



Growth prescription

IMF's 'mediocre' medium-term outlook merits policy attention

The latest World Economic Outlook released by the International Monetary Fund (IMF) has some good tidings, and some ominous assessments. The good news – that largely pertains to the short term – is that a much-feared global recession has been averted, the global war against inflation 'almost' won, and growth is holding steady. The U.S. is likely to grow faster this year than anticipated earlier, balancing out lower estimates for some large European nations. Among developing countries, the IMF downgraded growth hopes for West Asia, sub-Saharan Africa and Central Asia as conflicts and unrest disrupted production and shipping. However, brighter prospects for emerging Asia, enhanced by higher public investments in China and India, offset those downward pressures. The IMF expects the world to grow 3.2% in 2024, as in 2023. The moderation in inflation has been partly attributed to the unwinding of shocks since the COVID-19 pandemic and the Ukraine war, but tight monetary policies played a crucial role too, it noted. With inflation returning near central banks' targets, there is now room for pivoting monetary policy to a neutral stance and supporting economic activity. Yet, the IMF has cautioned about food price pressures again in some emerging economies, and services inflation being too high, at almost double the pre-pandemic levels.

For India, the IMF has maintained its GDP growth estimate at 7% for 2024-25, followed by 6.5% next year, but linked the moderation in growth from last year to the exhaustion of "pent-up demand accumulated during the pandemic". Some of this is visible in car and consumer non-durable sales, with urban demand stumbling. A Reserve Bank of India index pegs second quarter GDP growth at 6.8% – it was 6.7% in the first. The favourable monsoon and improved rural incomes could lift the tide in coming months, but may not be taken for granted yet. Of concern, however, is the IMF's prognosis that global growth should reach a "mediocre" 3.1% in five years, underwhelming relative to pre-COVID trends, with protectionist industrial and trade policies gaining more traction. India's economy may hinge more on domestic momentum but weaker exports and investment flows will not help. The Centre's recent aversments on the reform agenda have signalled that most work now needs to be done in the States. While that is a truism, central policy-makers also need to work doubly hard to lift potential growth: be it to make India a more open economy by lowering import tariffs and FDI barriers as the World Bank has mooted, as well as undertake "ambitious" domestic reforms to improve competition, economic integration and spur private investments, suggested by the IMF.

Celebration and vigil

India must not let its guard down on kala-azar

The furore that accompanies an outbreak of a disease is seldom matched by the triumph over the cause of the disease, with some exceptions. The recent achievement India has struck with kala-azar, bringing it to the brink of elimination as a public health issue, or with eliminating bacterial eye infection trachoma, sits squat in that quarter. India will seek WHO certification for eliminating kala-azar, after it brought down the number of cases to under one in 10,000, for two consecutive years now. It is considered the second deadliest parasitic disease after malaria in India. As per figures by the Union Health Ministry, India registered 595 cases and four deaths in 2023, and 339 cases and one death so far this year. The country must retain this achievement for another year to be eligible for WHO certification. Epidemiology makes the differentiation between elimination and eradication of a disease; with elimination, a nation needs to keep the number of cases under a specified limit, which means it ceases to be a public health problem, whereas with eradication, no further cases can occur. While disease eradication is very challenging, and has been achieved only with smallpox, elimination is no cakewalk. Particularly for diseases that do not have a vaccine. Even modern armamentaria come up short while trying for a vaccine for either kala-azar, or trachoma, making the public health achievement all the more special. Kala-azar is spread by the sandfly which passes on the protozoan parasite, *Leishmania donovani*, and is present in only one of its forms, visceral leishmaniasis. Trachoma, caused by the bacteria, *Chlamydia trachomatis*, is the leading infectious cause of blindness in the world. India contributed about 11.5% of the cases of kala-azar globally and in the 1970s, trachoma was responsible for 5% of all blindness in the country.

Kala-azar and trachoma share other commonalities – they are classified under the category 'neglected tropical diseases', and are caused by conditions of poverty and inadequate sanitation; it was a sustained government-run public health campaign that addressed the disease spread, and its social implications – including income, access to nutrition and health services – that finally managed to crack elimination. However, sustained surveillance, post declaration for trachoma and as India moves towards elimination for kala-azar, is key. While celebration post such a well-fought public health campaign is necessary, complacency will erode all gains, considering the disease remains in the community, below the WHO recommended radar. Efforts to find better cures and vaccines must not be suspended because of present gains; indeed, the vigil must be eternal, or, until the disease is eradicated.

The Manipur crisis, the issue of managing diversity

Yet another round of escalation of violence in Manipur has reportedly led to the Chief Minister of the State making multiple demands that include greater control over security operations. This means that the Chief Minister has not been in charge for some time. Another jarring revelation, as in media reports, is even the supposed invocation of Article 355 of the Constitution, where the Union has a duty to protect States against external aggression and internal disturbance. The breakdown of the constitutional machinery in Manipur is an open secret. The alarming situation raises significant questions about the capacity of the Constitution to reconcile identitarian differences.

The basis for 'special provisions'

Diversity management is a unique feature of the Indian Constitution. In keeping with the unique problems of different States, not just erstwhile Jammu and Kashmir, several others such as Maharashtra, Gujarat, Nagaland, Assam, Manipur, Andhra Pradesh, Sikkim, Mizoram, Arunachal Pradesh and Karnataka were considered entitled to "special provisions". The circumstances warranting such "special" provisions have been either to allay concerns over ensuring equitable development or to provide safeguards to preserve cultural identities. Federalism is not a matter of choice but compulsion in a huge and diverse nation such as India.

The Constitution has evolved to reconcile seemingly competing and even conflicting interests of identities in several north-eastern States. A chief feature of such reconciliation within the constitutional scheme has been to institutionalise a scheme of power sharing and representation and guaranteed autonomy in governance. The purpose of such reconciliatory measures is to ensure a sensitivity to the concerns of group identities and their respective socio-political backgrounds, and allow the Article 371(F) presence of such identities to engender political stability rather than sow discord and fragment society. It may be of use to revisit examples of such constitutional pragmatism as the number of deaths and displaced people is increasing each day and any indifference to the fast deteriorating situation will not be in national interest.

The accession of Sikkim to India in 1975 led to the inclusion of Article 371F. These "special provisions" included Article 371(F) which empower Parliament to protect "the rights and interests of different sections of the population". Additionally, Article 371(G) also provided that the Governor would have the special responsibility for a scheme of "equitable arrangement for ensuring the social and economic advancement of different sections of the population of Sikkim". The broad import of Article 371F envisaged power sharing through representation and the preservation of cultural autonomy to achieve the goal of political stability. The



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Representation of Peoples Act 1951 was amended to reflect the scheme of Article 371(F) and seats were earmarked for different communities in the Legislative Assembly. This arrangement came to be challenged along with the constitutionality of Article 371(F) in *R.C. Poudyal* (1993) before the Supreme Court of India as the increased representation of the Bhutia-Lepcha community was alleged to be in the teeth of norms of proportionate reservation. In upholding the constitutionality of Article 371(F) and the amendment to the Representation of Peoples Act 1951, the Court reasoned that the increased representation of the Bhutia-Lepcha community was an inheritance of the socio-political history of Sikkim, which necessitated the framing of Article 371F.

This was part of a broader discourse which the Court had concluded as part of a scheme of "accommodations and adjustments" to facilitate the co-existence of different tribal identities in Sikkim. The Court held that "historical considerations and compulsions do justify inequality". Resultantly, the proportionality of seats reserved for the Bhutia-Lepcha community was justified to protect the identity of the community and a political process to ensure political stability. There was an explicit recognition of group identities as the basis of power sharing and representation in governance.

The case of Tripura and peace

Tripura emerged as an example of peace brokered through the Constitution at the height of the insurgency movement. The Sixth Schedule of the Constitution provides for the administration of tribal areas by devolving power to district and regional councils which are empowered to make laws on various areas such as education, social customs, alienation of land and usage of forests, and establishment of village and town committees. However, the Sixth Schedule was not made applicable to Tripura until 1984. By virtue of the 49th Constitutional Amendment, the provisions of the Sixth Schedule were made applicable to the tribal inhabited areas of Tripura. However, the legislative autonomy accorded by the Sixth Schedule devolved markedly greater powers to the district council to exercise discretion regarding the application of Union laws to Scheduled Areas. This was the result of the Tripura Accord signed in 1988 between the Union Government, the State government and the Tripura National Volunteers (TNV), a militant group which even sought secession. The accord reserved a third of the seats in the State Assembly to the Scheduled Tribe population – beyond the proportion of their population in the total population. Consequently, sub-article (3B) in Article 332 was inserted in 1992.

