not wanting to legitimise the peddling of hate, all its high-minded claims about setting up a window of love in the bazaar of hate, and in the Patna resolution — where it put its first building blocks in place — of restoring the nation’s damaged “secular and democratic” credentials, cannot mask the intolerance that lies at this decision’s core. As many as 11 of the 28 in the alliance are ruling parties in states and the Congress has for long held power at the Centre. Surely, all of them know that a constitutional system is threatened, most of all, when it draws fixed and impermeable lines between “us” and “them”, when it shrinks spaces for engagement and negotiation, and when it allows mobs to form and roam free, brandishing lists of targets. In fact, a large part of the Opposition’s inability, so far, to take on the BJP has been this — its criticism of the BJP’s vendetta politics and intolerance of dissent lacks conviction and credibility. In the states these Opposition parties rule, they practice a similar narrow-minded politics, while the Congress carries a special burden of its own record, in states and at the Centre, of its governments weaponising laws and agencies to cramp freedoms. Now, with its list of TV anchors, its politics of gag and dog-whistle, the parties of the INDIA alliance undermine their claim to offer a political alternative.

Of course, when parties of the Opposition are feeling besieged, in a one-party dominant system presided over by a winner who wants to take all, they may choose who they talk to, and won’t. But to arrogate to themselves the right to public name-calling and paste a label on those they don’t agree with not only forecloses possibilities of dialogue and debate, but also calls attention to their own weak and wavering commitment to the freedom of expression that they purport to defend. These must necessarily be decisions that leave open, for both sides, room for manoeuvre and persuasion. There is no space for blacklists in a democracy, all they do is mark out targets for the mob of your choice. Having made a mistake, the Opposition alliance must waste no time in undoing it. It must keep raising the very valid issue of why citizens in the world’s largest democracy need — and deserve — better than anchors with a hateful tongue, on bended knee. But to do this effectively, it must withdraw its list.

EXPRESS VIEW ON ASIAN CUP SELECTION: JUST STARGAZING

India’s Croatian football coach Igor Stimac, a report in this paper has revealed, consulted an astrologer, Bhupesh Sharma, while selecting teams and shared injury updates and substitution scenarios with him. For a sport languishing for long in a rut in the country, and only just picking up in recent months, these revelations strike an especially jarring note. They suggest that India might not have fielded its Best XI, but simply the XI whose stars aligned astrologically during the Asian Cup qualifiers, and that considerations other than sporting merit were on top even as India’s results fluctuated between wins and losses, before the qualification finally came through. Footballing careers may well have hinged on astrology, and by all accounts, dressing room knowledge did not remain within the confines that are sacrosanct in sport. That at least four crucial international matches were played in this manner raises questions.

The sequence of events points to an institutional suspension of disbelief, not merely personal eccentricity. The astrologer was introduced to the coach by an All India Football Federation official, Kushal Das. The coach may arguably have bought into the dubious promises of astrology in an anxious moment but that he then continued to rely on the astrologer’s inputs, running team sheets by him, points to a deeper problem. This is surely a bizarre system of managing a team by someone who belongs to Croatia’s golden generation of footballers and has previously done better. Sharma was reportedly paid between Rs 12-15 lakh for two months by the federation, which didn’t deem the expenses as odd. The football federation looks gullible and unprofessional.



Reliance on the astrologer's inputs seems doubly misguided and risks compromising the integrity of the national squad in a time when match-fixing corruption is rife in sport.

Sport administration in India in general seems to be operating without adequate checks and balances. Football isn't the first federation to invite controversy and allegations of mismanagement. Wrestling has been under duress these past six months after top players accused its former chief of serious instances of sexual harassment. Indian sporting federations have for long been accused of playing around with careers through selection biases. In competitive sport, results are decided by fine margins. Medals are missed by micro seconds and goals by millimetres. It is a travesty that India's football administrators were busy stargazing when they should have been putting their best foot forward.

USING CINEMA TO STROKE COMMUNAL TENSIONS

On September 17, 1948, Hyderabad was integrated into the Union of India when Indian Army tanks rolled into the princely state and forced the Razakars, the private army of the Nizam, to lay down arms along with the Hyderabad Army. This event has become a divisive issue 75 years later thanks to a cinematic flourish being added to it. The poster of a movie called Razakar — Silent Genocide of Hyderabad, released in July, showed a young man with a religious tuft being impaled by a bayonet. The financier of the movie is a BJP leader. At the poster-release function, BJP leaders including Bandi Sanjay and former Maharashtra Governor Ch Vidyasagar Rao spoke about the Razakar terror. Mr. Bandi Sanjay noted that the movie was inspired by The Kashmir Files. The film has the potential to colour public opinion and also affect political calculations in Telangana.

After India became free on August 15, 1947, Nizam Osman Ali Khan refused to join either India or Pakistan contending that he gave equal importance to both communities. On June 9, 1948, the Razakar leader, Kasim Razvi, of the Majlis-e-Ittehadul Muslimeen, famously said that he would fly the Asaf Jahi dynasty flag from the battlements of the Red Fort. By then, the Razakars, who were mostly armed with muzzle loaders and sticks, had let loose a reign of terror backed by the Nizam's police and district officials. According to one report, they were responsible for the murder of 880 people and the rape of about 1,125 women before August 1948. Two incidents of violence perpetrated by them particularly stand out. K.M. Munshi wrote in *The End of an Era: Hyderabad Memories* about how 200 people were murdered by the Razakars in Gorata B village in Basavakalyan in Karnataka. And in Bairanpalli village in Jangaon, 88 persons were shot dead after a five-day struggle at the village fortification. One of the most prominent victims of Razakar atrocities was journalist Shoebullah Khan of the Urdu newspaper *Imroze*. His arm was cut off and he was killed. It is thus a fact that the Razakars unleashed great terror, which led to Hyderabad's merger with the Union of India. Many wealthy Hindu families had to leave Hyderabad for Madras, Vijayawada, Nagpur, and other areas of India. They returned only when peace was restored.

However, violence was not always along communal lines. Many Razakars were financed by landlords who were upper-caste Hindus. "Despite the Ittehad's fanatical talk of Islam, both the Razakar raids in favour of the landlords (mostly Hindus) and the Sangham (the Communist, Andhra Mahasabha) resistances against them were surprisingly free from all religious articulations," wrote Amit Kumar Gupta in *The Agrarian Drama: The Leftists and the Rural Poor in India, 1934-1951*. Communist ideologue P. Sundarayya wrote in the aftermath of Operation Polo, "There was not a single clash between the people's squads and the forces of the Indian Army during this period."



To paint today the violence of a medieval feudal set-up as communal would be a misrepresentation of history. The Nizam wanted to stay independent and knew that 81.1% of the population in the region was Hindu. The complex narrative of the time can be gleaned from the fact that upper-caste Hindu landlords were the targets of the Telangana Armed Struggle. In his list of well-known peasant struggles, historian Inukonda Thirumali lists 34 instances between 1944 and 1946. Out of these, only two were against Muslims. In this context, the movie poster is provocative and indicates an attempt to sow seeds of discord before elections.

EXPRESS VIEW ON MONU MANESAR: THE OFFICIAL VIGILANTE

In May 2021, the Punjab & Haryana High Court asked the Government of Haryana to explain itself on the “power/authority of vigilantes to raid the houses of citizens.” Such actions, the Court said, “are prima facie illegal” and “contrary to the rule of law”. The arrest of Mohit Yadav — aka Monu Manesar, in his “gau rakshak” alter ego — by Haryana Police is a welcome, though long-delayed, development. Yet, the fundamental question raised by the High Court over two years ago lingers on. Why has the police, in Haryana and in other states, de jure or de facto, sub-contracted its role of maintaining law and order to self-proclaimed cow protectors?

The list of charges against Yadav is long: He was arrested in Haryana for “objectionable and inflammatory” posts on social media during the recent communal violence in Nuh, then handed over to Rajasthan Police. He has been wanted in Rajasthan for his alleged role in the abduction and murder of Junaid and Nasir in February. The seeming impunity and brazenness with which Yadav operated may have had something to do with his political associations. He has been a member of Bajrang Dal and rose through the ranks to become the face of the gau rakshak movement by 2022 and the head of the Gurugram district Cow Protection Task Force. Such “task forces” are official — they were notified by the Haryana government in July 2021 to enforce the Haryana Gauvansh Sanrakshan and Gausamvardhan Act (2015). Yadav’s group reportedly has a network across districts and confronts and apprehends alleged “cattle smugglers”, often working with and for the police. These groups have also been accused of using their muscle power to run extortion rackets, targeting a community, in a climate of impunity. In the liminal space between law and disorder, police and mob, the likes of Monu Manesar flourish.

There is a simple principle that all governments are bound by: Legitimately constituted governments have a monopoly over violence. Put another way, this means that the police and other law enforcement agencies alone have the power to detain and question suspects and investigate crime. By providing sanction in law and practice to cow vigilantes, the Haryana government risks turning policing into a cottage industry that is beyond accountability or checks and balances. Unfortunately, Gujarat, Maharashtra and Uttarakhand too have provisions to provide “official” identification to “genuine” gau rakshaks. They must realise that even the most genuine “cow protector” will only ever be a dangerously make-believe policeperson.

AS APPLE SUPPORTS NAVIC, CENTRE CONSIDERS MAKING TECH MANDATORY, OFFERING ADDITIONAL INCENTIVES

After convincing Apple to support navigation technology NavIC in some new iPhone 15 models, the Union government may mandate manufacturers to embed the homegrown GPS alternative in all smartphones sold in India by 2025.



All 5G phones would be required to support NavIC — or Navigation with Indian Constellation — by January 1, 2025, and other phones by December 2025, Minister of State for Electronics and Information Technology Rajeev Chandrasekhar told The Indian Express Thursday.

To increase the adoption of the homegrown navigation system, the government is also considering offering additional incentives to smartphone makers in the next round of its production-linked incentive (PLI) scheme if they use chips designed or manufactured in India which support NavIC technology, he said.

Currently, only a handful of smartphones — from manufacturers such as Poco, Vivo and Xiaomi — support NavIC.

Developed by the Indian Space Research Organisation (ISRO), NavIC was approved in 2006 at a cost of \$174 million but became operational only by 2018. It is India's attempt at building an independent standalone navigation satellite system, something rival China has already done.

Earlier this week, as Apple announced its latest iPhone lineup, it said the two 'pro' model phones will support NavIC. This is the first time Apple has added support for NavIC to any of its iPhone models.

"But the chip that Apple is using for navigation and positioning is being designed by Qualcomm, and we want to create an incentive structure that will encourage companies under the PLI schemes to use NavIC-supporting chips designed or made in India," Chandrasekhar said, adding that incentives similar to those under the IT hardware PLI could be offered to smartphone makers.

Under the IT hardware PLI scheme, companies that manufacture laptops, computers and servers and source locally made components including memory modules, solid state drives and display panels will also get additional incentives under the restructured scheme.

The measure under consideration could also extend beyond incentives, with the government mandating that smartphones manufactured in India must support NavIC technology.

It is learnt that Apple's support for NavIC came after months of discussions between the government and smartphone manufacturers. Companies were learnt to have pushed back initially, citing high research costs for integrating the technology.

But Apple's adoption of the technology could propel NavIC into mainstream acceptance. However, several facets of how NavIC might be used within the iPhones are still unclear as the company has yet to share those details.

In May, ISRO launched the first of the second-generation satellites for its navigation constellation. The second-generation satellites will send signals in a third frequency, L1, besides the L5 and S frequency signals that the existing satellites provide, increasing interoperability with other satellite-based navigation systems.

The L1 frequency is among the most commonly used in the Global Positioning System (GPS) and will increase the use of the regional navigation system in wearable devices and personal trackers that use low-power, single-frequency chips.

"India's successful lunar mission, Chandrayaan 3, ISRO's successful launch of the Aditya L1, its maiden solar mission, and the mainstream acceptance of the NavIC technology shows India's growing power as a space nation," Chandrasekhar said.



Aside from NavIC, the iPhone 15 models also support other domestic GPS alternatives, for example, Russia's GLONASS and China's BeiDou.

HOUSEWIVES MAKE UP OVER 50% OF INDIA'S FEMALE SUICIDES

September 10 marked the observance of World Suicide Prevention Day, an initiative which began in 2003 to shed light on the critical issue, diminish societal stigma, and heighten awareness. The theme since 2021, 'Creating Hope Through Action,' aims to inspire hope and bolster preventive measures.

In India, the day calls for attention once again to the frequently overlooked problem of suicide among housewives. Ever since India began categorising suicide data by occupation, housewives have consistently ranked among the top two groups. This trend held true for 2021, the most recent year for which data are available.

The number of women who died by suicide in India reached a peak of 45,026 in 2021. More than half of them were housewives. The share of housewives in total female suicides has remained above the 50% mark for several years now. The share of housewives in overall suicides too has remained around the 15% mark for many years. Notably, over 30% of all suicides (men and women) were due to issues relating to family or marriage.

In general, across years, economically better States in the south featured on top of the list of suicide rates. In 2021, among the major States, Kerala, Tamil Nadu, Telangana, and Karnataka featured at the top of this list. In 2016, Peter Mayer noted in the Economic and Political Weekly that a similar trend held even if the suicide rates of housewives alone were considered. His paper suggests that shifting expectations around social roles, particularly post-marriage, could be a contributing factor. In the south, where female literacy rates are comparatively high and women have greater access to mass media, there tends to be a clash between modern perspectives and traditional societal norms. In contrast, the push back against traditional expectations is less pronounced in the north, partly due to lower levels of exposure among women.

The National Family Health Survey (2019-21) highlights the challenging circumstances faced by married women, including limited mobility, restricted financial autonomy, and marital control, as well as physical, sexual, and emotional abuse in the hands of their spouses. It also shows that many women seldom seek external assistance and endure the attack on their freedoms in silence. Additionally, the data show that women in the lowest income bracket experience greater levels of violence and less freedom compared to those from wealthier households.

At least one in four married women in the poorest 20% of households said her husband did not allow her to meet her female friends, insisted on knowing where she was all the time, exhibited jealousy or anger if she talked to other men, and did not trust her with money. The shares were relatively low in richer households.

35% of married women in the poorest 20% of households had faced physical or emotional or sexual violence, and less than half of them had sought help (mostly from friends and family and rarely from authorities). The share of those who experienced violence was much lower in richer households. Also, many in richer households who did experience violence sought help.

less than 40% of married women in the poorest quintile said that they can visit places such as markets alone. A slightly higher share of them said that they had money which they could decide how to use.