The disproportionate representation of the tribal population was challenged in *Subrata Acharjee* (2002). In deciding the question, the Supreme Court took into account the background

of the accord which required violence to be abjured and efforts at securing stability in the region. The Court ultimately rejected the contention seeking proportional reservation based on "arithmetical precision" and reiterated the scheme of "accommodations and adjustments".

It concluded that Article 332(3B) was inserted to give "greater share" in governance, as per the terms of accord. The Court ruled that the reservation scheme was not violative of the scheme in Article 332(3) and Article 170 as it was a temporary measure to ensure an inclusive scheme of governance in Scheduled Tribe-inhabited areas. The approval of the scheme of power sharing to reconcile differences through the Constitution was found to be in order despite it being a unique measure not in "symmetry" with the Constitution.

Significantly, as was the case with Tripura, the Sixth Schedule does not apply to the State of Manipur. Instead, Manipur is governed by Article 371C which provides for the creation of a Hill Area Committee consisting of elected representatives from such areas. Curiously, the approval or concurrence of the Hill Area Committee regarding matters affecting the governance of such areas is not necessary. The latest judgment of the apex court on citizenship upholding different cut-off dates for Assam is another example of accommodation due to its geographical location. Here again, the Court preferred promotion of fraternity.

Words that Manipur needs to ponder over

Moreover, unlike the Sixth Schedule, the establishment of a "District Council" in Manipur is governed under a separate statute, i.e., the Manipur Hill Areas Autonomous District Council Act, 2000. Under the statute, a "District Council" is required to be incorporated and membership to the council is based on classification as a "Scheduled Tribe". Strangely, unlike the veto power possessed by the Scheduled Tribes in States such as Nagaland, Sikkim and Tripura, no specific provisions exist in the case of Manipur.

In the background of tensions in Manipur, concerns over representation, allocation of resources, and perceived domination of any community have heightened anxieties and exacerbated social division.

The Constitution, as a living and transformative document, has repeatedly evolved its capacity to adapt to demanding circumstances. The words of the Court in *R.C. Poudyal* may shed some light on a brighter future in Manipur: "pluralist societies are the result of irreversible movements of history. They cannot be washed away. The political genius of a people should be able to evolve within the democratic system, adjustments and solutions". It is only a reminder that ultimately, peace will have to be evolved through the Constitution without which any attempt to solve issues of diversity would remain illusory.

The healing touch of constitutional accommodation is the only way out

The shifting sands within global supply chains

Global supply chains are at an inflection point. While the COVID-19 pandemic shifted the focus from efficiency (just in time) to resilience (just in case), two developments in September 2024 indicate that another shift is underway in how supply chains are envisioned and operationalised – this time towards security (just to be secure).

Moves by the U.S. and Israel's pager attack

On September 23, the United States Department of Commerce proposed rules which, if accepted "would prohibit the import or sale of certain connected vehicle systems designed, developed, manufactured, or supplied by entities with a sufficient nexus to the PRC or Russia". The proposed rules target both the software and hardware associated with vehicle connectivity systems as well as automated driving systems. While the 100% tariffs on Chinese EVs announced by the U.S. earlier this year stemmed from competition concerns aimed at reducing their sale in the domestic market, the newly proposed rules, which stem from national security concerns, would effectively ban their sale in the U.S.

The U.S. case against Chinese connected car tech is that both hardware and software components in cars employing some form of external communication capabilities can be potentially misused. The idea is that cars with connected car tech are essentially mobile listening posts, and that malicious actors can use their cameras and sensors for espionage purposes. Worse, these cars may even be disabled or hijacked – especially those level 3 and above on the Society of Automotive Engineers' levels of driving automation. For security hawks, handing over such control to a state with which you may be in a future conflict simply carries overwhelming risks.

If there was any strand of thought moderating the hawkish focus on supply chain security, that



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Proposed U.S. rules on Chinese connected car tech and Israel's pager attacks indicate the changing focus of global supply chains – from resilience to security

evaporated as the world came to terms with the Israeli supply chain attack, on September 17-18, targeting pagers and walkie-talkies used by Hezbollah in Lebanon. More than 30 people including children were killed while thousands were injured. The fallout was felt far and wide leaving everyone wondering about the state of advanced technologies used or embedded in products across industries when even basic old-fashioned devices could be made to explode.

While the U.S. proposed rules and the Israeli pager attack have reignited and amplified the supply chain security debate, it arguably began a few years ago when the U.S., Australia, Japan and even India effectively banned Huawei and other Chinese telecom players from participating in the 5G rollout for security considerations. The motivating fear was that China could install backdoors in the telecom infrastructure giving it the capability to surveil or sabotage the same. Since then, supply chain security concerns have spread to other tech industries such as semiconductors.

From efficiency to resilience to security

During the heydays of globalisation, especially from the 1980s till the 2010s, supply chains were configured to ensure maximum efficiency; that is, weaving a complex supply chain for each product or service in a way that components were procured and assembled at various locations across the world based on cost and other considerations. These "just in time" supply chains were to some extent immune from great power politics. China established itself as a central supply node in this arrangement. A combination of various factors in the late 2010s and early 2020s such as the U.S.-China rivalry and resultant technology decoupling and the COVID-19 pandemic shifted the focus away from "just in time" to "just in case".

That is, there was a recognition in the U.S., Europe, India and elsewhere that supply chains

had become too dependent on Chinese exports. Supply chain resilience, as a result, became all the rage. But, almost simultaneously, security considerations around Chinese involvement in telecom infrastructure also led to another shift – from resilience to security. This shift has only solidified in the wake of Israel's supply chain attack.

India and supply chain security

How can India ensure that its supply chains are secure? Extreme measures such as outright banning import of a range of tech products and services would not work. Neither would fully subscribing to the "just in case" strategy that focuses on supply chain resilience.

What can work is a two-pronged approach involving both "just to be secure" and "just in case" strategies. The "just to be secure" strategy can be put in motion through "trust but verify" and "zero trust". Certain tech products and services (such as those used in communications, transport or critical infrastructure broadly defined) can be subjected to trust but verify entailing methods such as periodic audits, on-site inspections, and establishment of a mechanism that ensures compliance with national and international security standards. But a more narrowly defined set of technologies that are most critical (say those used by Indian military, intelligence agencies, or for cutting edge research and development) should be subjected to zero trust. Assuming by default that all tech products and services are compromised and applicable to friends and foes alike, zero trust would entail developing the most stringent checks during procurement as well as continuous monitoring and verification. For all the rest critical technologies, the "just in case" strategy involving diversification of vendors and friendshoring would suffice in taking care of larger supply chain concerns about cascading fallouts due to single points of vulnerabilities and failures.

LETTERS TO THE EDITOR

Peace moves

Prime Minister Narendra Modi's efforts to end the crisis in West Asia and also bring peace between Russia and Ukraine are commendable steps. But, unless the countries involved have a commitment to restore

peace, Mr. Modi's efforts will serve no purpose. China is not to be trusted as its track record with India is not clean with respect to border agreements, and its commitment to the present border deal is doubtful. **N. Visweswaran**, Chennai

The government's recent moves toward China and the Maldives, the Prime Minister's discussions with the Russian President and his meeting with the Chinese President mark the beginning of a new era in India's foreign policy. But it is high time India showed

the western powers that they are not the only source of support for India. **Sharada Sivaram**, Kochi, Kerala

Corrections & Clarifications

A sentence in a report, "Religious instruction in madrasas cannot be 'wished away'." (CJ) (October 23, 2024), said that Article 28 of the Constitution recognised religious instruction. It should have been Article 28.

Blackout
That an entire country – Cuba – can go without electricity for days together,

bringing it to a grinding halt. The blackout is not an isolated incident, but part of a much larger problem for Cuba. The crisis marks a new low in a nation where life has become increasingly unbearable for its citizens. **R. Sivakumar**, Chennai

Trump's toxic politics of misinformation

In today's post-truth world, where deception and disinformation threaten democracy, history's lessons are more relevant than ever. As we look to the future, let us revisit the past and applaud the Haitians' momentous contribution to fighting colonialism. After the Revolution of 1791, Haiti became the first free Black-led republic. However, it is among the poorest nations today, due in large part to France and the U.S. Haiti paid France a colossal debt for 122 years to secure its independence. The U.S. worked to isolate the independent country by cutting off aid and putting an embargo on trade during the early 19th century. In 1915, the U.S. occupied Haiti. It left in 1934, but continued to control Haiti's public finances until 1947. Such suppression is a measured result of global antagonism to Black liberation. This historical context underscores the misery and the experiences of marginalised communities in the U.S. In the 1970s, when HIV/AIDS affected the U.S., particularly the gay community, a damaging narrative began to grow that the epidemic had originated in Haiti. Thus, the Haitians were seen as high risk. This fuelled fear and xenophobia. Schoolchildren, influenced by adult conversations, spurned Haitian peers. Their ignorance masked a darker reality: systemic misinformation and bigotry. For years, Haitians faced taunts about extreme poverty and mad cake consumption, perpetuating emasculating essentialisms, racism and fear.

False narratives Haiti has been the main target of former U.S. President and Republican presidential candidate Donald Trump's derision. In 2018, for instance, he referred to Haiti and several African nations as "s*thole countries" and questioned the need for more Haitian immigrants. Mr. Trump and J.D. Vance, his running mate, have together peddled rumours



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about Haitians in Springfield, Ohio, stoking fear. Mr. Vance's false claims of pet abductions and consumption are particularly odious, targeting legal Haitian immigrants. Mr. Trump too resorted to abominable stereotypes, declaring, "In Springfield, they're eating the dogs, they're eating the cats, they're eating the pets of the people that live there." This infamous statement has now been immortalised in music history, transmuted into a stinging rebuke of political chicanery that exposes the dark tactics of political manipulation.

In the U.S., every five years, a wave of unfounded, racially charged, and xenophobic accusations resurface, aiming to marginalise and stigmatise the Haitian population. They undermine any progress made towards social cohesion. It is crucial to be aware of the threat Mr. Trump's leadership poses: his outrageous comments on migrants have damaged the nation's moral fabric; yet people believe the implausible, or at least lend credence to it.

Disturbing trend The false claims of these two leaders have gained traction, despite being baseless and harmful. Their lies have propelled their ratings. This is a disturbing trend where politicians not only lie and wrap themselves in outrageous conspiracy theories and also get praised for it. Repeat the outlandish lie many times till it becomes a part of the vernacular and people begin to fall prey to the discursive strategies of the extreme right.

The danger of Mr. Trump's leadership lies in his willingness to exploit and manipulate information to achieve his goals. His claims of election fraud and attempts to undermine the democratic process reflect on the type of presidency the U.S. will have if he is elected. His threat of denying representation and federal resources to millions of

marginalised people through the abuse of executive power could become a reality.

Fighting back Organisations such as the American Civil Liberties Union are already up in arms. Fortunately, movements emerge to reassert equality, justice, and freedom. The American Civil War, the Civil Rights Movement, and other struggles demonstrate how institutions can be transformed to uphold democratic values. The resilience behind such movements inspires hope, reminding us that history is not just a record of the past but a guiding light for shaping our collective future. Fostering inclusive policies and amplifying marginalised voices becomes vital in upholding human values. Speaking truth to power remains the ever-abiding credo of the minorities to fortify the fight for upholding democratic institutions and strive for a more just and equitable society in a land of their choice. This would be possible only through the promotion of critical thinking, media literacy, and informed citizenship.

As we move forward, it is fundamental to reject such hate-filled tactics and promote inclusivity, respect, and truth. The democratic institutions that a nation inherits from its founding fathers serve as a lasting scaffolding of human values, but it is vital that we preserve and reinforce them.

Meanwhile, the Haitian immigrants in Springfield seek a better life, driven by a desire to enjoy the fundamental rights of legally settled citizens. Their story is one of resilience and hope, not sedition or machinations. However, they face an excruciating history of discriminatory policies. Public institutions are failing and chipping away at the fundamental principles of democracy. The world remains a witness to the spread of undemocratic ideologies, fueled by narratives that distort reality and manipulate public opinion.

Delhi's challenges in school education

Absenteeism, discriminatory policies, and poor infrastructure are major issues

STATE OF PLAY

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In 2015, before the Delhi Assembly elections, the Aam Aadmi Party (AAP) promised to revolutionise school education if it came to power. Since then, the AAP government has increased its allocation for education to nearly 25% of the Budget. It has sent teachers and principals for training programmes at the University of Cambridge, U.K.; the National Institute of Education, Singapore; and IIM Ahmedabad. It has decentralised funds for school management committees, vested more powers in the hands of community to spend; introduced the 'happiness curriculum'; and proposed guidelines to prevent private schools from increasing their fees. On the face of it, these look like great reforms. However, the newly appointed Chief Minister, Atishi Marlena, who handles the Education portfolio, is starting at several challenges.

The first and most immediate challenge is to curb absenteeism and encourage children to attend school. In 2022-23, 17.85 lakh students were enrolled across the 1,070 government schools in Delhi. Of them, 6.67 lakh students (nearly 33%) were absent for seven consecutive days or 20 out of 30 working days between April 2023 to February 2024. This is slightly higher than the national average of 28% (Annual Status of Education Report, 2019).

In a much-criticised move this June, the Delhi government asked all government schools to ensure that Class 9 students who have failed twice are counselled and requested to register with the



National Institute of Open Schooling (NIOS). Just 6,200 of the 17,000 government school students who failed Class 9 for the second time in 2023-24 enrolled with NIOS; the rest slipped through the cracks.

The government's rationale for its decision is to open new avenues for non-formal education for dropouts. However, as Delhi-based advocate, Ashok Agarwal, who has been fighting for fair implementation of the Right to Education, said, "It ensures that the Delhi government has a high pass rate to show as a measure of 'success'." The students of Delhi secured an overall pass percentage of 94.35% in 2023-24, which surpassed the national average of 93.60%. "We have agitated multiple times in front of the Chief Minister's residence so that they withdraw this policy," he added.

The government also decided to segregate children according to their learning abilities into two groups: *Pratibha* (loosely translated as intelligent) and *Nishtha* (steadfast). A parents' forum moved the Delhi High Court against the government for this move. The government believes that dividing students according to their performance levels would allow it to identify those at risk of academic failure. But such divisions, as a senior NCERT official told *The Hindu*, is "discriminatory and

can negatively impact the motivation of students." It also raises questions about equality and dignity.

As far as infrastructure is concerned, government schools in the North East District, the poorest in terms of development indicators such as health and education, are a stark departure from the model schools that the government often portrays in advertisements. The problem of overcrowding is so acute that students are asked to attend school for only two hours on any given day or are called on alternative days so that multiple batches of students can be accommodated. The Delhi High Court has asked the government to address issues of lack of space and overcrowding, which were forcing students to spill into libraries, labs, staff rooms, and the principal's office to attend classes.

The government's decision to regulate fees of unaided private schools which were allotted land by government agencies also suffered a blow when the Delhi High Court stayed a government circular mandating certain schools to seek prior permission before raising fees. Mr. Agarwal said, "Unless Delhi brings in a law or regulation to check the unaided private school fee structure, little will change."

For lasting changes in the school education system, the AAP will have to focus on bridging the gap between the brightest students and those who fail in Class 9; the latter cannot be ignored or left behind. It must focus on infrastructure issues and address the problem of overcrowding in schools in the North East District. Most importantly, it must pay attention to the poorest of the poor in Delhi and ensure that every child attends school.

With farm fires declining, Delhi's pollution woes need other solutions

Farm fires have drastically declined in Punjab, while Haryana and U.P. have already recorded fewer incidents over the last few years

DATA POINT

Nitika Francis

On Sunday, Delhi Chief Minister Atishi claimed that farm fires in Haryana and Uttar Pradesh, both BJP-ruled States, were responsible for the alarming levels of air pollution in the National Capital Region (NCR). She claimed that farm fires in AAP-ruled Punjab have drastically reduced, while those in Haryana and Uttar Pradesh have increased. The BJP has rejected these claims. The party's Delhi chief, Virendra Sachdeva, accused the AAP government of being unresponsive to the pollution issue.