UNIFIED APPROACH

Lightning is unlikely to strike the same place twice, but the Nipah virus is again wreaking havoc in Kozhikode, the fourth outbreak of the disease in Kerala over the last five years. Caused by a zoonotic spillover, the transmission of pathogens from animals to humans, the closest reservoir of the virus is fruit bats. With two persons dying of Nipah this week in Kozhikode, and three more persons, two of them relatives of one of the victims, testing positive, and being hospitalised, disturbing memories from the terrifying outbreak of 2018, in which 21 of 23 infected people died, have surfaced. The situation remains very much the same, in terms of treatment options: there is no cure, and supportive care remains the only way to handle Nipah infection even in a hospital setting. Kerala's Health Minister Veena George said hundreds of people on the contact list of the deceased had been put under medical observation. One of them, a nine-year-old child, is on ventilator support. A control room has been opened in Kozhikode to monitor the situation, and all the hospitals in the district would be asked to follow infection control protocols. Sixteen teams have been formed to take forward appropriate containment protocols. A central team has also been sent to Kerala to assist the State government. Neighbouring States have taken preparatory steps to ensure that porous borders do not bring the infection across from Kerala. The State's Chief Minister assured the people via a video message that the State was taking the issue very seriously.

While experiences from the prior outbreaks (2018, 2019, 2021) have given medical teams a toolkit of protocols, across the sectors — management, isolation, containment, and treatment — constant vigil can be the only guard against such outbreaks. The biggest lesson though, from global outbreaks, is likely unlearnt yet. Research has shown that anthropogenic activity has a definite hand to play in zoonotic spillovers. In the case of Nipah, rapid expansion of agricultural activity in original habitat zones of the fruit bats has repeatedly shown up on post-factor analyses. As governments mount strategic efforts to control outbreaks and deaths due to infectious diseases, it is increasingly clear that the State needs to initiate a One Health approach on the way forward. The COVID-19 pandemic has led to a deeper appreciation of the One Health concept, which is an integrated, unifying approach to balancing and optimising the health of people, animals and the environment, with the conviction that humans live in symbiosis and that the health of one impacts that of another significantly.

INDIA REPORTS FEWER PEOPLE WITH ORPHAN DISEASES

Much of our conversation about health leads to the talk of a few common ailments that afflict several of our acquaintances—diabetes probably tops this list. Yet, for each of the few ailments that preoccupy us, there are many that occur only rarely, but whose effects can be devastating to the sufferers and their families.

The most common definition of a rare disease is a prevalence rate of one case in a population of 10,000 people. The term orphan disease is apt for many reasons. Rarity made them difficult to diagnose, because young medical practitioners may not have seen even one case. For the same reason, not much research was carried out in these areas, because of which treatments often did not exist.

This situation has undergone a change as awareness of the diseases, and genomic technologies to diagnose them, has spread. In many countries, regulatory bodies offer incentives to promote investments in the development of pharmaceuticals for neglected illnesses. Expectedly, such moves have heightened interest in “orphan drugs”. Between 2009 and 2014, half of all approvals



made by the FDA were for rare ailments and cancers. The costs of these therapies are prohibitive, especially from an Indian viewpoint. Estimates put these costs between ₹1 million and ₹20 million per year.

Initiatives by groups

Global numbers indicate that there are around 7,000 rare diseases affecting 300 million people. By extrapolation, India should have 70 million cases. Yet hospitals in India have so far reported less than 500 of these diseases. There is not enough epidemiological data on the communities in which these rare diseases occur. Sophisticated clinical genomics tools are often needed to confirm these disorders. The Government's National Policy for Treatment of Rare Diseases has only recently started making its mark. Diseases prevailing in our countries include cystic fibrosis, haemophilia, lysosomal storage disorders, sickle-cell anemia, etc. Citizen's initiatives are another highlight of India's progress regarding orphan diseases. A good example is DART, the Dystrophy Annihilation Research Trust, a body formed by parents of patients suffering from Duchenne's muscular dystrophy. In this condition, muscles in the pelvis begin to waste away from the age of three. In partnership with the IIT and AIIMS located in Jodhpur, the Trust has begun a clinical trial of an efficient and personalised antisense oligonucleotide-based therapeutic regimen for this dystrophy.

Leprosy-free India

With an incidence rate of 0.45 per 10,000 population, leprosy is now considered a rare disease in India. But much remains to be done to restrict the spread of this disease. Leprosy is a good example of how research on orphan diseases can have societal benefits. Recent research on the synthetic antibiotic rifapentine, which is widely used against tuberculosis, has shown that a single dose of this drug, when administered to household relatives of a leprosy patient, curtailed the spread of leprosy to them over a four-year study period (New England Journal of Medicine, 2023; 388:1843-1852). Such findings may help fulfil our government's aim of a leprosy-free India by 2027.

A GM CROP DECISION THAT CUTS THE MUSTARD

The adoption of science-based technologies for crop improvement such as genetic engineering for developing genetically modified (GM) crops as a supplement to conventional breeding methods has become an absolute necessity to address the burgeoning and complex challenge of achieving global food and nutritional security under the fast-changing climate. According to the global Food Security and Nutrition Report, 2019, it is difficult to achieve the 'Zero Hunger' target by 2030.

The emphasis needs to be on accelerating the pace of improving crops genetically. In order to increase food production and become self-reliant, we require superior crop varieties and hybrids that provide enhanced yields and wide adaptability across environments, and require fewer inputs of natural resources. The advent of the Green Revolution in the 1960s-70s resulted in enhanced food production from a mere 50 million tonnes in 1950-51 to over 300 million tonnes in 2020-21. However, new biotech/GM crops with improved traits are a must in order to mitigate climate change and produce nutrient-dense food.

More crops under GM

Genetic modification of crops using the available and vast genetic diversity in conjunction with traditional farming has been well documented for increased productivity, contributing to global



food, feed, and fibre security. According to a report by the International Service for the Acquisition of Agri-biotech Applications (ISAAA) 2020, a total of 72 countries have adopted GM crops either as human food or animal feed, as well as for commercial cultivation (56% of the global GM crop area is in developing countries compared to 44% in industrial countries). GM crops have benefited more than 1.95 billion people in five countries (Argentina, Brazil, Canada, India and the United States) or 26% of the current world population of 7.6 billion. Bt cotton was commercialised as the first GM crop in India more than 20 years ago, and has been viewed globally as a great success story in terms of economic advantage to farmers and to the nation. Globally, genetic modification has expanded its reach, beyond the major four crops, maize, soybean, cotton and canola, to other economically important food crops for various traits such as insect and herbicide resistance, climate resilience and nutritional quality improvement.

Global economic gains contributed by GM crops (1996-2018) have amounted to \$224.9 billion in economic benefits to more than 16 million farmers, 95% of whom are from developing countries. Further, GM food crops, since adoption in 1996 globally have been proven for their biosafety for the last 25 years and more.

In edible oil deficit, a focus on mustard

India faces a major deficit in edible oils, with 60% of its demand being met by imports. Mustard is one of the most important edible oil crops in India; however, its per hectare yield is very low when compared to the global average. Thus, increasing the productivity of mustard in the country is vital for the economic well-being of farmers and self-sufficiency in edible oil production.

Using genetic engineering, extensive research has been carried out at the Centre for Genetic Manipulation of Crop Plants (CGMCP), University of Delhi South Campus, to create a GM mustard hybrid, DMH-11 with higher vigour and yield — this will facilitate an increase in domestic production of edible oils as well as enhanced farm incomes.

The GM mustard hybrid is based on the barnase/barstar system, which works on the principle of removing male fertility in one parent and restoring it in the offspring. The herbicide tolerance gene has been deployed as a selection marker for developing the GM mustard. While the use of herbicides in herbicide tolerant (HT) crops has an advantage in terms of saving soil moisture and nutrients, besides effective weed control, the herbicide tolerance gene in GM mustard is primarily used for selecting genetically transformed lines, and for hybrid seed production.

Aiding self-reliance

On October 25, 2022, the Genetic Engineering Appraisal Committee (GEAC) of the Ministry of Environment, Forest and Climate Change Government of India, made a landmark decision of approving the release of DMH-11 and its parental line for cultivation. This will help boost the vibrant genetic engineering research sector in the country and enable the generation of new crop varieties with improved traits. As the mustard varieties in India have a very narrow genetic base, the decision by GEAC to allow barnase-barstar-based hybrid production in mustard paves the way for the breeding of mustard hybrids not only for higher yields but also to ensure resistance to diseases and improve oil quality.

This advancement will benefit farmers by increasing yield per hectare, also leading to an increase in their incomes. The domestic consumption of edible oils is around 25 million tonnes, while the domestic production of mustard oil was approximately 8.5 million tonnes in the year 2020-21. India's edible oil imports were approximately 13 million tonnes, which touched ₹1.17 lakh crore



in value terms. Cultivation of these GM mustard hybrids developed indigenously could help enhance farmers' income, reduce the oil-import burden and help achieve much-needed self-reliance in edible oil production. The environmental release of DMH-11 marks the beginning of a new era in self-reliance and sustainability in agriculture. More improved GM food crops are needed to boost the profitability of Indian farmers.

APPLE COUNTRY GETS GROUND READY FOR CANNABIS CULTIVATION

With the Himachal Pradesh government taking steps to legalise cannabis (hemp) cultivation in the State, growers are upbeat and optimistic about getting an economic boost. A committee comprising lawmakers that explored the possibility of legal cultivation of cannabis recently recommended cultivation of cannabis for “non-narcotic use of cannabis for medicinal, industrial, and scientific use”.

However, there are social concerns, especially of adolescents and youth being drawn towards the use and abuse of cannabis, the nexus between illegal producers and suppliers of cannabis getting stronger, the risk of pilferage, and the occurrence of amotivational syndrome.

Hemp is a botanical class of *Cannabis sativa* cultivars grown specifically for industrial or medicinal use. It is produced in parts of Himachal Pradesh, though it is illegal under the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985.

The State Cabinet approval is awaited after which a policy is expected to be framed soon by the State government on cannabis cultivation, keeping in view the provisions of the NDPS Act, 1985, and the NDPS Rules, 1989.

Raising revenue

Even as there has been a growing concern surrounding the drug menace, State Revenue Minister Jagat Singh Negi, who headed the five-member committee, said the government was committed to curbing the problem and that while steps were being taken in this regard, the cultivation of cannabis would be limited only for industrial, medicinal and scientific use.

The policy on hemp cultivation for medicinal, industrial, and scientific uses would pave the way for utilising the medicinal properties of cannabis to treat patients, besides raising revenue for the State from the products made of hemp, the Minister said.

Allowing cannabis cultivation would also reaffirm the government's commitment to safeguarding the interests of the farmers, who have been long demanding to lift the ban on cultivation.

The NDPS Act of 1985, imposes a ban on extracting the resin and flowers from the plant, but the law determines the method and extent of its cultivation for medicinal and scientific purposes.

Section 10 (a) (iii) of the Act empowers the States to make rules regarding the cultivation of any cannabis plant, production, possession, transport, consumption, use and purchase and sale, and consumption of cannabis (except charas). The States are empowered to permit, by general or special order, the cultivation of hemp only for obtaining fibre or seeds or for horticultural purposes.

In 2017, Himachal Pradesh's neighbour Uttarakhand became the first State in the country to legalise cannabis cultivation.



Ranjit Singh Ghuman, a Professor of Eminence (economics) at Guru Nanak Dev University in Amritsar, recently headed a study titled “Dynamics of drug addiction and abuse in northwest India: social, economic and political implications” that pointed out that approximately 95% drug addicts in Himachal Pradesh are using cannabis and its byproducts.

“Not getting into the government’s arguments for legalising the cultivation of cannabis, it is likely to encourage adolescents and youth towards the use and abuse of cannabis. It may, however, help addicts to shift from the use of more harmful drugs to less harmful drugs but there is a very high probability that it may end up in life-long addiction,” he said.

Dr. Ghuman added, “Besides, the nexus between illegal producers and suppliers of cannabis, and politicians is promoting the use of cannabis and its byproducts. There is a need to curb the supply of drugs and address the socio-cultural, economic and political factors.”

‘Multiple effects likely’

Sandeep Bholra, a technical expert and master trainer for United Nations Office on Drugs and Crime, and National AIDS Control Organisation, said, “Cannabis is known to cause psychiatric symptoms in the users which may be temporary and with prolonged use these may become permanent. Amotivational syndrome is known to occur with cannabis use, in which the user loses interest as well as the strength to do any chores. Serious psychotic symptoms are known to occur with cannabis use.”

Dharamvira Gandhi, a former MP from Patiala in Punjab who presented a Private Member’s Bill in Parliament to amend the NDPS Act in 2016, seeking to decriminalise opium, marijuana and poppy husk, has welcomed the decision.

He said, “The NDPS Act was enacted in order to meet the then United Nations Conventions on Drug Policy in the year 1985. The objective was to prevent rampant drug use in society. But the war on drugs had led to the creation of a dangerous drug mafia, hundreds of scores of human rights violations and innumerable precious lives destroyed. As the common man’s recreational substances were made unavailable, the newer, more potent, addictive and dangerous alternative drugs flooded the markets.”

Cannabis has been growing in Himachal Pradesh for decades, and those in favour of its cultivation point out that hemp has multiple uses ranging from phytoremediation, fibre-cloth manufacturing, medicinal use, and use in the pulp and paper industry.

Due to the recreational use of its products as ‘charas’ and ‘ganja’, the positives of this sturdy plant has been overlooked.