While the blame game has begun, the pollution levels in NCR are peaking again, reaching two to three times the permissible limit. **Chart 1** shows the 24-hour average PM 2.5 pollution levels — in micrograms per cubic metre of air ($\mu\text{g}/\text{m}^3$) — in Anand Vihar (Delhi), Sector 125 (Noida) and Sector 51 (Gurgaon) this year from January to October 22. According to the National Ambient Air Quality Standards, an average daily PM 2.5 level between 0 and 60 $\mu\text{g}/\text{m}^3$ is considered 'satisfactory'.

On October 22, Anand Vihar's average PM 2.5 level was 208 $\mu\text{g}/\text{m}^3$, about three times the limit. Both in the Noida and Gurgaon stations, pollution levels were more than the permissible limit on most days this month.

While pollution in Delhi-NCR has undoubtedly increased, incidents of stubble burning, a phenomenon primarily attributed to causing pollution in the capital, have been on a drastic decline. **Chart 2** shows the State-wise number of paddy residue burning events over the years.

All three States mentioned by Ms. Atishi have shown fewer paddy residue burning events over the past eight years. The farm fires in U.P. slightly peaked this year compared to last year. Punjab un-

doubtedly recorded the most drastic decline of the three. This can be attributed to a host of measures, such as stringent fines and cases filed against offenders, the use of different varieties of paddy, and various methods of stubble management. However, the State still hosts the highest number of such incidents (1,581 farm fires in 2024), which is higher than the number of incidents in Haryana and Uttar Pradesh put together.

Chart 3 shows the top 15 districts (in the three States mentioned) which recorded the highest number of paddy residue burning events in the 2016-2019 period. It also shows to what extent the events have reduced in the 2021-2024 period. All the districts have recorded sharp reductions in farm fires, except Amritsar, which has seen only a 5% drop between the two periods. Tarn Taran, where most farm fires were recorded in 2016-2019, recorded a 45% decline in 2021-2024.

The fact that stubble burning is not a major cause of pollution in recent years in NCR was also pointed out by the dashboard maintained by the Indian Institute of Tropical Meteorology, Pune. The dashboard named 'decision support system for air quality management in Delhi' shows that the contribution of stubble burning to the PM2.5 pollution levels in Delhi has on most days remained below the 1% mark this October.

Chart 4 shows the daily mean contribution from stubble burning to the PM2.5 mass concentration in Delhi (on days with data in the October 8-22 period). The share did not cross the 1% mark for 10 of these 13 days with data and reached a peak of 8% on October 22. Essentially, even at its peak, stubble burning contributes less than 10% to Delhi's air quality deterioration.

With peak winter fast approaching, the air quality in NCR is bound to worsen further. This, in turn, causes beyond stubble burning should be addressed in more detail.

Not a burning issue

The data were sourced from the Central Pollution Control Board, the Ministry of Earth Sciences, the Indian Agricultural Research Institute, and Indian Institute of Tropical Meteorology, Pune



Chart 1: The 24-hour average PM2.5 pollution levels in Delhi, Noida, and Gurgaon this year from January 1 to October 22

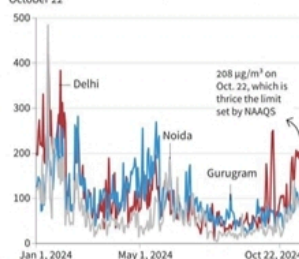


Chart 2: The State-wise number of paddy residue-burning events from 2016 to 2024

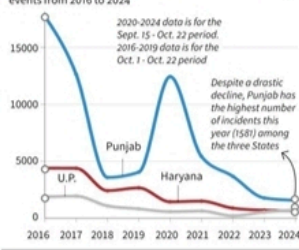
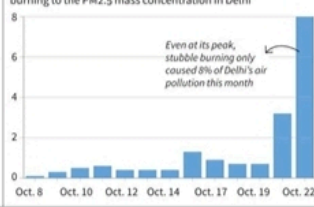


Table 3: The top 15 districts which recorded the most paddy residue-burning events in the 2016-2019 period and the extent to which these events reduced in the 2021-2024 period

District	State	2016-2019	2021-2024	Change (%)
Tarn Taran	Punjab	5,298	2,942	-44.5
Firozpur	Punjab	4,582	770	-83.2
Patiala	Punjab	3,704	1,071	-71.1
Karnal	Haryana	3,537	753	-78.7
Kaithal	Haryana	3,467	888	-74.4
Amritsar	Punjab	3,132	2,960	-5.5
Faridkot	Punjab	3,002	313	-89.6
Kurukshetra	Haryana	2,871	604	-79
Muktsar	Punjab	2,705	91	-96.6
Bathinda	Punjab	2,371	99	-95.8
Jalandhar	Punjab	1,943	459	-76.4
Gurdaspur	Punjab	1,863	768	-58.8
Ludhiana	Punjab	1,796	543	-69.8
Fatehgarh Sahib	Punjab	1,739	399	-77.1
Kapurthala	Punjab	1,593	670	-57.9

Chart 4: The daily mean contribution in % from stubble burning to the PM2.5 mass concentration in Delhi



FROM THE ARCHIVES

The *Hindu*.

FIFTY YEARS AGO OCTOBER 24, 1974

Malayalam records transfer to Kerala ruled out

Trichur, Oct. 23: Old manuscripts and historical records in Malayalam kept in the libraries of Tamil Nadu are valuable treasures and there is no question of transferring them to Kerala, said Mr. V.R. Nedunchezian, Education Minister of Tamil Nadu, here to-day. He was answering pressmen whether his government was considering the Kerala government's request for transfer of the records which formed part of collections when Malabar was part of erstwhile Madras State.

Mr. Nedunchezian, however, said that the Tamil Nadu Government would be happy to allow taking of copies of these works if Kerala was interested.

The Tamil Nadu Minister who is on a visit to places of cultural importance in Kerala like Kodungallur, Guruvayur and Kadalay said that the Tamil Nadu Government would consider how it could help in the development of Kodungallur, the abode of Kannaki and the birthplace of Ilango Adikal, the author of *Silappathikaram*. He said that correspondence was still going on between the Chief Ministers of Tamil Nadu and Kerala on the preservation of the Mangala Devi temple inside Kerala on the Tamil Nadu border which is also believed to be a Kannaki temple. Tamil Nadu would be prepared to help in the development of this place as a tourist place if Kerala was willing. He, however, agreed that there was difference of opinion among historians about this claim over this temple and said that Kodungallur might be the original Kannaki temple where the idol brought by Cheran Chenguttavan was installed.

A HUNDRED YEARS AGO OCTOBER 24, 1924

Cotton growing in Ceylon

The Report of the Council of the Empire Cotton Growing Corporation, which was submitted at the annual meeting to-day, states that the Governor of Ceylon asked the Corporation to arrange for an expert to visit Ceylon, to report on the cotton experiments which were being carried out by the Department of Agriculture and the possibilities of future production on a commercial scale. It is hoped that it may be possible to arrange with the Government of India to send an officer for this purpose.

12 E. EXPLAINED

Geoeengineering idea: diamonds in the sky, cooling the Earth

AMITABH SINHA
NEW DELHI, OCTOBER 23

SPRAYING MILLIONS of tonnes of diamond dust in the upper atmosphere could be an effective way of cooling down the Earth and fixing the problem of global warming, a new study has concluded.

It sounds like an absurd idea, but it has been put forward earlier, too. Several other materials, including compounds of sulphur, calcium, aluminium, and silicon, have been suggested previously for this same job. The essential idea is to scatter material that can reflect solar radiation back to space — and not allow it to reach Earth — thereby cooling down the planet.

According to the new study, published in *Geophysical Research Letters* earlier this month, diamonds can be more effective in doing this job compared to any other material considered previously. (Microphysical Interactions Determine the Effectiveness of Solar Radiation Modification via Stratospheric Solid Particle Injection: S Vattioni, S K Käsliin, and others)

Such solutions, called 'geoengineering', or more specifically, solar radiation management (SRM), have been studied for several years now, although no attempt has ever been made to put them into practice. With this same intention, the installation of space-based mirrors has also been assessed.