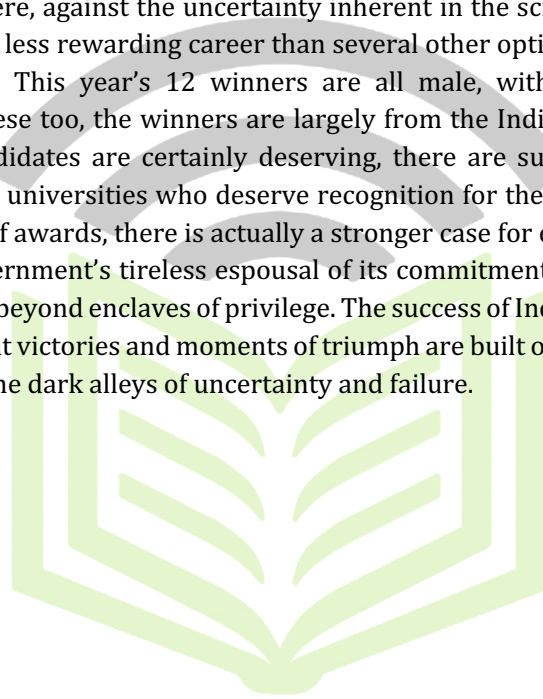
BROADENING THE FIELD

After a delay of nearly a year, the Council of Scientific and Industrial Research (CSIR) has announced winners of the Shanti Swarup Bhatnagar (SSB) Prizes. With a legacy of over half-a-century, the awards — they comprise a cash prize, citation and salary perks — are awarded annually to scientists under 45 with outstanding work in the fields of biology, chemistry, engineering, mathematics, medicine, earth sciences and physical sciences. Some of India’s most accomplished scientists have been awardees and it is not a stretch to say that they are akin to an “Indian Nobel” and fairly coveted. It was unusual then, last year, when the CSIR did not announce awards despite the winners having already been picked before September 26, the institute’s



foundation day and traditionally the date on which the year's winners are announced. The background to this was the government's decision to prune prizes to scientists. There were too many awards by various ministries, thereby reducing its prestige, a Ministry of Home Affairs (MHA) communiqué suggested. There were plans to announce one 'big award' akin to a 'Nobel Prize', but none has been announced so far. While the MHA ultimately decided to retain the SSB prizes, the government's long silence on its future did foment concern among scientists of their likely discontinuation.

Science awards, unlike those given for say athletics, are not meant to fete the outcome of a defined, demarcated contest such as a match or a race but are a recognition for industrious work done over time, that have led to significant advances in science or technology. They are meant to encourage the winners to persevere, against the uncertainty inherent in the scientific enterprise, which on average is a financially less rewarding career than several other options a trained scientist could have embarked upon. This year's 12 winners are all male, with 11 from centrally-funded institutions. Within these too, the winners are largely from the Indian Institutes of Technology. While the chosen candidates are certainly deserving, there are surely many more women or researchers from state universities who deserve recognition for their work. And so, rather than reducing the number of awards, there is actually a stronger case for expanding the remit of these awards, given the government's tireless espousal of its commitment to diversity and expanding opportunities to those beyond enclaves of privilege. The success of India's Chandrayaan-3 mission demonstrates that great victories and moments of triumph are built on consistent encouragement while plodding along the dark alleys of uncertainty and failure.



DreamIAS

**BUSINESS & ECONOMICS****THE CRUDE TRUTH: RISE AND RISE IN OIL PRICES AND ITS IMPACT**

Crude oil prices, which have been firming up for the past few weeks on expectations of high demand and tightening supply, are at a nearly 10-month high.

On Tuesday, global benchmark Brent crude breached the \$90-per-barrel mark for the first time in 2023 and continues to hover around that level. The latest uptick came after major oil producers Saudi Arabia and Russia surprised the world by announcing an extension of their voluntary supply cuts — totalling 1.3 million barrels per day (bpd) — till the end of 2023. While markets had anticipated that the two countries would extend the cuts to October and had more or less factored that in, the extension till December was a bit of a surprise. The two oil-rich countries are leading the cartel of major oil producing nations in efforts to prop up crude oil prices by reducing supply.

Analysts and market participants expect oil prices to firm up further, with some even talking about the possibility of Brent hitting \$100 a barrel, over concerns of a possible supply deficit during the high winter demand season and indications that major oil producers could consider deeper production cuts going ahead. High oil prices could add to inflationary pressures and spell bad news for the fragile global economy and numerous countries that have been grappling with high inflation. India's economy, too, is sensitive to oil price volatility, given the country's extremely high import dependency. Apart from inflationary pressures, high oil prices could have implications for India's trade balance, foreign exchange reserves, the rupee, and the overall health of the economy.

The current spurt in crude oil prices

Oil prices have been volatile for some time now, but the general direction over the past couple of months has been upward. Brent has appreciated nearly 25 per cent since mid-June due to a combination of some inter-dependent factors, which include production cuts by major oil producing countries, signs of improved macroeconomic conditions and easing of inflation in major oil consumers like the US, and global oil demand touching record highs with expectations of further demand expansion.

“Deepening OPEC+ supply cuts have collided with improved macroeconomic sentiment and all-time high world oil demand,” Paris-based International Energy Agency had said in August. IEA estimates oil demand to grow to 102.2 million bpd for 2023, the highest-ever for a full year. While some of the economic signals from China — the world's largest oil importer — have been rather weak, which could weigh on oil demand, the country's current oil demand is strong on the back of increasing petrochemical production.

In June, Saudi Arabia announced that it would voluntarily cut its oil output by 1 million (bpd) starting July, over and above OPEC+ cuts totalling 3.66 million bpd, which shall be in place till the end of 2024. Then in July, Russia announced additional production cuts starting August. OPEC+ is a larger group of major oil producing nations and includes members of the Organization of the Petroleum Exporting Countries (OPEC), along with Russia and a few other producers. OPEC+ produces around 40 per cent of the world's crude oil, with Saudi Arabia as the top producer and Russia in the second spot.

On Tuesday, in what appeared to be coordinated statements coming from Riyadh and Moscow, the two countries sprung a surprise by extending their additional voluntary production cuts — 1



million bpd by Saudi Arabia and 300,000 bpd by Russia — until the end of the year. The message is clear: major oil producers are willing to push the limits to support oil prices for as long as possible.

Future and limits

“With the production cut extended, we anticipate a market deficit of more than 1.5 mbpd (million bpd) in 4Q23 (October-December). So, with oil inventories set to fall further over the coming months, we expect Brent to rise to \$95/bbl by year-end,” Zurich-based financial services major UBS said in a note. Some analysts have even expressed the possibility of Brent breaching the \$100-per-barrel mark if the supply deficit is maintained amid high demand.

The IEA, however, expects oil demand to contract sharply in 2024 due to expectations of a subdued macroeconomic environment, post-pandemic economic recovery being largely completed, and increasing adoption of electric vehicles. OPEC, on the other hand, expects oil demand to only rise next year. In either scenario, the major oil producers believe they are in a position to influence and support prices through coordinated regulation of production.

There are, of course, limits to the extent major oil producers can go to in order to pump up prices by pumping less oil. High oil prices on a sustained basis could feed into inflation globally, jeopardise global economic recovery, and lead to destruction in oil demand from major consumers. High oil prices also incentivise faster transition to cleaner fuels, particularly in the mobility sector.

Also, for countries dependent on oil for revenues, keeping prices artificially high just to see demand crash will not be desirable. There have been instances of differences within OPEC and OPEC+ on production cuts. In 2021, there was a rather public disagreement between long-time allies and oil heavyweights Saudi Arabia and the United Arab Emirates over extending production cuts.

There is also speculation that major oil consumers could intensify efforts to bring oil from sanctioned suppliers like Iran and Venezuela back into the market. A few international media reports have suggested that the US has held back-channel talks with Iran, while Venezuela is reportedly in talks with China.

India and oil

India depends on imports to meet around 87 per cent of its requirement of crude oil, which means that high oil prices can cause a big headache for the economy. High oil prices negatively impact India's trade balance and are a drain on the country's valuable foreign exchange reserves, which also has a bearing on the value of the rupee. As with other major importers of oil, a surge in oil prices adds to inflationary pressures for India as well. High oil prices can also potentially hit profitability of key sectors with high energy costs. All of these implications could have a negative impact on economic growth, as high inflation and low profitability in various sectors would hit disposable incomes and discretionary spending.

If crude oil prices continue to remain elevated or rise even further, they could deliver a fresh blow to the hope of a return to market-linked pricing of transportation fuels petrol and diesel. Prices of the two fuels have not been revised by public sector oil marketing companies (OMCs) Indian Oil Corporation (IOC), Bharat Petroleum corporation (BPCL), and Hindustan Petroleum Corporation (HPCL) since early April of 2022.



To shield the consumers and sections of the economy from extreme price volatility in energy markets following Russia's invasion of Ukraine, the three companies did not hike fuel prices and suffered heavy losses in the first half of 2022-23 (FY23). There were indications from the government and the OMCs that they could revert to daily price revisions soon as most of their last year's accumulated losses had been recouped. Till a few weeks ago, there was anticipation that petrol and diesel prices could soon see a cut. However, with the current spurt in the price of crude, the raw material of petroleum fuels, a price cut may be financially unviable for the companies. Even if they do go ahead and slash petrol and diesel prices at the government's behest, they could incur losses and even require financial support from the government.

GRESHAM'S LAW: WHAT HAPPENS WHEN GOVERNMENTS FIX CURRENCY EXCHANGE RATES

Gresham's law refers to the dictum that "bad money drives out good." Gresham's law comes into play when the exchange rate between two moneys or currencies is fixed by the government at a certain ratio that is different from the market exchange rate. Such price fixing causes the undervalued currency — that is, the currency whose price is fixed at a level below the market rate — to go out of circulation. The overvalued currency, on the other hand, remains in circulation but it does not find enough buyers.

It should be noted that the market exchange rate is essentially an equilibrium price at which the supply of a currency is equal to the demand for the currency. Also, the supply of a currency in the market rises as its price rises and falls as its price falls; while, on the other hand, the demand for a currency falls as its price rises and rises as its price falls. So, when the price of a currency is fixed by the government at a level below the market exchange rate, the currency's supply drops while demand for the currency rises. Thus a price cap can lead to a currency shortage with demand for the currency outpacing supply.

Origins of the term

Gresham's law is named after English financier Thomas Gresham who advised the English monarchy on financial matters. It applies not just to paper currencies but also to commodity currencies and other goods. In fact, whenever the price of any commodity — whether it is used as money or not — is fixed arbitrarily such that it becomes undervalued when compared to the market exchange rate, this causes the commodity to disappear from the formal market. The only way to get hold of an undervalued commodity in such cases would be through the black market. Sometimes, countries can even witness the outflow of certain goods through their borders when they are forcibly undervalued by governments.

Gresham's law can be seen at play whenever a government fixes the exchange rate (or price) of a commodity money (such as gold and silver coins) far below than the market price of the commodity backing them. In such cases, people who hold the commodity money would stop offering the money at the price fixed by the government. They may even melt such commodity money to derive pure gold and silver that they can sell at the market price, which is higher than the rate fixed by the government.

Driving out the dollar in Sri Lanka

The law came into play most recently during the economic crisis in Sri Lanka last year, during which the Sri Lankan central bank fixed the exchange rate between the Sri Lankan rupee and the



U.S. dollar. The Central Bank of Sri Lanka, at a certain point, mandated that the price of the U.S. dollar in terms of the Sri Lankan rupee should not rise beyond 200 rupees per dollar even though rates in the black market suggested that the U.S. dollar should sell for far more than 200 rupees. In effect, people were banned from paying more than 200 Sri Lankan rupees for a dollar, thus causing the rupee to be overvalued and the U.S. dollar to be undervalued when compared to the market exchange rate. This caused the supply of dollars in the market to fall and the U.S. dollar to be gradually driven out of the formal foreign exchange market. People who wanted U.S. dollars to purchase foreign goods then had to purchase dollars from the black market by paying far more than 200 Sri Lankan rupees for each U.S. dollar.

Gresham's law, however, holds true only when the exchange rate between currencies is fixed under law by the government and the law is implemented effectively by authorities. In the absence of any government decree fixing the exchange rate between currencies, it is good money that eventually drives bad money out of the market and not the other way round. When the exchange rate between currencies is not fixed and people have the choice to freely choose between currencies, people gradually stop using currencies that they consider to be of poor quality and adopt currencies that are found to be of better quality. This phenomenon wherein "good money drives out bad" is called Thiers' law (named after French politician Adolphe Thiers) and it is seen as a complement to Gresham's law. The rise of private cryptocurrencies in recent years has been cited by many analysts as an example of good money issued by private money producers driving out bad money issued by governments.

ON CHINA'S ECONOMIC SLOWDOWN

The story so far:

China, at the start of this month announced more measures to revive its flagging economy with major banks clearing the path for additional cuts in lending rates and the amount of funds institutions require to hold in foreign exchange reserves, hoping to prevent a further downturn in the ailing property sector. The Communist Party government seems to be scrambling to ramp up economic support and stimulus amid tumbling exports, a slide into deflation, record-high youth unemployment, and a battered real-estate sector.

How bad is China's slowdown?

Economic data coming out of Beijing over the past months indicate that all is not well with the world's second largest economy, which was expected to spring back and drive global growth after three years of grinding restrictions under President Xi-Jinping's zero-COVID policy. GDP grew just 0.8% in the second quarter as against the first three months of this year, and the projected annual growth now seems to be closer to 3%, among the weakest in the last three decades.

As China reopened in late 2022 with the lifting of strict pandemic curbs, economists expected Chinese consumers to engage in a spending spree and private businesses to pump in money resulting in a rebound to pre-pandemic growth levels and a ripple effect on the global economy. Notably, the Chinese economy did show initial signs of recovery in the first few months of this year with pent up demand manifesting in local tourism, retail and export growth, with even the ailing real-estate sector seeming to have bottomed out.

However, economic indicators by the end of the second quarter told a different story — figures on August 8 showed that the country suffered its biggest fall in exports in more than three years.



China's exports declined from a record high of \$340 billion in December 2021 to \$284 billion in May 2023. The July export numbers were even more alarming, having plunged by 14.5% compared to the year-ago period. Imports too tumbled 12.4% from a year earlier to \$201.2 billion in a sign of weak domestic demand, widening from the previous month's 6.8% contraction. The country's global trade surplus narrowed by 20.4% from a record high a year ago to \$80.6 billion.

Then came the grim Consumer Price Index (CPI) figures. China slipped into deflation as consumer prices contracted in July for the first time in more than two years with the CPI falling 0.3% after flatlining in June. Deflation refers to falling prices of goods and services and is caused by a number of factors, including waning consumption. And while cheaper goods may appear beneficial for purchasing power, a lack of demand forces companies to reduce production, freeze hiring or lay off workers, and agree to new discounts to sell off their stocks.

Another sign of the slowdown was evident when youth unemployment hit a record high of almost 21% in June, which is four times the national urban rate. Meanwhile, national debt and that at the local government level is piling up.

How did it get here?

Analysts say that while the harsh curbs under the zero-COVID policy may have been the force behind the deceleration of the economy, the unravelling of China's 40-year-old economic model driven by debt-fuelled investments and exports was a long time coming.

About five decades ago, China's economy was considered, as the Centre on Foreign Relations put it, an "economic afterthought". Decades of state ownership and central planning under Mao Zedong left China rural and impoverished. During the 1970s, when the country was facing acute underinvestment across multiple sectors, Deng Xiaoping's reforms opened up the economy. This encouraged the formation of rural enterprises and private businesses, and liberalised foreign trade and investment. Post-1978 China saw average real growth of more than 9% and in several peak years, the economy grew more than 13%, in what was referred to as Beijing's growth miracle.

LITTLE SUCCOUR

The latest Consumer Price Index (CPI) data from the NSO, which shows an easing in the pace of price gains from July's 15-month high, provides little assurance that retail inflation has actually begun to come under control. While the headline year-on-year pace of inflation decelerated slightly in August to 6.83%, gains in food prices, measured by the Consumer Food Price Index, still hovered uncomfortably close to 10%. And urban consumers, in fact, faced food price inflation of 10.4%. Eleven of the 12 items on the heavyweight food and beverages group of the CPI logged price increases, with oils and fats, the sole item logging a year-on-year decline in prices, posting its first sequential increase in nine months. Vegetables, however, provided the silver lining to a still clouded outlook for food prices with tomato leading an appreciable month-on-month deflation of 5.88% in the 19-member basket. Still, the cooking staples of potatoes and onions were among the seven items that continued to log sequential inflation (2.3% and 12.3%, respectively), ensuring that policymakers can ill-afford to drop their guard over politically sensitive vegetable prices. The Centre's imposition last month of a 40% export duty on overseas shipments of the bulb till December 31, a clear sign that it is quite concerned about the continuing uptrend in onion prices, is yet to make much of a tangible impact. Consumer Affairs Department data show the all-India average retail price of onion on September 13 at ₹33.39 a kilogram was still 8.7% higher than ₹30.72 on August 19, when the government announced the duty.



The near-term outlook for inflation is also made more uncertain by other factors including a distinct deficit in monsoon rainfall. Besides the overall 10% shortfall, sharp regional and temporal anomalies in rain distribution have impacted either the sowing or the quality of produce of several farm items. Kharif sowing of pulses had, as on September 8, recorded an 8.6% shortfall compared with the year-earlier period. Another inflation driver, crude oil, has also seen a steady rise in prices as the output cuts by major oil producers of the OPEC+ grouping start to bite. The price of India's crude basket had, as on September 12, climbed 7.2% from the average in August to \$92.65/barrel, according to official data. For the RBI, the latest inflation data further roils its interest rate calculus. Unless CPI inflation decelerates by an incredible 250 basis points in September to a 4.33% pace, price gains are certain to substantially overshoot the monetary authority's 6.2% forecast for the July-September quarter, leaving it with few real options in order to achieve its medium-term price stability goal of 4% inflation. As the RBI has been at pains to stress, failure to anchor inflation expectations risks hurting growth.

BANKS MUST RETURN YOUR DOCUMENTS WITHIN 30 DAYS OF LOAN REPAYMENT: WHAT THE RBI HAS SAID AND WHY

The Reserve Bank of India (RBI) has asked all Regulated Entities (that is, banks and non-banking financial companies), to release the original documents of movable or immovable property within a month of the full repayment or settlement of loans by borrowers.

In case of delay, the lender will have to compensate the borrower at the rate of Rs 5,000 per day of delay, the RBI said. The directives will come into effect on December 1, 2023.

What has RBI said?

The central bank on Wednesday directed all Regulated Entities (REs) — that is banks, non-banking finance companies (NBFCs), housing finance companies, small finance banks (SFBs), regional rural banks (RRBs) and cooperative banks — to release, as part of responsible lending conduct, the original movable or immovable property documents, and remove charges registered with any registry within a period of 30 days after full repayment or settlement of the loan account by a borrower.

The RBI said a borrower will have the option of collecting the original property documents either from the banking outlet or the branch where the loan account was serviced, or any other office of the RE where the documents are available, as per their preference.

The lender will have to mention the timeline and place of return of original property documents in the loan sanction letters issued on or after December 1, 2023.

To address a situation in which the borrower(s) are no longer alive, the lenders must have a well laid out procedure for the return of the original property documents to the legal heirs, the RBI said. The Regulated Entities will have to display the procedure on their website, along with other policies and procedures for the information of customers.

Why the new directives?

The RBI said it had been observed that the REs follow divergent practices in the release of property documents, which leads to customer grievances and disputes. The directions have been issued to address these issues and to promote responsible lending conduct, the RBI has said.



What kind of loans are impacted?

This is for personal loans, which, as per the RBI's definition, are loans that are given to individuals, and which consist of consumer credit, education loan, loans given for creation or enhancement of immovable assets (such as housing), and loans given for investment in financial assets like shares and debentures. The new directives will be applicable to all these categories of loans.

What if the lender still delays releasing the property documents?

The RBI has said that in case of a delay in releasing the original movable or immovable property documents, or a failure to file the charge satisfaction form with the relevant registry beyond 30 days after the full settlement of the loan, the RE will have to communicate to the borrower the reasons for the delay. "In case where the delay is attributable to the Regulated Entity, it shall compensate the borrower at the rate of Rs 5,000 for each day of delay," the RBI said.

What happens if the original property documents are damaged or lost?

In the event of loss or damage to original property documents, either in part or in full, the lender will assist the borrower in obtaining duplicate or certified copies of the property documents and will also bear the associated costs, in addition to paying compensation of Rs 5,000 per day for each day of delay beyond the stipulated 30-day timeframe, the RBI has said.

However, in such cases, an additional time of 30 days will be available to the REs to complete this procedure and the delayed period penalty will be calculated thereafter, that is, after a total period of 60 days.

When will the new directives be applicable?

The RBI said these norms will be applicable to all cases in which the release of the original documents becomes due on or after December 1, 2023.

KASHMIR VALLEY'S GROWERS ARE ANXIOUS AS IMPORT DUTY IS RELAXED ON AMERICAN APPLES

The Union government's decision to relax 20% customs duty on apples imported from the U.S. at the recently concluded G-20 summit left orchardists in the Kashmir Valley jittery.

The announcement has come in the wake of a dip in apple prices this year. Kashmir's apple industry is battling a number of issues.

"Farmers in Kashmir have always sought 100% duty on apple imports to ensure better returns for locals. We will keep demanding an increase in import duties," Majid Aslam Wafai, chairperson, All Kashmir Fruit Growers Dealers, told The Hindu.

"Apple growers are in distress. They faced huge losses as their input cost increased and the crop was sold at cheap rates. Two-thirds of the crop, such as C-grade [fruit], is unworthy of the market and could be diverted for juices. However, the J&K Horticulture Producing and Marketing Corporation in Sopore remains defunct," Communist Party of India-Marxist (CPI-M) leader M.Y. Tarigami said.

The National Conference (NC), Peoples Democratic Party (PDP), and the Congress have demanded a roll-back of the Centre's decision. "To please the Americans and other countries, the Centre is



putting its own people in a tight spot. If not Kashmir, the Centre should have thought of Himachal and Uttarakhand. We don't need apples from outside. We don't need walnuts and almonds from outside for some cheers. The Centre should rethink about it. Local producers should get the relief, not outsiders," NC vice-president Omar Abdullah said.

PDP president Mehbooba Mufti said the move "will have a devastating effect on local growers in J&K already grappling with huge losses post 2019". "Hope the Prime Minister's Office reconsiders," Ms. Mufti said.

"This decision will severely impact the fruit industry in J&K and Himachal, while J&K growers have already undergone tremendous losses, be it the unfavourable situation or the severe climatic conditions," Senior Congress leader Ghulam Ahmad Mir said. He urged the Centre to revisit the decision.

The Congress demanded a special bailout package for apple growers to overcome the economic crisis "instead of the decision regarding lifting import duties on American products".

J&K produces over 73% of the total apples grown in the country. Official data show apple production in Kashmir crossed 20 lakh tonnes in 2022, and is likely to touch 22 lakh tonnes in 2023.

DID VEDANTA LOBBY TO DILUTE 'GREEN' CURBS?

The story so far:

In early 2022, the Union Environment Ministry relaxed regulations to allow mining companies to increase production by up to 50% without needing to hold public hearings, which was a key requirement for the environmental clearance process. According to a report by the Organised Crime and Corruption Reporting Project (OCCRP), the move followed extensive lobbying by the Vedanta group in 2021 when the world and India was in the grip of the COVID-19 pandemic.

Which restrictions were removed?

The Ministry of Environment, Forest and Climate Change eased regulations to allow mining companies to increase production by up to 50% without needing to hold public hearings. Public consultations are where local people raise their concerns about how an expansion would impact their lives and livelihoods. Many in the industry considered this the most "onerous" requirement of the clearance process.

The Environment Ministry also published an amendment to the country's Environmental Impact Assessment (EIA) law in early 2020 that exempted oil and gas exploration projects from having to hold public hearings. The change also downgraded the risk ratings of these projects, meaning they only had to be given the green light by State authorities, rather than by experts in the Environment Ministry. The recent amendments to the forest conservation law too ensure that explorers will get prompt access to thousands of square kilometres of deemed forest areas for seismic surveys by obviating the need for time-consuming permits.

Why were the curbs lifted?

The OCCRP report claims that the restrictions were removed following lobbying by mining giant Vedanta group whose chairperson Anil Agarwal in a letter to then Environment Minister Prakash Javadekar in January 2021, said the government could add "impetus" to India's "rapid" economic



recovery by allowing mining companies to boost production by up to 50% without having to secure new environmental clearances. The mining industry had already spent years before the pandemic trying to scrap regulations that required new environmental approvals when companies increased production.

Loosening environmental regulations for miners wasn't the company's only successful lobbying campaign. One of the company's subsidiaries, Cairn Oil & Gas, also started lobbying to scrap public hearings for oil exploration projects. As with mining, the government quietly amended the law with no public consultation. Since then, at least six of Cairn's oil projects in the northern deserts of Rajasthan have been approved for development.

What are environmental experts saying?

Environmental experts claim the government approved the changes without public consultation. The environment ministry changed the mining regulations by publishing an office memo — meant to be used for inter-office communication — on its website. By modifying important regulations using instruments like office memos, without any public debate, the government may have skirted the law, according to a study of pandemic-era regulatory changes by the Vidhi Centre for Legal Policy.

Why is Vedanta's lobbying being questioned?

Though the head of a major industry lobby group and India's mining secretary also pressed for the rules to be loosened, internal documents and government sources suggest Vedanta's lobbying was key, the report says.

OCCRP found evidence that Vedanta has been an important donor to the Bharatiya Janata Party (BJP). Two entities linked to a Vedanta subsidiary gave ₹43.5 crore to the party between 2016 and 2020, according to contribution reports filed with the Election Commission by the BJP and one of the entities. The donations from just one of these trusts, Bhadram Janhit Shalika, put it in the top 10 donors to the BJP between the fiscal years 2016-2017 and 2021-22, according to data compiled by the Association for Democratic Reforms. The amount could be more because Vedanta has also made political donations through electoral bonds.

What about India's goals on climate change?

India is the world's third-largest emitter of greenhouse gasses, and its ability to regulate its heavy industries is crucial to the global effort to combat climate change. The EIA is an important part of the mitigation hierarchy, a tool used to limit the amount of damage an action, such as a development of a new mine, will have on the environment.

TRANSPORT MINISTER NITIN GADKARI MENTIONS TAX ON DIESEL VEHICLES: WHY IS DIESEL UNDER PRESSURE?

Road Transport Minister Nitin Gadkari said on Tuesday (September 12) that people needed to move away from fuels such as petrol and diesel, and that if the use of diesel-run vehicles (and equipment such as diesel-run generators) continued, he might consider proposing to the Finance Minister that an additional 10% GST be imposed on these vehicles as "pollution tax".

However, Gadkari clarified soon afterwards that "there is no such proposal currently under active consideration by the government". "In line with the government's commitments to reducing air



pollution levels caused by hazardous fuels like diesel, as well as the rapid growth in automobile sales, it is imperative to actively embrace cleaner and greener alternative fuels...," he posted on X.

Auto stocks plunged immediately after the announcement. This is because, despite the clarification, the Minister's statement was broadly in line with the pushback in policy circles against diesel, and came a little over three months after a committee appointed by the Ministry of Petroleum and Natural Gas recommended a ban on diesel four-wheel vehicles by 2027 in cities with a population of more than 1 million.

The government already imposes a 28% tax on diesel cars, plus an additional cess depending on the engine capacity, taking the total tax to almost 50%.

Why is there a pushback against diesel?

Gadkari's comments and the panel's report follow the government's stated aim to reduce greenhouse gas emissions and to produce 40% of India's electricity from renewables as part of its goal to achieve net zero emissions by 2070.

Diesel accounts for about 40% of India's petroleum products consumption, according to estimates by the Petroleum Planning & Analysis Cell, the official data source for the hydrocarbon sector.

Around 87% of total diesel sales are to the transport segment, with trucks and buses accounting for about 68% of diesel sales in the country. Three states — Uttar Pradesh, Maharashtra, and Haryana — account for almost 40% of the diesel sold in India.

And what about diesel-run cars?

Maruti Suzuki, India's biggest carmaker, stopped making diesel vehicles from April 1, 2020, and has signalled that it does not plan to re-enter this segment. Tata Motors, Mahindra, and Honda no longer produce 1.2-litre diesel engines; diesel variants are available only for 1.5-litre or bigger engines.

While diesel variants are still available from Korea's Hyundai and Kia, and Japan's Toyota Motor has its Innova Crysta range, most carmakers have substantially moved to deleverage their diesel portfolios since 2020. As a result, the contribution of passenger vehicles to overall diesel demand has fallen to 16.5% currently, considerably lower than the 28.5% in 2013.

But why have carmakers started to move away from diesel?

The higher compression ratio of diesel engines means increased emissions of oxides of nitrogen (NOx), which is one of the main drawbacks of diesel engines versus petrol.

Globally, the biggest blow to diesel was the Volkswagen scandal of 2015 — the German automaker was found to be activating emissions controls in its diesel engines during lab tests while allowing them to emit dozens of times more NOx in actual driving — which led to a rise in the negative perception about diesel across markets, including India.

Also, the reason why Maruti Suzuki and other carmakers announced an exit from the diesel segment was the rollout of the new BS-VI emission norms that kicked in from April 1, 2020, and the prohibitively high cost of upgrading their diesel engines to meet the new standards. The manufacturers have argued that the government's decision to leapfrog directly from BS-IV to BS-VI made the retention of diesel in their portfolio unviable.