Hotter and hotter

Measures to slow or halt global warming have been extremely inadequate. Not only have global temperatures continued to rise, even the emissions of greenhouse gases, the main reason for the warming, have not been curbed. Scientists estimate that even if global emissions were to magically drop to zero suddenly, it would still be several decades before temperatures stabilise and begin to come down.

Global temperatures are already about 1.2 degrees Celsius higher than pre-industrial times (1850-1900 period), and 2023 was as much as 1.45 degrees Celsius warmer. There is no way that the world can keep this rise under 1.5 degrees Celsius, which was one of the targets mentioned in the Paris Agreement. In theory, this is still possible —

but the bare minimum for achieving this target requires the world to cut emissions by at least 43% by 2030 from the 2019 levels. All ongoing and promised actions in this regard are, however, likely to result in a reduction of just 2% by 2030.

As such, scientists have been looking for radical technology solutions that can achieve dramatic results within a short time, even if they are only temporary. This is where geoengineering efforts come in.

Geoengineering

Geoengineering refers to any large-scale attempt to alter the Earth's natural climate system to counter the adverse effects of global warming.

Solar radiation management (SRM), in which certain materials are proposed to be deployed in space to reflect the rays of the Sun and prevent them from reaching Earth, is one of two broad geoengineering options being explored. The other is carbon dioxide removal (CDR) technologies, which includes various carbon capture and sequestration (CCS) methods.

Both SRM and CDR are seen as having the potential to offer quick fixes to either reduce emissions or lower temperatures, but neither option has been proven to be viable yet.

CCS has been tried out in practice, though. Carbon dioxide emitted by industry or power generating plants is sought to be 'captured' at source, and deposited deep below the

Earth's surface in suitable geological formations for long-term storage. Since carbon dioxide is not released in the atmosphere, there is a reduction in overall emissions.

Some solutions involve the use of 'captured' carbon as an input for other industrial processes (carbon capture and utilisation, or CCU); in others, a part of the carbon dioxide is utilised and the rest stored underground (carbon capture, utilisation and storage, or CCUS).

There are also direct air capture (DAC) methods that seek to use large 'artificial trees' to suck carbon dioxide from ambient air and direct it to storage or utilisation sites. Since these methods can potentially eliminate carbon dioxide accumulated over the years, the benefits are larger compared to CCS. Some ex-

perimental projects are trying out these technologies, but the challenges are formidable.

Mimicking volcanoes

SRM is the most ambitious, and potentially most rewarding, form of geoengineering.

It is inspired by volcanic eruptions, in which large amounts of sulphur dioxide combines with water vapour to form sulphate particles that reflect sunlight back to space. The massive eruptions from Mt Pinatubo in the Philippines in 1991 are supposed to have brought down the Earth's temperature by 0.5 degrees Celsius that year.

Scientists trying to mimic this process artificially have explored the capabilities of several materials, including sulphur dioxide, calcium carbonate, and sodium chloride.

Diamonds have been talked about, too. The new study compared seven compounds and found diamond to be the most effective. But to achieve a temperature reduction of 1.6 degrees Celsius, about 5 million tonnes of diamond dust would need to be sprayed in the upper atmosphere every year.

Challenges, concerns

SRM options obviously face massive challenges of technology and costs. Also, manipulating natural processes on a large scale can have unintended and unforeseen consequences, including disrupting global and regional weather patterns and rainfall distribution. Altering natural sunlight can impact agriculture, vegetation, and biodiversity.

A study by researchers from Oxford University and Imperial College London last year showed that while it might be technically possible to deploy CCS technologies, it may not be feasible or practical to rely on them to achieve climate objectives.

The study calculated that emission pathways that required the world to put up to 20 billion tonnes of carbon dioxide underground by 2050 could cost at least \$30 trillion more than the pathways in which only about 5 billion tonnes have to be stored. Besides, enough safe underground sites for storing such huge amounts of CO2 may not be available.

That said, CCS options are considered almost unavoidable now. There are no scenarios for the world to achieve the 1.5-degree or 2-degree Celsius targets that do not require contribution from CCS and CDR technologies.

EXPLAINED HEALTH

MCDONALD'S-LINKED OUTBREAK IN UNITED STATES: WHAT IS E. COLI?

ANONNA TUTT
NEW DELHI, OCTOBER 23

ONE PERSON has died and 10 have been hospitalised in the US due to an E.coli infection after eating McDonald's burgers.

While the source of the infection is not known yet, the fast food giant has stopped serving quarter pound patties and slivered onions in several states. Most ingredients are primarily used in the burger.

Has the outbreak been reported outside the US too?

No. The outbreak is restricted to 10 states in the United States.

However, E.coli, which causes gastrointestinal symptoms, is not uncommon in India. It spreads through contaminated food and water. "We usually see cases during the summer and rainy seasons, when there is an increase in gastrointestinal infections in general," said Dr Anul Gogia, senior consultant of internal medicine at Sir Ganga Ram Hospital, New Delhi.

Dr Suranjit Chatterjee, senior consultant of internal medicine at Indraprastha Apollo Hospital, New Delhi, said: "Among gastrointestinal and urinary tract infections, E.coli is one of the most common pathogens."

How common are E.coli infections?

More than 500 outbreaks of diarrhoeal diseases were reported across India in 2023, according to the National Centre for Disease Control.

E.coli is the most common bacteria isolated from patient samples, according to the latest report of ICMR's Antimicrobial Surveillance Network. The pathogen was found in 23.3% of all types of patient samples from tertiary care hos-

pitals across India, where the surveillance is carried out.

The Food Safety and Standards Authority of India (FSSAI) is working on creating a network of 34 microbiology labs across the country that will test food products for 10 pathogens, including E.coli, salmonella, and listeria. Tests for microbial contamination were missing from most state food safety laboratories in the country.

What are the infection's symptoms?

The most common symptoms of E.coli infection include fever of more than 102 degrees F, persistent diarrhoea, bloody diarrhoea, and vomiting. The main problem, however, is dehydration due to the inability of the patient to retain water and fluids.

In very few cases, people may get acute kidney injury.

How is it treated?

E.coli is a bacterial infection for which antibiotics are prescribed. Doctors emphasise that medicines should not be taken without consultation.

Indiscriminate use of antibiotics leads to antimicrobial resistance and further difficulty in treating common infections. For example, E.coli's susceptibility to even strong antibiotics, such as carbapenem, has been on the decline, reducing from 81.4% in 2017 to 62.7% in 2023 to one type of medicine in this category.

When should you go to a doctor?

You must go to a doctor if you have had diarrhoea for more than a couple of days; you have to visit the toilet every half hour to an hour; you have bloody diarrhoea; you vomit frequently; and are unable to retain any water and fluids.

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EXPLAINED SCIENCE

Taxing industrial alcohol

Can industrial alcohol be included under the definition of 'intoxicating liquor'? What happens when the Union and State Lists contain 'overlapping' entries? Here's why SC held that states can tax industrial alcohol

AJAY SINHA KAPURAM
NEW DELHI, OCTOBER 23

A NINE-JUDGE Bench of the Supreme Court held in a 8:1 ruling on Wednesday that states have the power to tax not just alcoholic beverages, but also 'industrial' alcohol.

Excise duty levied on 'drinking' alcohol is a key component of the revenue generated by most states — and the top court's ruling will add to their coffers.

The key interpretative question before the court was whether 'intoxicating liquor' can be defined to also include 'industrial alcohol'.

Eight judges — Chief Justice of India (CJI) D Y Chandrachud, and Justices Hrishikesh Roy, Abhay S Oka, J B Pardiwala, Manoj Misra, Ujjah Bhuyan, Satish Chandra Sharma, and Augustine George Masih — ruled in favour of the states.

Justice B V Nagarathna in her dissenting opinion held that the power to regulate industrial alcohol should be with the Centre.

'Overlapping' entries

The core of the dispute arises from two "overlapping" entries in the Seventh Schedule of the Constitution, which lays down the division of lawmaking powers between the Centre and the states.