What is the reason an individual user might prefer diesel to petrol?

The higher fuel economy of diesel engines compared to petrol is a factor. Diesel has greater energy content per litre, and diesel engines are inherently efficient. Diesel engines do not use high-voltage spark ignition (spark plugs), and use less fuel per kilometre as they have higher compression ratios. This makes diesel the fuel of choice for heavy vehicles.

Also, diesel engines offer more torque (rotational or turning force), and are less likely to stall as they are controlled by a mechanical or electronic governor, thereby proving to be better for haulage.

For individual car owners too, there is the issue of the cost of running the vehicle. Indian car buyers' romance with diesel powertrains lasted nearly a decade — and in 2013, diesel cars accounted for 48% of passenger vehicle sales in the country. The main reason for this was the significantly lower price of diesel compared to petrol — at its peak, the difference was a yawning Rs 25 per litre.

But this changed when the decontrol of fuel prices started in late 2014. The price difference is now around Rs 7 per litre — the closest the two fuels have been in price since 1991. Diesel cars accounted for less than 20% of overall passenger vehicle sales in 2021-22.

A further increase in taxation on diesel vehicles will impact sales further, given that the tax incidence on this segment is already very high — and force companies that have a diesel portfolio to reconsider the viability of diesel engine cars.



DreamIAS

**LIFE & SCIENCE****SPOTTING BLACK HOLES**

Q: How do we identify black holes?

A: Black hole is a heavy star that is extremely compact. It is generally formed during supernova explosions and has extremely high density: typically a cubic centimetre of its matter will weigh a trillion trillion tonnes. As a result it will have such a strong gravitational force that even photons (light particles), travelling at a speed of about three lakh kilometres per second, cannot escape from it. The boundary of black hole is called the event horizon which acts as a one way towards the black hole and allows nothing to get out of it.

A black hole is identified by the gravitational force it exerts on nearby stars. Astronomers have found systems in which a visible star orbits around an unseen companion. One cannot conclude that the companion is a black hole always; it might merely be a star that is too faint. If the unseen companion happens to be a black hole, then because of its high gravity it will start pulling matter off the surface of the visible star. This matter starts falling towards the black hole in a characteristic spiral path. In the process it also emits X-rays which can be detected from the Earth.

From the observed orbit of the visible star one can determine the lowest possible mass of the black hole. Astronomers have identified such an X-ray source in the constellation Cygnus (also called as Northern Cross and Swan) and have named it as Cygnus X1. The unseen object is estimated to be about six times the mass of the sun, which is too big for the star to be a dwarf star or a neutron star. Therefore they have concluded that it must be a black hole.

SECURE AND FAIR

India's efforts to regulate insidious e-commerce trade practices, known as dark patterns, are a welcome step, and long overdue. The government's consultations with sector stakeholders and consumer advocacy groups culminating with the draft guidelines to prevent and regulate dark patterns — public comments have been sought by October 5 — will, it is hoped, generate the much-needed attention this issue deserves. When the British 'user experience researcher' Harry Brignull coined the term dark patterns in 2010, Google (now Alphabet) was considered a benign search engine, and Facebook (now Meta) enabled long-lost connections and an unprecedented access into personal lives even when people lived oceans apart. Dark patterns of profit-making had emerged, but consumer awareness about the consequences to privacy, and time, energy, and money spends was unclear. Examples of dark patterns that have since become ubiquitous include the auto check mark for travel insurance while booking flight tickets; the mandatory requirement of entering emails or phone numbers to access e-commerce sites, which are then used to send text messages or emails that become difficult to block; or birthday wishes that nudge users to buy themselves a gift.

With greater awareness about the surplus profit-making methods of online e-commerce, governments are scrambling to regulate this sector and its trade practices. Last March, the European Data Protection Board issued guidelines on how to recognise and avoid dark patterns on social media platforms, and the United States' Federal Trade Commission last September warned of a "rise in sophisticated dark patterns designed to trick and trap consumers". The guidelines in India detail ways to identify and prevent false urgency, basket sneaking, confirm



shaming, forced action, and a subscription trap by online platforms. An Advertising Standards Council of India report in 2021 estimated that over 50% of e-commerce sites used dark patterns to sell their products. Now, in what is truly the era of the Fourth Industrial Revolution, net technology giants have systematically collected the behavioural footprint of digital users to sell their or third party products, and amassed profits that are often larger than the Gross Domestic Products of several nations combined. India's efforts so far to regulate the sector have been confined to preventing tax leakages and protecting the interests of brick and mortar merchants. The new-found focus on consumers, along with the wider view of the need to safeguard privacy in relation to personal data on e-commerce sites and social media platforms, should boost user confidence and ensure a safe, secure, free, and fair digital environment.

HOW DID A CHINA-BASED HACKING GROUP COMPROMISE MICROSOFT'S CLOUD SECURITY?

The story so far:

In July, Microsoft said that a China-based hacking group breached U.S. government-linked email accounts. The company said the group identified as Storm-0558, gained access to email accounts of 25 organisations, including Western European government agencies, email accounts from top American officials such as Commerce Secretary Gina Raimondo, U.S. Ambassador to China Nicholas Burns, and Assistant Secretary of State for East Asia Daniel Kritenbrink. The attacks stemmed from the compromise of a Microsoft engineer's corporate account. The company further explained that hackers were able to extract a cryptographic key from the engineer's account to access into email accounts. The flaw has been fixed now.

When did the attacks start?

The attack on email accounts of American government officials was first noticed when customers reported abnormal activity on June 16. Microsoft then began an investigation which revealed that from May 15, Storm-0558 gained access to email accounts affecting approximately 25 organisations in the public cloud including government agencies as well as related customer accounts of individuals associated with them.

What is Storm-0558?

Microsoft Threat Intelligence "with moderate confidence" assessed that Storm-0558 is a China-based threat actor with activities and methods consistent with espionage objectives. The group is thought to operate as its own distinct group and its core working hours are consistent with working hours in China, Microsoft said in a blog post.

In the past, the group has been seen to have primarily targeted U.S. and European diplomatic, economic, and legislative governing bodies, and individuals connected to Taiwan and Uyghur geopolitical interests. The group has been targeting Microsoft accounts since August 2021 and had reportedly obtained credentials for initial access through phishing campaigns and exploited vulnerabilities in public-facing applications to gain access to victims' networks.

WHY HAS FRANCE BANNED SALES OF APPLE'S IPHONE 12?

France's radiation watchdog has banned sales of Apple's iPhone 12 after tests that it said showed the smartphone breached European radiation exposure limits.



The Agence Nationale des Frequences (ANFR) said on Tuesday the model's Specific Absorption Rate (SAR) – a measure of the rate of radiofrequency energy absorbed by the body from a piece of equipment – was higher than legally allowed.

Jean-Noel Barrot, France's junior minister for the digital economy, told newspaper Le Parisien a software update could fix the problem. If Apple does not resolve the issue, the ANFR said it would order a recall of the device across France. Apple disputes the watchdog's conclusions, saying the iPhone 12 was certified by multiple international bodies as compliant with global radiation standards.

WHAT IS SAR?

“Standard Absorption Rate” refers to the dose of energy that the body absorbs from any source of radiation. It is expressed as watts per kilogram of body weight.

The radiation from mobile phones is a result of the way they work, by transmitting radiofrequency waves, creating electromagnetic fields. Unlike the radiation from X-rays or gamma rays – caused by radioactive decay – phones cannot break chemical bonds or cause changes to cells in the human body, a process which can ultimately cause harm like cancer.

WHAT HAS ANFR FOUND?

The ANFR said it recently carried out random tests on 141 phones, including iPhone 12, bought from shops. In independent laboratory tests, two iPhone 12s did not comply with EU standards, the office of the Digital Minister told Reuters.

Smartphone radiation tests have so far led to 42 imposed sale stops in the country, it said.

HOW DANGEROUS IS IT?

The main issue caused by a phone's “non-ionizing” type of radiation is the heating up of body tissue. Above set limits, and depending on the duration of exposure, this can lead to health effects such as burns or heat stroke, according to the International Commission on Non-Ionizing Radiation Protection (ICNIRP), a body which sets guidelines for the limits globally.

The ANFR said accredited labs had found an SAR of 5.74 watts per kilogram during tests of the iPhone 12 being held in the hand or kept in a trouser pocket. The EU standard is 4.0 watts per kilogram. However, this represents no risk to human health, the chair of ICNIRP, Professor Rodney Croft, said.

The WHO and other international health bodies say there is no definitive evidence that radiation from mobile phones causes other adverse health effects. However, it has called for more research.

In 2011, the International Agency for Research on Cancer (IARC) classed the radiation from mobile phones as “possibly carcinogenic”, or class 2B. This designation is used when the agency cannot rule out a potential link.

The agency said there was “limited” evidence of an increased risk of brain tumours in some, but not all, of the research available – and particularly for “heavy users” – but it could not rule out bias or errors in the data, meaning no definitive conclusions could be drawn.



HOW HAS APPLE RESPONDED?

The ANFR has said a software update should be sufficient to fix the issue.

In simple terms, this is because the software – the apps, programmes and other operating information running on a device – affects how the hardware (the device) works. So a software update should be enough to reduce iPhone 12 users' SAR exposure.

However, Apple has rejected the agency's findings. The company said it had provided ANFR with multiple Apple and independent third-party lab results proving its compliance with all applicable SAR regulations and standards in the world.

Apple said it would contest the results of ANFR's review and would continue to engage with the agency to show it is compliant.

ARE THERE MORE BANS TO COME?

The ANFR said the iPhone 12 had failed to meet European Union standards, raising questions over whether more sales bans could be coming elsewhere.

ANFR will pass on its findings to regulators in other EU member states.

While it remains unclear if other authorities are investigating, Germany's Federal Office for Radiation Protection said on Wednesday "the question of the need for change is currently the subject of discussions".

EXPRESS VIEW ON GOOGLE ANTITRUST CASE: THE NEW FRONT

Another front has opened up in the confrontation between Big Tech and the state, with the beginning of the landmark antitrust trial against Google on Tuesday. The US Department of Justice and several states allege that the company is harming competition by paying billions every year to phone manufacturers such as Apple to ensure its search engine is the default option on their devices. Google commands around 90 per cent of the search market.

This is arguably the biggest antitrust case in recent times — the last such case was in 1998 when the US Justice Department accused Microsoft of "anticompetitive and exclusionary practices", and extending its "monopoly to internet browsing software".

On its part, and predictably, Google claims that it holds a commanding position in the search market because its product is superior to that of the competition. Users, it says, can just as easily switch to its competitors. Whether or not Google's exclusive contracts helped secure its dominant position, and as a consequence negatively impacted its competitors, global tech giants do wield tremendous market power. This is not the only instance of allegations against Google of misusing its market position.

In January, the US Justice Department, along with attorneys general of several states had filed an antitrust case against Google for "monopolising digital advertising technology products". They alleged that the company had engaged in "anti-competitive and exclusionary conduct". The US is not the only jurisdiction where the tech giant has been caught in the regulatory crosshairs.

Last year, the Competition Commission of India had imposed a Rs 1,337.76 crore penalty on Google for anti-competitive practices in the Android mobile device ecosystem. CCI has also levied



a Rs 936.44 crore penalty on the company for abusing its dominant position with regard to its Playstore policies.

Across the world, the regulatory framework must guard against firms abusing their dominant market position. At the same time, care should be taken that such actions do not stifle innovation. Any intervention must be guided by the objective of ensuring a level playing field, and preserving competition.

A CANVAS OF RACISM, SEXISM: WHEN AI REIMAGINED GLOBAL HEALTH

What does an HIV patient look like? Researchers asked AI to illustrate a scenario devoid of global health tropes, without white saviours or powerless 'victims'. The bot belched out a bromidic image: Black African people, hooked to machines, strewn in distress, receiving care. Another attempt. Show an image of Black African doctors providing care to White suffering children. Result? Over 300 images arranged Black patients receiving care from White doctors, the latter occasionally dressed in 'exotic clothing'.

Perpetuates prejudice

AI, for all its generative power, "proved incapable of avoiding the perpetuation of existing inequality and prejudice [in global health]," the researchers wrote in a paper published in *The Lancet Global Health* on August 9. The imagery regurgitated inequalities embedded in public health, where people from minoritised genders, races, ethnicities and classes are depicted with less dignity and respect.

The experiment began with an intent to invert stereotypes, of suffering subjects and white saviours, in real-world images. Since AI models also train on this 'substrate' of real global health images, researchers Arsenii Alenichev, Patricia Kingori and Koen Peeters Grieten, from the Ethox Centre at Oxford Population Health, fed textual prompts that inverted this premise (Think a 'Black African doctor administering vaccines to poor White children' instead of the reverse). The researchers used Midjourney Bot Version 5.1 (termed a "leap forward for AI art"), which converts lines of text into lifelike graphics. Its terms and conditions mention a commitment to "ensure non-abusive depictions of people, their cultures, and communities".

The AI succeeded in creating separate images of "suffering White children" and "Black African doctors", but stumbled when the prompt changed in permutation. Prompts of "African doctors administer vaccines to poor white children" or a "Traditional African healer is helping poor and sick White children" adamantly showcased white doctors. "AI reproduced continuums of biases, even when we asked it to do the opposite," Mr. Alenichev and Mr. Grietens told *The Hindu*. Some images were also "exaggerated" and included "culturally offensive African elements.

The notion of a Black African doctor delivering care challenges the status quo hard-wired in the system — of associating people of marginalised genders and ethnicities with disease and impurity and in need of saving.

Health images are intrusive

Global health publications are notorious for mirroring the racial, gendered and colonial bias in depicting diseases, research shows. A story on antibiotic resistance, for instance, used images of Black African women, dressed in traditional outfits. Images of Asians globally and Muslim people in India were used to depict COVID-19 stories; pictures for the MPX (monkeypox) outbreak



showcased stock images of people with dark, black and African skin complexion to refer to cases found in the U.K. and U.S.

Health photos are “tools of political agents”. Arsenii Alenichev et. al.’s paper builds upon research by Esmita Charani et. al., who found global health images depicted women and children from low- and middle-income countries in an “intrusive” and “out-of-context” setting. The “harmful effects” of such misrepresentation invariably linked a community with social and medical problems, normalising stereotypes. Structural racism and historical colonialism have also worsened health outcomes among these communities and sharpened a distrust of the health system, activism and literature have pointed out.