Entry 8 of List II (State List) gives states the power to regulate "the production, manufacture, possession, transport, purchase and sale of intoxicating liquors", while Entry 52 of List I (Union List) allows the Centre to regulate industries as a whole to the extent "decreed by Parliament by law to be expedient in the public interest".

As alcohol and other products of fermentation industries that deal with non-potable (non-drinkable) alcohol are included in the Industries (Development and Regulation) Act, 1961 — a law passed by Parliament — the Centre argued that it "occupied the field" when it comes to industrial alcohol, and that states could not regulate the subject.

States, on the other hand, argued that industrial alcohol can be misused to produce consumable alcohol illegally, which required them to enact legislation.

Upshot of SC decision

EXPLAINED LAW

THE CASE AND THE BACK STORY

1989: SC in *Synthetic Chemicals Ltd. v State of Uttar Pradesh* held that states only have the power to regulate

"intoxicating liquor" meant for human consumption, and that only the Centre can regulate "industrial alcohol" after a declaration under the Industries (Development and Regulation) Act, 1961.

1990: UP imposed a licence fee of 15 paise/litre on denatured alcohol obtained from distilleries.

2004: Allahabad HC struck down the state's notification, relying on the SC's 1989 decision. The UP government

went in appeal to SC.

2007: SC referred case to a larger Bench to determine if the *Synthetic Chemicals* decision needed to be reconsidered, since it did not consider relevant past SC decisions including the decision of a 5-judge Constitution Bench in *Ch. Tika Ramji v State of Uttar Pradesh* (1951).

2010: 5-judge Bench referred case to a 9-judge Bench.

2024: 9-judge Bench led by CJI Chandrachud heard the case over six days and reserved judgment in April.

■ The tax levied on alcohol is a key component of a state's revenue, with state governments often adding an additional excise duty on alcohol consumption to further drive up incomes. For example, in 2023, Karnataka raised the Additional Excise Duty (AED) on Indian Made Liquor (IML) by 20%.

■ In addition to the impact on the ability of states to generate revenue from alcohol, the verdict also provides clarity on Centre-state relations when it comes to control over industries. Wednesday's judgment affirms the power of states to pass laws on subjects in the State List, even in the face of the wide powers granted to the Centre regarding the control of 'industries' as a whole.

■ The ruling also set aside the SC's 1990 judgment in *Synthetic Chemicals Ltd. v State of Uttar Pradesh*, which held that "intoxicating liquor" refers only to potable alcohol and, therefore, states could not tax industrial alcohol. (See box)

Industrial alcohol

Industrial alcohol is essentially pure alcohol that is used as an industrial solvent. Mixing chemicals such as benzene, pyridine, gasoline, etc. in ethanol, which is produced by fermenting grains, fruit, molasses, etc., — a process that is called 'denaturation' — turns

it into industrial alcohol. This makes the alcohol unfit for human consumption, and significantly lowers its price.

Industries use this impure alcohol to manufacture a range of products including pharmaceuticals, perfumes, cosmetics, and cleaning liquids.

However, this same industrial or denatured alcohol is sometimes used to make illicit liquor, cheap and dangerous intoxicants whose consumption poses severe risks, including blindness and death.

'Intoxicating liquor'

CJI Chandrachud held that entries in the Seventh Schedule must be given a "wide meaning", and be deemed to include "incidental" and "ancillary" matters related to the entry in question.

He then applied this rule to the expression "intoxicating liquor" under Entry 8 of List II, holding that the "Entry seeks to regulate everything from the stage of the raw materials to the consumption of 'intoxicating liquor'."

The majority opinion, authored by the CJI, held that "...even liquor which colloquially or traditionally is not considered as alcoholic liquor may be covered by the phrase 'intoxicating liquor' if it produces the effect of intoxication".

The judgment rationalised this by finding that the word "intoxicating" can also refer to poisoning and not just inebriation, indicating that the purpose of the expression "seems to be [to] enhance the scope of the Entry to cover liquor which has an impact on health".

Justice Nagarathna on the other hand, found that the deciding factor must be the "nature of the product" consumed. "Merely because there can be a potential misuse of 'industrial alcohol', for example, by converting rectified spirit ('industrial alcohol') as a beverage which has an intoxicating effect, Entry 8 — List II cannot be stretched to include such 'industrial alcohol'," the dissent noted.

The 'federal balance'

Two interpretations are possible when two entries in the Seventh Schedule are 'overlapping'; either states can be given the power to regulate intoxicating liquor, or Parliament can be allowed to take complete control of the intoxicating liquor industry by passing a law under Entry 52 of List I.

To address this, the majority held that "When there are two possible interpretations of the entries, the Court must choose the one that maintains the federal balance".

The ruling then held that intoxicating liquor under Entry 8 — which now includes 'denatured' alcohol and the raw material for alcohol production — falls within the exclusive control of states. It held that the Centre cannot regulate matters concerning intoxicating liquor under Entry 52 as this would result in "rendering Entry 8 fully redundant".

While Justice Nagarathna agreed that the Centre and Parliament could not enact laws to regulate "intoxicating liquor", she disagreed on what can be included under this tag. While the majority opinion held that "intoxicating liquor" includes industrial or denatured alcohol, Justice Nagarathna came to the opposite conclusion.

The dissent reasoned that so long as 'Alcohol' and 'Fermentation Industries' remain as industries where the Centre can exercise complete control under the Industries (Development and Regulation) Act, 1961, "state legislatures are denuded of their powers to pass a legislation or to take any action" relating to them.

The UN force in Lebanon, its mandate and role, and Israel's aggression

EXPERT EXPLAINS
SANJIV ARORA

ON OCTOBER 20, the UN force in Lebanon said in a statement that the Israel Defense Forces (IDF) had used a bulldozer to "deliberately demolish an observation tower and perimeter fence of a UN position in Marwahin".

The United Nations Interim Force in Lebanon (UNIFIL) "reminded the IDF and all actors of their obligations to ensure the safety and security of UN personnel and property and to respect the inviolability of UN premises at all times".

It noted that breaching a UN position and damaging UN assets is a "flagrant violation of international law and [UN] Security Council resolution 1701".

Israel has demanded that UNIFIL should vacate its positions along the Blue Line, a 120-

km-long "line of withdrawal" set by the UN in 2000 along Lebanon's southern border.

Why are UN peacekeepers in Lebanon?

UNIFIL was created by the UN in response to Israel's invasion of southern Lebanon. Israel had said it was acting to expel armed Palestinian elements operating from Lebanon. According to UN Security Council Resolutions 425 and 426, adopted in March 1978, UNIFIL was established to confirm the withdrawal of Israeli forces from southern Lebanon, restore peace and security, and to help the Lebanese government in restoring its control and authority over the region.

Southern Lebanon, which shares a border with Israel, has been the site of repeated conflicts between the IDF and Hezbollah. Israel vacated its occupation of southern Lebanon in 2000, but a fresh conflict broke out in July 2006. On August 11 that year, the UNSC unanimously adopted Resolution 1701, which called for Israel and Lebanon to support a permanent ceasefire, and significantly expanded UNIFIL's mandate.

The resolution stated that there would be no ammunition and armaments in southern Lebanon except those possessed

by the Lebanese armed forces. UNIFIL's strength was augmented to 15,000 uniformed personnel, and it was assigned duty to assist the Lebanese forces in monitoring and supervisory roles, along with providing humanitarian aid.

Are Israel's actions against international law?

Attacks on UN peacekeepers are in contravention of international law. However, despite condemnation, Israel's Prime Minister Benjamin Netanyahu has not backed down, and instead asked UNIFIL to "move out of harm's way". In a way, he is asking them to cease performing responsibilities given by them by the UN Security Council. This is a violation of the sanctity and the mandate of the UN.

UN peacekeepers have come under attack in various parts of the world in the past, but these were by non-state actors. Many of Israel's actions do not behave the dignity, stature, and obligations of a UN member state. Earlier this month, the Israeli government declared UN Secretary General António Guterres persona non grata and barred him from entering the country. Last

year, Israel had called for Guterres' resignation. Respect for the office of the Secretary General is part of the UN Charter.