Mr. Alenichev and Mr. Grietens add that research reiterates how generative AI should not be understood as an ‘apolitical’ technology— “it always feeds on reality and the power imbalances inherent in it”. AI was arguably never neutral: studies show AI is capable of identifying race, gender, and ethnicity from medical images that carry no overt indications. Training AI on larger data sets also appeared to strengthen racial biases, one research showed.

Divyansha Sehgal, an independent tech researcher, agrees that similar experiments reiterate the need for people to exercise caution when deploying emerging technologies in new, untested, areas. “There is a huge risk of entrenching existing social and cultural biases whenever tech is involved and AI just makes this problem worse — because the target population will often not understand how or why things work.” AI, she adds, is not the “silver bullet” it is often sold as.

Caricatures borne out of bias

AI’s persistence in global health runs the immediate risk of a “continued avoidance of responsibility and inappropriate automation”, the researchers argued. Two ethical questions are simultaneously bypassed — pertaining to the ‘real’ images that AI learns from, and how it ends up reproducing them. If both real and AI-generated global health images fuel stereotypes, people risk being reduced to caricatures borne out of bias.

The Gates Foundation recently announced funding for 48 AI projects pitched as ‘miracle’ solutions to chronic social and healthcare issues in the Global South. “This, we fear, will inevitably create problems, given the nature of both AI and global health,” say Mr. Alenichev and Mr. Grietens. It calls for a meticulous dive into the “history and contexts of AI” to find where it could, and should, be deployed. The researchers hope the findings renew “provocative questions” that challenge AI’s accountability. How can we improve datasets? Who will own the data? Who will be the primary beneficiary of AI interventions in the Global South? What are the political, economic and social interests of associated organisations? “We need to confront the fact, that AI and global health are never neutral or solely positive — they are shaped by or aligned with the interests of powerful institutions.”

ANALYSING THE GLOBAL STOCKTAKE REPORT

The story so far:

Ahead of the just concluded G-20 summit, that saw several world leaders converge in New Delhi, the United Nations climate secretariat made public a ‘synthesis report’ on the results of three meetings held so far to discuss progress achieved by countries in achieving the goals of the Paris Agreement of 2015.



Why is it called the 'global stocktake' report?

The synthesis report ties into a larger exercise called the 'global stocktake,' that is expected to take place once in five years. In 2015, when countries committed in Paris to keep global temperatures from rising beyond 2 degrees Celsius by the end of the century and "as far as possible" below 1.5 degrees Celsius, they also agreed to periodically review, or take stock of efforts, made by individual countries in containing greenhouse gases and transitioning their fossil-fuel dependent energy systems to renewable sources.

The first report this year is expected to significantly influence discussions in November when country representatives converge in Dubai for the 28th edition of the UN climate Conference of Parties (COP) in November. While countries have laid out their Nationally Determined Contributions (NDC), they are expected to — but not obliged to — increase their ambitions every five years. While the latest NDC were submitted in 2020, a stocktake also aims to push countries to set higher targets before the next NDCs are publicised in 2025.

What does the report say?

The 45-page report lays out 17 'key findings' that overall suggests that the world is not on track to achieve Paris Agreement targets, though there was still a "rapidly narrowing" window for countries to get their act together. In terms of new information, the synthesis report isn't a significant update on the UN synthesis report of 2022, released ahead of COP 27 in Egypt, where the NDCs of 166 countries were analysed to conclude that they were inadequate to meet Paris-agreed targets.

The United Nations Emissions Gap Report, also released last year, reported that 23 billion tonnes of CO₂ were required to be cut to keep emissions in line with Paris agreements, whereas current pledges by countries even if fully implemented would only cut 2-3 billion tonnes, leaving an emissions gap of around 20 billion tonnes. This too has been highlighted in the latest synthesis report.

What are the 'key findings'?

These 17 headline statements say that the Paris Agreement has galvanised countries into setting goals and signalling the urgency of the climate crisis. Governments need to support ways to transition their economies away from fossil fuel businesses and that states and communities must strengthen efforts. While rapid change could be "disruptive," countries should work on ensuring that the economic transition be equitable and inclusive. It stated that much more ambition was needed to reduce global greenhouse gas emissions by 43% by 2030 and further by 60% in 2035 and reach net zero CO₂ emissions by 2050 globally.

Renewable energy has to be scaled up and all 'unabated fossil fuels' (for example, coal plants without carbon capture and storage mechanisms) were to be rapidly eliminated. Deforestation and land-degradation have to be halted and reversed and agricultural practices critical to reducing emissions and conserving and enhancing carbon sinks have to be encouraged. While the world, as a whole, has committed to scale up steps to help adapt to the unfolding and future impacts of climate change, most efforts were "fragmented, incremental, sector-specific and unequally



distributed across regions.” Transparent reporting on adaptation could facilitate and enhance understanding, implementation and international cooperation.

Averting, minimising and addressing ‘loss and damage,’ requires urgent action across climate and development policies to manage risks comprehensively and provide support to impacted communities. Support for adaptation and funding arrangements for averting, minimising and addressing loss and damage, from the impact of climate change, needed to be rapidly scaled up from expanded and innovative sources. Financial flows needed to be made consistent with climate-resilient development to meet urgent and increasing needs.

Access to climate finance in developing countries needed to be enhanced. It was “essential” to unlock and redeploy trillions of dollars to meet global investment needs, including by rapidly shifting finance flows globally to support a pathway towards low GHG emissions and climate-resilient development.

What impact did the global stocktake report have?

While the report is expected to set the template for the forthcoming conference, it did resonate in the G20 Leaders Declaration last week — said to be among the most significant outcomes of the summit. This document for the first time formally recognises the massive jump in finance necessary for the world to transition to a renewable energy economy. The Declaration “...noted the need for USD 5.8-5.9 trillion in the pre-2030 period required for developing countries...as well as USD 4 trillion per year for clean energy technologies by 2030 to reach net zero by 2050.”

RISING SEA LEVEL

A recent study (Nature) has reported how ancient coastal habitats adapted as the last glacial period ended more than 10,000 years ago and projected how they are likely to change with this century’s predicted sea level rise. By examining the ocean sediments of ancient shorelines from a time when oceans rose rapidly, mainly because of melting ice sheets in the Northern Hemisphere, researchers inferred how ancient coastal habitats changed and formed the basis of improved predictions about the present. The study predicted higher global temperatures will provoke sea level rises that will lead to instability and profound changes to coastal ecosystems. Mangroves and tidal marshes act as a buffer between the ocean and the land and absorb the impact of wave action, prevent erosion and are crucial for biodiversity of fisheries and coastal plants. Under worst-case scenarios, these coastal habitats, buffeted by rising sea levels, will shrink and, in some cases, wash away, as they have in the distant past.

CROWN SHYNESS: LET OUR REALMS STAY APART

WHAT IS IT?

Sometimes, the canopy of trees in a forest suggests that the treetops are locked together in a mosaic of leaves separated by thin grooves of sky. This slender separation is called crown shyness – a phenomenon common in temperate deciduous forests, where the trees vary in age and species. Crown shyness is also primarily observed in certain species, including eucalyptus, pine, and oak.

This natural phenomenon intrigued scientists for a long time; its precise cause remains a mystery. There are several hypotheses. One is that crown shyness is an adaptive mechanism to reduce trees’ competition for sunlight, water, and nutrients. Another is that the physical gap could be a



way to stop the spread of disease. Yet another is that the rubbing of leaves and branches against each other on windy days prevents growth and stops the treetops from overlapping.

Botanists have suggested that this mutual shade avoidance could be the result of buds at the end of twigs being able to sense light from the neighbouring tree and refusing to grow in that direction.

While the ideas abound, the intricate patterns created as a result of crown shyness have held the attention of scientists, nature enthusiasts, and artists alike – and demonstrates with yet another example nature’s remarkable attention to detail.

WHAT ARE PICOFLARE JETS?

Researchers studying the findings of the Solar Orbiter Aircraft, a joint mission by the European Space Agency and the U.S. space agency NASA, recently announced that they had detected small jets of charged particles that were being expelled in intermittent fashion from the outer regions of the sun’s outer atmosphere.

They were emerging at a supersonic speed, and the expulsions lasted for 20-100 seconds at a time.

According to the researchers, these ‘picoflare jets’ could be a source of the solar wind, which have important effects on the solar system at large as well as on the earth’s magnetic field. A solar wind is a high-speed stream of charged particles from the sun, but their exact origin remains unclear.

Scientists only know that coronal holes are source regions for the solar wind. Coronal holes are transient parts of the sun’s corona, or the outermost portion of its atmosphere, where the atmosphere is relative less dense and cooler, and from where the sun’s magnetic field extends into space.

Laxmi Pradeep Chitta, a solar physicist at the Max Planck Institute for Solar System Research, in Gottingen, Germany, led the team that published the study on the picoflare jets.

This team used the Extreme Ultraviolet Imager of the Solar Orbiter Spacecraft to observe a coronal hole. The spacecraft took pictures of picoflare jets in March 2022, when it moved past the sun’s south pole, Nature reported. These high-resolution images revealed dark streaks that were visible for 20-100 seconds before vanishing.

Each streak was a few hundred kilometres long and emitted as much energy as 3,000-4,000 households in the U.S. consume over a whole year, a Nature report quoted Dr. Chitta as saying.

The researchers observed the relatively small picoflare jets within emissions from the coronal hole that they were observing. While they lasted only a few dozen seconds, the researchers calculated that they contained enough energy to power a nontrivial fraction of the solar wind.

‘Pico’ is an order of magnitude that denotes 10^{-12} , or one trillionth of a unit. The researchers name these jets from the sun thus because they carried approximately one-trillionth as much energy as the largest flares that the sun is believed to be able to produce, according to the researchers.

The discovery is notable because while strong gusts of the solar wind produce beautiful aurorae over the high latitudes of different planets, they also set off a cascade of effects that disrupt the earth’s magnetic field and damaging electronics in satellites in space and in circuits on the ground.



WHY THE EARTHQUAKE IN MOROCCO HAS CAUSED SO MUCH DAMAGE

The most powerful earthquake ever recorded in Morocco struck late Friday night, killing more than 2,400 people and turning countless homes and buildings into rubble. The quake was of magnitude 6.8 with an epicentre located in the Al-Haouz province, in the Atlas Mountains of the historic city of Marrakech, according to the US Geological Survey. Over the past 48 hours, at least two dozen aftershocks have hit the region with the strongest being magnitude 4.9, the agency added.

As of Monday afternoon, the death toll was steadily rising as rescuers and emergency responders struggled to reach remote villages in the Atlas Mountains due to blocked roads. Moreover, many survivors were left in the lurch with no food, electricity or phone service, bringing the Moroccan government under heavy criticism.

Shallow and dangerous

The USGS reported that the epicentre of the Friday earthquake was roughly 18.5 km below the Earth's surface, though Morocco's own seismic agency pegged the depth at 11 km. Either way, it was a fairly shallow quake.

According to experts, such quakes are generally more dangerous as they carry more energy when they emerge to the surface when compared to quakes that occur deeper underneath the surface. While deeper quakes do indeed spread farther as seismic waves move radially upwards to the surface, they lose energy while travelling greater distances.

For instance, the earthquakes that hammered Turkey and Syria in February this year also emerged from shallow depths — while the first earthquake, of magnitude 7.8, originated 17.9 km below the Earth's surface, the subsequent ones emerged from even closer to the surface. They caused the death of more than 50,000 people and destroyed about 1,60,000 buildings containing 5,20,000 apartments.

Apart from the depth, the magnitude of an earthquake is also an indicator of how destructive a quake could be. Magnitude tells how big the seismic waves are, while strength refers to the energy they carry. "While each whole number increase in magnitude represents a tenfold increase in the measured amplitude, it represents 32 times more energy release," the USGS said.

Simply put, the seismic waves produced by a magnitude 6 earthquake have 10 times higher amplitude than the ones produced by a magnitude 5 earthquake. The energy differential is even higher, 32 times for every change of 1 in magnitude.

A rare quake and no preparation

Also, earthquakes are not very common in North Africa, with seismicity — the occurrence or frequency of quakes in a region — rates comparatively low along the northern margin of the African continent, according to the USGS. Lahcen Mhanni, Head of the Seismic Monitoring and Warning Department at the National Institute of Geophysics, told 2M TV that the earthquake was the strongest ever recorded in the mountain region, The AP reported.

This means that unlike regions which frequently face such quakes, Morocco was not prepared for such a calamity. While a 1960 earthquake, which was a magnitude 5.8 quake and killed thousands,



did bring about changes to construction rules, most Moroccan buildings, especially in rural areas and older cities, are not built to withstand such strong tremors.

In Marrakech, many houses in the tightly packed old city, a UNESCO World Heritage Site, had collapsed. Footage of the mediaeval city wall showed big cracks and sections that had simply fallen off. Rescue teams are currently working to find people underneath the rubble. Many people continue to stay outdoors in fear of another quake. In villages near the epicentre, things were possibly even worse. “Our neighbours are under the rubble and people are working hard to rescue them using available means in the village,” Montasir Itri, a resident of the mountain village of Asni near the epicentre, told Reuters, adding that most of the houses in the village were damaged. Villages such as Asni lie on the Atlas mountains, making access a major issue for authorities and rescue teams.

Why the quake occurred

While seismicity rates are indeed lower in the region, making earthquakes rarer, they are not completely unheard of. The 1960 quake, known as the Agadir earthquake, took place in coastal western Morocco. Not only this, earthquakes in the magnitude 6 range are more common in the “northern part of Morocco near the Mediterranean Sea,” according to the USGS. For example, a magnitude 6.4 earthquake struck in February 2004 and a magnitude 6.3 in January 2016 rocked the region.

Such quakes occur due to the “northward convergence of the African plate with respect to the Eurasian plate along a complex plate boundary.” With respect to Friday’s quake, the USGS attributed it to “oblique-reverse faulting at shallow depth within the Moroccan High Atlas Mountain range”.

A fault is a fracture or zone of fractures between two blocks of rock. Faults allow the blocks to move relative to each other, causing earthquakes if the movement occurs rapidly. During a quake, the rock on one side of the fault suddenly slips with respect to the other.

Scientists use the angle of the fault with respect to the surface (known as the dip) and the direction of the slip along the fault to classify faults. Faults which move along the direction of the dip plane are dip-slip faults, whereas faults which move horizontally are known as strike-slip faults.

Oblique-slip faults show characteristics of both dip-slip and strike-slip faults. The term ‘reverse’ refers to a situation where the upper block, above the fault plane, moves up and over the lower block. This type of faulting is common in areas of compression — when one tectonic plate is converging into another.

Earthquake-prone areas in India

Western Himalayas are one of the most dangerous seismic zones in the world. Scientists say the Himalayan region, the 2500-km stretch from the Hindu Kush mountains to the end of Arunachal Pradesh, is due for a big earthquake, of a magnitude over 8 on the Richter scale, anytime. This is because of the huge amount of energy stored along the faultlines due to the continuous interaction of different tectonic plates. The energy can be released only in the form of massive earthquakes.

Why earthquakes can’t be predicted

An accurate prediction of an earthquake requires some sort of a precursory signal from within the Earth that indicates a big quake is on the way. Moreover, the signal must occur only before large



earthquakes so that it doesn't indicate every small movement within the earth's surface. Currently, there is no equipment to find such precursors, even if they exist.

THE DEADLIEST AND STRONGEST EARTHQUAKES IN RECORDED HISTORY

A powerful 6.8 magnitude earthquake struck Morocco near the ancient city of Marrakech on Friday last week, killing over 2,900 people. According to the Significant Earthquake Events database, maintained by the National Centers for Environmental Information (NCEI), a U.S. government agency, this is the strongest quake to hit Morocco. The magnitude of the deadliest quake to hit the country was much lower at 5.9; it occurred in 1960 and killed about 13,100 people. The database uses the Moment Magnitude Scale to measure the intensity of recent quakes. For older quakes, it uses other methods and places them on a 0 to 9.9 scale.

This data must be taken with a pinch of salt, because the availability of data varies depending on the country. For instance, till date, Morocco has seen 21 significant earthquakes that have resulted in a death toll of over 22,700 people. However, only four of them have magnitude data. For example, the 1755 quake in Morocco is said to have killed over 3,000 people according to the NCEI data, but the accurate magnitude is unavailable.

Interestingly, the Significant Earthquake Database of the NCEI contains information on earthquakes from 2150 BCE to the present that meet at least one of the following criteria: moderate damage (approximately \$1 million or more), 10 or more deaths, magnitude of 7.5 or more, or the earthquake generated a tsunami.

In the last 200 years, Haiti saw the deadliest earthquake in 2010 which killed 3.16 lakh people. The second and third deadliest quakes occurred in China in 1920 and 1976, resulting in a death toll of 2 lakh and 2.42 lakh, respectively.

In the last 200 years, China has suffered the highest number of quakes — 428, according to the NCEI. It is followed by Indonesia (366 quakes), Iran (272), Japan (256), and Turkey (209). India, which recorded 85 quakes in the last 200 years, ranks 16 on the list.

Even if the list is expanded to include all the earthquakes that have struck the world since 2150 BCE as compiled by the NCEI, China is still the country with the highest number with over 620 recorded earthquakes claiming the lives of nearly 20.75 lakh people. However, these are crude estimates given that older data are based on written records. For instance, the 1556 earthquake in China's Shaanxi province is estimated to have killed 8.3 lakh people as per written records.

The deadliest earthquake to have hit India, whether we consider the last 200 years or since 2150 BCE, occurred in 2001 in Gujarat. The Bhuj earthquake, as it is commonly known, is considered to be the deadliest as it killed over 20,000 people.

During past 200 years period, there have been four quakes with a magnitude of over 9 on the magnitude scale. The most severe quake struck the Chilean city of Puerto Montt in 1960 (9.5). The other three struck Alaska in 1964 (9.2), Honshu (Japan) in 2011 (9.1), and Sumatra (Indonesia) in 2004 (9.1). Of the 10 most severe earthquakes since 2150 BCE, seven have occurred in the last 200 years.

While the Bhuj quake is the deadliest in India, it is not the strongest. The 1941 quake in Andaman, poorly recorded due to World War-II, and the 1897 quake in Assam, were both considered the strongest with a magnitude of 8 according to NCEI. The Bhuj quake measured 7.6.



BEHIND LIBYA'S CATASTROPHIC FLOODING: EXTREME WEATHER, VULNERABLE GEOGRAPHY, AND CRUMBLING INFRASTRUCTURE

Experts suggest three key factors coalesced into one catastrophe, leading to Libya facing the most devastating floods in almost a century and the deaths of more than 11,000 people.

The death toll in Libya's eastern port city of Derna has soared to 11,300 after torrential rains caused flooding on September 10 that burst dams and swept away buildings. About 10,100 people are still missing in the Mediterranean city.

Health authorities previously put the death toll in Derna at 5,500. The storm also killed about 170 people elsewhere in the country.

Experts suggest three key factors — extreme weather, vulnerable geography, and crumbling infrastructure — coalesced into one catastrophe, causing the most devastating floods to have hit North Africa in almost a century. We take a closer look.

Extreme Weather

The flooding has occurred in Libya's eastern region, which witnessed extreme rainfall from Sept 10 to 11. Take the city of Al-Bayda, located near Derna, for example. Usually, it receives about half an inch of rain in Sept and about 21.4 inches of rain in an average year. But from Sept 10 night till the next day, the city reported a record rainfall of 414.1 mm — more than 16 inches — according to the World Meteorological Organization (WMO).

Similarly in Derna, where average monthly rainfall in the whole of September is under 1.5 mm, rainfall exceeded 150 mm in about two days. The rains were accompanied by strong winds of up to 80 kph, The Washington Post reported.

And what produced this torrential rainfall and wind? It was Storm Daniel, also known as Cyclone Daniel. Formed in Greece, the storm is also responsible for causing floods and deaths in Spain, Turkey and Bulgaria earlier this month.

Before reaching Libya, "Daniel transitioned into what is known as a 'medicane,' or tropical-like cyclone that occasionally forms over the Mediterranean Sea. The storm became stronger as it drew energy from the abnormally warm waters (the Mediterranean has been 2 to 3 degree Celsius warmer this year than in the past), before drifting to the south and unloading excessive rainfall over north-eastern Libya, where rain flowing down the mountainous terrain overwhelmed dams," The Post added.

Focus on the words: abnormally warm waters. Medicanes are known to be weak storms that don't last long. But higher sea surface temperatures (obviously a consequence of global warming), help them become stronger and last longer — when storms travel across hot oceans, they gather more water vapour and heat, resulting in more powerful winds, heavier rainfall and more flooding when they reach the land.

Vulnerable geography

The floods seem to have caused the most destruction in Derna — a coastal city with an estimated 100,000 inhabitants. So far, Derna alone has recorded the death of more than 5,300 people. Videos on social media show submerged buildings, schools and houses.



One reason behind the city's widespread damage is its location. It is situated at the end of a valley and bisected by the Wadi Derna, a seasonal river that flows from mountains to the south (towards the sea) and is normally protected from flooding by dams.

“But on Sunday night, Storm Daniel pounded the coast and residents of Derna reported hearing loud explosions before they realised dams outside the city had collapsed, unleashing flash floods down Wadi Derna that eventually crashed into the city,” a report by Sky News mentions.

Derna has two dams. The first one is about 12 km upstream from the city where two river valleys converge and the second one sits on the southern edge. After breaching the first dam, the floodwater probably continued downstream along the canyon and then swept off the second dam, entering the city centre, and smashing into buildings on either side, the report adds.

Libya floods A combination image of satellite photos shows an area before and after a powerful storm and heavy rainfall hit the country, in Derna, Libya, September 2, 2023 (top) and September 12, 2023. Credit: Planet Labs PBC/Handout via Reuters

Crumbling infrastructure

The collapse of the two dams in Derna highlights the dilapidated infrastructure of Libya. The country has been gutted by a war between two rival factions for more than a decade. In Tripoli, Prime Minister Abdul Hamid Dbeibah leads Libya's internationally recognised government. In Benghazi, the rival prime minister, Ossama Hamad, heads the eastern administration, which is backed by powerful military commander Khalifa Hiftar.

In the tussle for power, focus on socio-economic issues, including maintaining and developing infrastructure has been put on the backburner.

“You just had a sort of routine neglect of all infrastructure in Libya,” Stephanie T Williams, who served as special adviser on Libya to the UN secretary-general from 2021 to 2022, tells The Post. “Dams, desalination plants, electrical grids and roads have been left in disrepair throughout the country,” the newspaper quotes her saying.

Moreover, as flooding is quite rare in the region, Libya wasn't prepared to face the calamity. There are no flood-resilient structures or roads in the country, especially in Derna. Any sort of early-warning system regarding such disasters also doesn't exist.

EXPRESS VIEW ON CREATOR OF DOLLY, THE FIRST CLONED MAMMAL: A CELL AND A SHEEP

At a time when the possibility of using lab-grown meat as a sustainable source of protein is a matter of serious discussion, it may be hard to imagine the furore that was unleashed in 1997 by news of the birth of a cloned sheep, the first mammal to be thus reproduced. Dolly, born at the Roslin Institute in Scotland after a cell taken from the udder of Finn Dorset sheep was fused with an egg cell from a Scottish Blackface sheep, shook the world and sparked dreadful spectres of madmen using the technology to replicate Hitler, a la The Boys from Brazil. The embryologist, Ian Wilmut, who led the team behind Dolly and who died this week at the age of 79, took a clear stand against such speculation. Human cloning, he said, was ethically unacceptable.

Beyond the media hype, Dolly — named after the country singer Dolly Parton — represented a major scientific breakthrough. Until then, it was scientific dogma that while stem cells (found in



embryos) could develop into various “specialist” cells, mature cells could not be turned back into stem cells. This foreclosed the possibility of using cells from adults for cloning. Dolly, born from a six-year-old ewe’s cell, changed that.

Twenty-six years on, the legacy of Wilmut’s work has been far less dire than the fevered imaginings of the time predicted. Human clones remain in the realm of science fiction, but Dolly signaled the start of a new chapter in genetics. It directly led to the Nobel Prize-winning work by Japanese stem cell biologist Shinya Yamanaka, which extended the therapeutic possibilities of stem cells. Wilmut, too, sought to use the breakthrough to develop treatments for genetic disorders like Parkinson’s disease and multiple sclerosis. While he succumbed to complications related to Parkinson’s himself, having been diagnosed in 2018, his work with and since Dolly showed all that could be accomplished and the lives that could potentially be saved using a single cell.

SCIENTISTS GROW A MODEL OF HUMAN EMBRYO IN THE LAB

The closest that scientists have come to understand intrauterine development after implantation is by using mouse naïve embryonic stem cells (ESCs) that gave rise to embryonic and extra-embryonic stem cells capable of self-assembling into mouse structured stem cell-based embryo models at the post-gastrulation stage.

Unmodified naïve

It is at this stage that the embryo differentiates into the three primary founding tissue types of the body.

But for the first time, researchers were able to extend the findings from mouse to humans by using genetically unmodified human naïve embryonic stem cells. The results were published recently in Nature.

Varying models

The researchers were able to develop a “complete” model of the human embryo in the lab from implantation into the uterus to 14 days after fertilization. The model mimics the 3D structure and key hallmarks of post-implantation human embryos up with all the known features found in normal embryos around two weeks old.

Known as stem cell-based embryo-like structures, or SEMs, they were developed without using sperm, eggs or a womb. According to the researchers at the Weizmann Institute of Science in Israel, the models secreted a hormone that turned a commercial pregnancy test to positive. The authors note that their model recreates the organisation of all known lineages and compartments of early post-implantation human embryos, including the epiblast, hypoblast, extraembryonic mesoderm and trophoblast. Unlike previous models, this model shows defining hallmarks of integrated embryo models, including all lineages of the post-implantation embryo and structural organisation.

Spatial allocation

“We observed proper spatial allocation of cell lineages into defined embryonic and extra-embryonic compartments in the complete absence of fertilisation or interaction with maternal



tissues and without the need of providing external targeted signalling pathway induction during the self-organisation of the aggregated cells,” they write.

“This SEM platform may enable the experimental interrogation of previously inaccessible windows of human early post-implantation up to peri-gastrulation development,” they add.

GENETIC ENGINEERING GIVES MOSQUITO CONTROL AN UPGRADE

Throughout human history, mosquitoes have constantly buzzed in the background of human existence, irritating us with their incessant bites and occasionally wreaking havoc by transmitting deadly diseases. The earliest known mosquitoes from the fossil record date back at least 70 million years, and evidence of mosquito-borne diseases like malaria dates back to Egyptian mummies from 2000 BC.

Apart from malaria, which claims the lives of over half a million people every year and infects close to 250 million, mosquitoes serve as vectors for various other diseases. These include dengue, Zika, lymphatic filariasis, and yellow fever. Understandably, our relationship with these tiny, blood-sucking insects has been far from cordial.

Help from sequencing tech

The rapid urbanisation of the world’s populations, especially in many large and economically developing countries like India, has led to annual surges in mosquito-borne illnesses like dengue. Together with climate change and its cascading consequences, mosquito-borne diseases have expanded into new territories. A notable example is the indigenous cases of dengue in France in recent years.

It is not surprising then that mosquito control has taken centre stage today and the battle continues unrelenting with an array of tools – from mosquito nets to insecticides and the use of symbionts like Wolbachia. But with insecticide resistance in mosquitoes rising to alarming proportions, it has become imperative that newer approaches to mosquito control gain prominence, even despite the availability of a first-generation malaria vaccine that officials in different countries are currently implementing in a pilot in endemic regions.

In the last two decades, our ability to read or sequence the genomes of organisms, and edit and manipulate these genomes, has given us new tools in this fight. Thanks to advancements in next-generation sequencing techniques, we now have access to the whole genome sequences of multiple mosquito species. Notably, researchers from the University of California, the Tata Institute of Genetics and Society, and the Institute of Bioinformatics and Applied Biotechnology have helped prepare high-quality reference genomes for *Anopheles stephensi*, a major malaria-vector mosquito. (The two latter institutes are based in Bengaluru.)

The availability of these high-quality sequences, coupled with our capacity to genetically manipulate them, offers unprecedented opportunities.

The gene drive

The fundamental idea behind genetic manipulation of mosquitoes is to systematically control their populations by interfering with their reproduction. Scientists worldwide have developed various genetic modification approaches. A major one in this endeavour is gene-drive technology,



whose end result is for mosquitoes to selectively inherit some genes, rather than the inheritance to follow the rules of Mendelian genetics.

This technology was conceived by Austin Burt, professor at Imperial College London, in a 2003 paper published in Royal Society Proceedings. Here, a protein cuts the mosquito's DNA at a part that doesn't encode a particular sequence in the genome. This triggers a natural mechanism in the cell containing the DNA to repair it and forces the cell to incorporate a sequence, called the drive sequence, into the damaged portion.