Israel has also repeatedly attacked the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA), alleging it has links with anti-Israel militant organisations, and called for it to be disbanded. UNRWA has rejected these allegations. More than 220 UNRWA officials have been killed in Gaza over the past year — the highest death toll in the history of the UN.

Are Indian troops part of UNIFIL?

India is one of the largest contributors of troops to UNIFIL alongside Indonesia, Italy, and Ghana. As of October 20, 2024, India had 930 personnel in UNIFIL, after Indonesia's 1,230 and Italy's 1,043.

India has a presence in UNIFIL since 1988. INDBATT, the Indian battalion, is renowned for its utmost professionalism, valour, and local outreach. In 1999, INDBATT built a public park in Ebel el Saqi in southern Lebanon, which has a statue of Gandhi, and is called Mahatma Gandhi Park. It was renovated in 2020. INDBATT also built a sta-

dium named after Sardar Vallabhbhai Patel in Kawaba village in Lebanon.

In addition, INDBATT has helped local communities with IT equipment, diesel generators, etc. India's medical battalion, a component of the Indian mission, has always been highly sought after in the region.

Israel alleges UNIFIL has not done its job in southern Lebanon, which has forced Israel to go after Hezbollah.

To blame UNIFIL would not be fair. The mandate of UN peacekeeping missions is not to engage in armed action except in self defence. As per UNSC Resolution 1701, it is the Lebanese armed forces who are in control of that area, with assistance from the UNIFIL. Assistance does not mean that UNIFIL will take armed action.

An important part of UNIFIL's mandate is to render humanitarian assistance, which it has been discharging admirably. In the face of Israeli hostilities, UNIFIL has made it clear that it will not vacate its positions.

Hezbollah's reality in Lebanon is multifaceted and multidimensional. It is also a political and cultural force with significant public legitimacy — Hezbollah and its allies

have 62 of the 128 democratically elected seats in Lebanon's parliament. Many average Lebanese probably believe Hezbollah's armed wing is the country's *de facto* defence force. However, this is not at all to say that the Lebanese defence forces have abdicated their responsibilities.

Where is the Lebanese army in all of this? Are they fighting against the IDF?

This is not an Israel-Lebanon war. This is Israel's aggression in Lebanon, and Lebanon is in self-defence mode, repeatedly calling for a ceasefire.

The Lebanese armed forces are highly professional, but given the tenuous history of the country and the economic troubles it is facing, the army does have a severe resource crunch. It does not have a large budget, and its technology and armaments are meagre compared with the far more powerful and technically advanced Israeli military.

Sanjiv Arora is a former Secretary of the MEA. He was India's Ambassador to Lebanon from 2016 to 2019, and to Qatar from 2012 to 2016. He was head of UN-Political division at the MEA from 2005-08.

THE IDEAS PAGE

Learning & nation-building

The 75th Constitution Day, on November 26, is a moment to reimagine our universities. The focus needs to be on education and research relating to Constitution's ideals and aspirations



C. RAJ KUMAR

THE CONSTITUTION OF India was adopted on November 26, 1949. While the vision and imagination of the framers of the Constitution was far-sighted, the reality of India at that moment was very different. At Independence, India's population was around 370 million, and women, on average, had six children. The age structure was very young, and over 80 per cent of the population was illiterate.

India had barely 20 universities and approximately 500 affiliated colleges in 1947. Student enrolment was around 2.5 lakh, and faculty members across all universities and colleges were about 20,000. Higher education was an absolute privilege, available only to the elite. Today, India has over 40 million students enrolled in higher education institutions and more than 1.5 million faculty members.

India has the largest population in the world. Forty-seven per cent of Indians are below the age of 25. Two-thirds have been born after liberalisation. In this stage of India's demographic transition, universities are influential institutions that must contribute to the transformation of society. A single-minded focus on subjects and courses comprising science, technology, engineering, mathematics (STEM) and medicine cannot produce the desired transformation in the value system of our society. Education must not be limited to linking all learning only to job opportunities and instrumentally applying knowledge for monetary gains without appreciating its intrinsic value in shaping the kind of citizens that our republic requires. Schools and universities must provide substantial knowledge about the Constitution in all Indian languages. Achieving this goal must be a top policy priority.

India commemorates the 75th anniversary of the adoption of its Constitution this year. Our higher education ecosystem, comprising more than 1,100 universities and nearly 50,000 colleges, must prioritise the study of the Constitution. The Viskit Bharat Vision for 2047 should focus on educating young India to appreciate the values inherent in the Constitution and why the document is the lodestar for development and social transformation.

I can adduce five compelling reasons why our universities should educate their students about the Constitution's history, philosophy, and evolution and its importance in recognising and enforcing people's fundamental rights and freedoms.

One, the Constitution is a site for creating collective consciousness. India is not a classic federation. Some continuing struggles and synergies inform the evolution of the idea of deliberative democracy in the country. Social and economic diversity has contributed to differing economic and human development levels across the states. As we commemorate the 75th anniversary, we must build a more vital collective consciousness of our Constitution that binds us



C R Sasikumar

as people. This consciousness will have a direct and substantive bearing on promoting progressive nation-building ideas while shielding us from the consequences of sectarian perspectives. The framers of our Constitution were conscious of the imperative of creating a collective consciousness of the people of India. They did that by providing flexibility and freedom to pursue a pluralistic idea of nation-building.

Two, the Constitution as a framework for identity creation. The Constitution has helped us to create, nurture and expand an Indian identity. Many of its provisions focus on protecting rights and freedoms and illustrating their inherent purpose for establishing a nation. The pluralistic identity of the people of India is reflected in the values that permeate the Constitution, especially its Preamble. In an influential article titled 'The rise of state-nations', Alfred Stepan, Juan Linz, and Yogendra Yadav observed, "...State-nation" policies involve creating a sense of belonging (or 'we-feeling') with respect to the statewide political community, while simultaneously creating institutional safeguards for respecting and protecting politically salient socio-cultural diversities. The 'we-feeling' may take the form of defining a tradition, history, and shared culture in an inclusive manner, with all citizens encouraged to feel a sense of attachment to common symbols of the state and some form of 'constitutional patriotism'."

An Indian identity that promotes values of "constitutional patriotism" should define our aspiration to develop ideas for nation-building. Universities must shape that Indian identity through education and the process of learning.

Three, the Constitution as a reason for celebrating diversity. The Constitution, particularly its provisions on equality and non-discrimination, recognises the value of diversity. Universities are the appropriate institutions for promoting diversity. However, the diversity promoted in universities must be about lived and shared experiences. It is about understanding and appreciating that India is a land of diverse interests and multiple persuasions. The opportunity to study the Constitution and the lived experience of meeting and interacting

The Constitution as the basis for social justice. The theme of social justice runs throughout the Constitution. As India celebrates the 75th anniversary of adopting the Constitution, the aspiration to advance the cause of social justice has never been more critical. Universities are institutions where through transformative education, the societal structure can be challenged and a new generation can become participants in an effort to achieve social justice. The constitutional project of promoting social justice can be realised only when higher education institutions institutionalise these ideas among the youth. India's young people must embrace the vision of building an egalitarian society.

ing with diverse people can help build an informed and enlightened citizenry.

Four, the Constitution as an instrument of social and political empowerment. By abolishing untouchability in Article 17, the Constitution shook the foundations of the practice of historically evolved caste-based discrimination. But it did not stop there. It also made it an offence to cause any disability arising because of "untouchability". The vision of the makers of the Constitution was far-sighted enough to recognise that the evil of untouchability cannot be quelled by merely proscribing it. The Constitution sends a powerful message to our nation that its foundations are the values of liberty, equality and fraternity. Universities are places where values are formed, shaped and changed. There is no better place where the study of constitutional values can have a powerful impact.

Five, the Constitution as the basis for social justice. The theme of social justice runs throughout the Constitution. As India celebrates the 75th anniversary of adopting the Constitution, the aspiration to advance the cause of social justice has never been more critical. Universities are institutions where through transformative education, the societal structure can be challenged and a new generation can become participants in an effort to achieve social justice. The constitutional project of promoting social justice can be realised only when higher education institutions institutionalise these ideas among the youth. India's young people must embrace the vision of building an egalitarian society.