Numerous gene-drive versions are documented in the literature, but they all focus on reducing mosquito populations' reproductive capabilities or rendering them sterile. As a result, the malaria parasite won't be able to replicate inside the mosquito's gut. In a recent paper in Science Advances, researchers at Imperial College London genetically enhanced a gene expressed in the midgut of mosquitoes to secrete two antimicrobial substances called magainin 2 and melittin. They are detrimental to the Plasmodium parasite's development in the midgut and also reduce the lifespan of female mosquitoes. Computational modelling studies have suggested that this approach could significantly disrupt malaria transmission.

Benefits as well as risks

In 2020, the U.S. Environmental Protection Agency authorised the release of a genetically modified mosquito called OX5034 in counties in Florida and Texas. Oxitec developed this mosquito with a gene sensitive to an antibiotic, tetracycline. The authorisation followed extensive field trials conducted by the company in Brazil. Genetically modified male OX5034 mosquitoes mated with female mosquitoes but the self-limiting gene prevented female offspring from surviving. As a result, the male mosquitoes would disappear from the environment after around a dozen generations.

Genetically modified mosquitoes have been used in outdoor but controlled conditions in India, Brazil, and Panama as well. Early results from these trials showed promising drops in mosquito populations, around 90% during the trials. Additional trials have shown that such technologies can decrease incidence of dengue significantly as well.

These technologies can bring benefits as well as risks, in different ways. An immediate implication is that the drastic reduction in the mosquito population could alter food chains and ecosystems that involve mosquitoes. So it's likely that the gap in the food chain could be 'invaded' by other mosquitoes or in fact other insects. As such, we don't fully understand the implications in the short and longer terms. And since the consequences will be shared by individuals, communities, and populations, in that order, what constitutes a right decision and what processes are to be followed remains a dilemma to policymakers.

A timeless struggle

It is therefore not surprising that the genetic engineering of mosquitoes and trials involving genetically modified mosquitoes have faced multifaceted challenges in different parts of the world. Critics have expressed concerns about unintended consequences, such as unforeseen ecological disruptions or the potential for engineered genes to spread beyond target mosquito populations.

Some of these concerns are valid and require extensive data collection, close monitoring, and multistakeholder discussions surrounding the adoption of this technology. Closer home, on the



regulatory front, the Department of Biotechnology released comprehensive guidelines for genetically engineered insects earlier this year. They provide a roadmap for researchers, outlining procedures and regulations for working with such insects in the country.

The battle between mosquitoes and humankind seems to be a timeless struggle, a testament to human ingenuity against frustrating troublemakers aided by evolution.

FOR SICKLE CELL PATIENTS, AN ELUSIVE DISABILITY CERTIFICATE

A plan to issue permanent disability certificates to those above the age of five with sickle-cell disease has been stuck in a quagmire at three Union Ministries for nearly three years. In a report tabled during the Monsoon Session of Parliament, a Standing Committee of Parliament urged the government to take a quick decision.

The Health Ministry is responsible for determining the criteria and rules for disability certificates, while the Social Justice and Empowerment Ministry issues the certificates, which are required for getting reservation and benefits of schemes.

Given that sickle cell disease, a debilitating genetic blood disorder, is especially prevalent among tribal populations across India, the Tribal Affairs Ministry is keen on ensuring that the certificates are issued to patients with chronic anaemia, pain, and complications arising out of tissue and organ damage.

The Union government has been publicising its campaign to “eradicate” SCD in India by 2047. But despite the chronic and progressive nature of their disease, patients are eligible only for disability certificates with a three-year validity.

Asked about the status of the plan, Health Minister Mansukh Mandaviya told The Hindu on Tuesday that the current focus was on “detection”. A project is under way to screen seven crore tribal people in 17 States and Union Territories for SCD.

Final call

Tribal Affairs Minister Arjun Munda has been pushing for the issue of certificates. However, the Social Justice Ministry’s Department of Empowerment of Persons with Disabilities has said that the final call is with the Health Ministry, which is expected to put out its report on the issue in a month.

When the disease was added to the list of disabilities under the Rights of Persons with Disabilities Act, 2016, patients could only get disability certificates with a one-year validity.

With complaints coming in from patients about the cumbersome procedure for renewal and experts saying that the disability only progresses among patients, the Tribal Affairs Ministry in 2020 initiated a dialogue with the department about the possibility of issuing permanent disability certificates, senior government officials told The Hindu.

The department eventually increased the validity of the certificates to three years, requiring a minimum of 25% disability. However, Mr. Munda once again communicated the need for permanent disability certificates because of the progressive nature of the disease.

Senior officials in the department have said that they had constituted a special committee to listen to the concerns of stakeholders and SCD patients about disability certificates and held



consultations earlier this year. “Following this, a report has been sent to the Health Ministry, which is already reviewing the criteria and rules for disability certificates for all 21 disabilities,” Rajesh Aggarwal, Secretary of the department, said. “Once the Health Ministry’s expert committees are done with their report, expected in about a month, we will know if they have recommended permanent disability certificates for SCD patients,” he added.

Health Ministry review

Responding to The Hindu’s question on the progress of getting permanent disability certificates for SCD patients, the Health Minister said, “Sickle cell is a major problem in India especially in tribal areas. The focus of our Ministry is to identify and in the long term prevent SCD. This will reduce our response time and also help reduce the burden of the disease in the long run. As for adding them in the permanent disability certificate, our focus is detection currently.”

In a report tabled in Parliament in August, the Parliamentary Standing Committee on Empowerment of Women had examined issues related to the health of tribal women across India.

In the report, the committee noted that it understood SCD as a “lifelong illness” with a blood and bone marrow transplant being the only cure, “which very few people, especially among the tribal population, can undertake”.

It thus recommended the government to find a way to issue permanent disability certificates to SCD patients who are above the age of five and meet the required criteria.

NEURAL IMPLANTS REMEDY HEARING LOSS BY INTEGRATING WITH THE NERVOUS SYSTEM

The burden of hearing loss in India is significant as it is one of the most common congenital anomalies to affect children. The World Health Organisation reports that severe to profound hearing loss affects nearly 2 - 3 per 1000 live births, making it the most common congenital abnormality to affect new-borns the world over. This scenario is even more pronounced in developing countries such as the Indian sub-continent, especially with the continuing problem of consanguineous marriages. Hearing loss at birth is considered a social stigma even in present-day society and results in a double tragedy, as it leads to not only deafness but also speech and language deprivation and communication problems.

In the past, individuals with severe to profound hearing loss who did not benefit from hearing aids were condemned to live in a world of silence. However, hearing loss today, is the only truly remediable handicap, due to remarkable advances in biomedical engineering and surgical techniques. Rather than mend a diseased organ, the emphasis has shifted to bypassing it with a bionic prosthetic device.

Cochlear implants (CI) can help deafened individuals living in a world of silence enter the world of sound. The advent of this technology has successfully broken the acoustic barrier, thus integrating people with hearing loss into normal society and providing them with a highly productive quality of life.

Cis help augment or restore hearing by integrating an external circuitry with the peripheral hearing apparatus and the central circuitry of the brain. They are bio-compatible and safe as well as extremely effective in restoring hearing in both children and adults with severe -profound hearing loss, who do not benefit from conventional hearing aids. These implantable devices



electronically stimulate the cochlear nerve (nerve of hearing), bypassing the damaged hair cells of the cochlea (inner ear). Thus, hearing restoration is the first successful attempt in medical science to integrate an electronic device with the central nervous system, in order to fully restore a lost special sense organ.

CIs are electronic devices with external and internal components and are designed to detect mechanical sound energy and convert it into electrical signals that can be delivered to the cochlear nerve. These electrical signals are processed by an external speech processor and sent via a radiofrequency interface into an array of electrodes implanted surgically within the cochlea (inner ear).

The individual's ability to adjust to, interpret and respond to the electrical stimulus can determine outcomes. Length of time spent without sound stimulation, presence or absence of previous experience with sound, personal motivation, community or family support, and opportunities for habilitation have been shown to be important factors in achieving a good outcome. Early identification and management of hearing loss is extremely important for good outcomes with a CI. All children below the age of six years who have profound hearing loss and who will not benefit from conventional hearing aids and all adults who have lost hearing after the acquisition of language are ideal candidates. Presently, the indications for CI have expanded to include children aged one year or less, elderly individuals, children with abnormal cochlea, additional handicaps, etc.

The recent trend is towards cochlear implantation in both ears which provides improved localisation of sound and enhanced ability to hear in the presence of background noise. For long it was believed that natural hearing was not compatible and could not co-exist with bionic hearing through a cochlear implant. This myth has fortunately been laid to rest in recent years with the advent of electro-acoustic stimulation (EAS) or hybrid implants. This application of implantable hearing technology combines a hearing aid and a cochlear implant (EAS) into a hybrid device designed for individuals with low-frequency hearing and severe-to-profound high-frequency hearing loss.

Cochlear implant electrode array in situ

The switch-on of the device is done three weeks after surgery once the wound has healed. Mapping is done at periodic intervals and prolonged and intensive habilitation after cochlear implantation is essential. Habilitation aims at improving receptive language skills and expressive skills.

In Tamil Nadu, the cochlear implant program has been very successful as free cochlear implants are being sponsored for children under six years and below the poverty line. Nearly 5000 CIs have therefore been performed in Tamil Nadu under the Chief Minister's Comprehensive Health Insurance Scheme.

CI surgery and technology continue to evolve. Rapid technological advancements in bioengineering and implant manufacturing methods have led to miniaturization of the device, with refinement in sound signals, providing better "hearing in noise" and music appreciation among cochlear implantees.

Robotic techniques for surgery may be available in the near future. Fully implanted devices, improved speech coding strategies, nanotechnology, stem cell therapy, cochlear hair cell



regeneration, and nerve growth factors used in conjunction with an implant may be available in the future.

Rapid advances in genetics are revolutionizing our understanding of congenital deafness and should play an important part in prevention, in the selection of patients and in determining CI outcomes.

Gene therapy for hearing impairment may become available. A novel imaging technique -- synchrotron radiation phase-contrast imaging to look into the interior of the cochlea in unprecedented detail will result in an improved understanding of the micro anatomy of the ear and improve management of hearing loss. Artificial intelligence is also playing an important role in improving patient outcomes.

The cochlear implant is one of the most significant innovations of the last century making hearing the only sense that can be replicated through a medical device. Developments in technology will expand the benefit of cochlear implants. A full spectrum of hearing solutions is now available in the Indian subcontinent. Despite several challenges, cochlear implantation in India is a success story.

DOES VAGUS NERVE DYSFUNCTION HAVE A CONNECTION WITH COVID-19?

The story so far:

There's been a lot of chatter online of late, about the vagus nerve: ways to stimulate it and possible benefits of this stimulation to help with health problems from anxiety to obesity. Videos abound on stimulation, including yoga, plunging your face into cold water, alongside sales of little devices that send electrical impulses into your brain. Research has also indicated a link between vagus nerve dysfunction and long COVID.

What is the vagus nerve?

They're actually a pair of nerves, one on each side, that run from your brainstem, through the neck, to your chest and stomach. They form a key part of the parasympathetic nervous system, the system that is responsible for relaxing and resting your body after a bout of activity and for a number of vital functions including your heart rate, blood pressure and digestion; it also plays a role in the immune system.

Why is the vagus nerve being researched?

There are many things that make the vagus nerve fascinating to researchers. The vagal nerves are the longest cranial nerves, going from your brain to your large intestine, fulfilling their meaning ('vagus' in Latin means 'wandering') by passing through, or connecting with your neck, heart, lungs, abdomen and digestive tract – all important parts. They are the 10th of your 12 cranial nerves and contain 75% of your parasympathetic nervous system's nerve fibre. They work bi-directionally, allowing the brain and body to communicate with each other. So researchers are increasingly looking at ways through which stimulation of these nerves, our 'sensory superhighways', thereby triggering the parasympathetic nervous system, may potentially help with various health conditions.



What are the conditions vagus nerve stimulation can treat?

Some treatments are already in existence, for instance, an implantable vagus nerve stimulator is used to treat epilepsy and depression (that does not respond to conventional treatment), by stimulating areas of the brain that lead to seizures and affect moods. There are now non-invasive devices that can be held against the skin for stimulation. One finding about the vagus nerve was that it regulates inflammation: the body, in response to an infection, gets temporarily inflamed, but once the infection is dealt with, the vagus nerve helps bring the body back to normal by suppressing inflammation. This, researchers believe, could have implications in helping to treat several conditions.

Vagus nerve stimulation is also being studied for other diseases and disorders such as migraines, polycystic ovary syndrome, alcoholism, rheumatoid arthritis, Alzheimer's, multiple sclerosis and gut disorders such as inflammatory bowel disease and Crohn's disease.

What is the vagus nerve's connection to long COVID?

A study posted on the Preprints with Lancetserver in June this year, took a look at patients with Post-Covid-19 Condition (PCC) or long COVID. It attempted to find out whether dysfunction of the vagus nerve could be responsible for symptoms these patients experienced, including persistent dysphonia (hoarseness), dysphagia (swallowing difficulties), dizziness, shortness of breath, fast heart rates and gastrointestinal disturbances.

The study found that those with PCC were more likely to have vagus nerve-related symptoms, compared to those who had recovered from COVID-19 and those not infected, indicating that vagus nerve dysfunction could have a role in the pathophysiology of PCC.

The study, also presented at last year's European Congress of Clinical Microbiology and Infectious Diseases suggested that many symptoms connected to PCC could be linked to the effect of the coronavirus on the vagus nerve.

Other papers have also looked at impaired vagal activity in long COVID patients, as well as potential therapeutic approaches that include vagal nerve stimulation

Does vagus nerve stimulation benefit all patients?

Implanted vagus nerve stimulation does not work for everybody, and is not intended to replace conventional treatment, states the Mayo Clinic's website. It is an adjuvant treatment for most conditions, not a primary treatment, says E.S. Krishnamoorthy, neuropsychiatrist and founder, Buddhi Clinic, Chennai. VNS is still being studied and, more research is needed into its potential therapeutic effect.

Dr. Krishnamoorthy also cautions that stimulation of the vagus nerve with a device must not be done at home. Since the nerve regulates heartbeat and blood pressure, cardiac clearance is needed, Dr. Krishnamoorthy, who uses this method as part of broader treatment regimens, explains. "There are inhibitory and stimulatory protocols to be followed while using these devices, and so it has to be done under a doctor's supervision."