The 75th anniversary of the Constitution should help us reimagine our universities to focus on education and research relating to its ideals and aspirations. It should educate and empower the youth to understand and appreciate the historical struggles that resulted in our freedom and the vision of the framers of the Constitution leading to the building of the Republic of India.

The writer is founding Vice Chancellor of OP Jindal Global University and Dean of Jindal Global Law School. JGU is establishing India's First Constitution Museum at its University Campus in Sonapat, Haryana

WHAT THE OTHERS SAY

"The US policy of denying Israel's genocide in Gaza is unlikely to change, even if there is a new US administration... We can only hope that nations that still have a conscience would finally come together to condemn Israel's genocidal acts and ensure that Israel agrees to a ceasefire agreement..." — THE DAILY STAR

With refugees at the centre

SC judgment on Section 6A speaks language of statecraft. Verdict should guide protection of rights of vulnerable



MOHSIN ALAM BHAT

THE SUPREME COURT of India's recent decision upholding the legal validity of Section 6A of the Citizenship Act is the most consequential judgment on the constitutional law of citizenship. Section 6A was enacted following the signing of Assam Accord in 1985 and grants citizenship to migrants from Bangladesh who entered Assam before March 25, 1971. Last week's ruling, however, has far-reaching consequences that extend well beyond the region of Assam, especially considering the controversial Citizenship Amendment Act (CAA) of 2019, which remains pending in the courts.

The stakes could not be higher. In terms of politics, the petitioners challenged Section 6A based on the long-standing fears of Assamese groups that uncontrolled immigration from Bangladesh threatens their culture, economy, and political influence. Legally speaking, it touches on vital constitutional principles — particularly the limits of Parliament's legislative power, the role of judicial review, and how to interpret key constitutional values like fraternity and equality in the context of citizenship.

The first significant aspect of the judgment is its declaration that Parliament's power to legislate on citizenship is not unlimited. Like any other law, legislation on citizenship must adhere to constitutional limits, including fundamental rights.

This is a noteworthy ruling because it draws a clear line in the sand for the pending CAA case. In the CAA case, the government has argued that laws on citizenship are an expression of sovereignty and should be immune from judicial scrutiny, but this ruling rejects that notion entirely.

Citizenship laws, the Court held, are subject to constitutional limitations and judicial review, providing a clear indication that the CAA will likely face similar scrutiny.

A second critical dimension of the ruling is its discussion on constitutional values, particularly the principle of fraternity. The petitioners argued that the influx of migrants undermined Assamese culture and violated their rights under Article 29 of the Constitution, which protects the cultural and educational rights of minority citizens. They claimed that the presence of these migrants was eroding their cultural identity, a violation of their rights.

The Court, however, took a broader and more progressive view of fraternity, rejecting the argument that demographic change constituted a violation of culture. Fraternity, the judges held, is about fostering "interconnectedness" among citizens, not the right to "choose one's neighbours." This rejection of a narrow cultural protectionist view marked a serious blow to Assamese political claims. The judgment emphasised that demographic change does not inherently violate cultural rights — a significant step in the broader debate over how to balance majority cultural concerns with broader democratic principles.

The judgment also delves into the question of equality in citizenship laws. The pe-

titioners argued that Assam was unfairly burdened by Section 6A, which imposed a different cut-off date for citizenship compared to the rest of India. The claim was that Assam was disproportionately carrying the weight of immigration while other border states were not subjected to the same rules. Relevant here was the right to equality under Article 14. The right requires that any divergent treatment — so-called "classification" among groups — must be rational and justified by the purpose of the law.

The Court upheld Section 6A's constitutionality, acknowledging the historical context of the Assam Accord and Assam's unique challenges with migration. However, there was a divergence between the justices on how much deference the courts should give to Parliament in this matter. Justice D.Y. Chandrachud, argued that when core rights and constitutionally significant subjects are at stake, courts must intervene. Justice Surya Kant (for two other judges) took a more deferential stance, which suggests that Parliament's classification of groups for legal purposes should be respected, provided it aligns with a legitimate public objective.

This divergence on the degree of judicial deference will have serious implications for the CAA case. The CAA's stated objective is to help persecuted minorities, but it fast-tracks citizenship for only non-Muslims from Pakistan, Bangladesh, and Afghanistan. The question now is which level of scrutiny will the Court apply to the CAA's religious discrimination. Will the Court consider citizenship and the right to life too significant to allow for broad parliamentary discretion, or adopt a more deferential approach?

This debate on judicial deference will also test how seriously the Court treats secularism as a constitutional principle. Will secularism be interpreted as a core value, alongside fraternity, that demands legal protections for all citizens, regardless of their religious identity? Will secularism be interpreted — in fact as an extension of fraternity — as a concept respecting diversity and solidarity?

Despite its progressive framing of fraternity, the judgment is striking for what it leaves out: The voices of the migrants themselves. The Court framed the issue as a balancing act between the government trying to manage the costs of migration and its humanitarian concerns. But absent from this narrative are the refugees, the stateless, and the multiracial Indian migrants who are most affected by these laws.

The Court did not fully engage with the rights of those who have fled persecution or whose lives are now mired in uncertainty. It failed to consider whether the state has an obligation to protect the rights of refugees and stateless persons, who remain invisible in the legal framework. The judgment speaks the language of statecraft but it does not fully account for the human rights of the marginalised.

This omission is significant. As India continues to grapple with its citizenship laws, the Court must address the rights of the most vulnerable. The ruling on Section 6A, while progressive in some respects, leaves the fate of these individuals uncertain. With the CAA case on the horizon, the Court once again has an opportunity to centre the rights of refugees and stateless persons in its legal reasoning.

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PRABHASAHAY KAUR

THE SUPREME COURT'S (SC's) recent judgment on Child Sexual Exploitation and Abuse Material (CSEAM) is the call of the hour and addresses a problem, the enormous proportions of which are lost on most people. The mere possibility of misuse, as argued by an editorial in this newspaper ('Terms of protection', IE, September 26) cannot be a reason to put children at risk.

Some facts. The National Centre for Missing & Exploited Children (established by the United States Congress) has reported that 46,99,515 videos of CSEAM were uploaded in India, depicting a chilling reality — India is leading the world in uploading CSEAM in the form of photos and videos. Just Rights for Children Alliance, a coalition formed by five NGOs with over 120 NGOs as partners, approached the Supreme Court relying upon the above report and data published by the National Crime Records Bureau (NCRB) that reflected a phenomenal increase in child pornography cases from 44 in 2018 to 1,171 cases in 2022.

To arrest this disturbing trend, the Government of India signed an MoU with NCMEU, US, under which receipt and analysis of Cyber Tip line Reports (CTR) are carried out which detail activities related to CSEAM. These are then shared with the respective states/Union Territories for further action. The MoU and the actions being taken using this technology led the agencies straight to the culprits.

Children must come first

Fear of misuse is no reason to dilute strict laws, action against child sexual abuse

The Kerala Police's impressive initiative made the best use of this information. It conducted a search of the internet for preventing online child exploitation and carried out various covert operations. It was found that child pornography groups operating over WhatsApp and Telegram and a number of similar platforms had increased tremendously in recent years. It started identifying persons downloading/uploading CSEAM

from the internet by collecting IP addresses, particularly making use of the reports available under the MoU. The Kerala Police was able to seize over 200 devices containing graphic and illegal videos and pictures of children in a compromised state.

It was found that many of these videos and photos in the CSEAM were of local children, ranging in the age group of five to 16 years. The necessary corollary was that local children have been happily involved by making covert videos/taking photos through spy cameras, etc. More significantly, the presumption that CSEAM available on the Internet is from other countries or far-off places and that the act itself has not taken place here and is only being viewed here is completely false. This eye-opener is funda-

mental to understanding not only the genesis of the problem but also in comprehending how to tackle it.

A somewhat similar disclosure was made recently by certain One Stop Centres that run in all districts in Delhi to aid survivors of sexual abuse. Cases of teenagers being raped or forced into sexual acts/abuse on the threat of their videos/photos, real as well as morphed, being made public are on the rise.

The SC has made it abundantly clear that while there might be a difference between the act of engaging in sexual abuse, the latter desire is always inherent in the former. Both share the same intent, and it is the intent that makes the crime heinous. This finding is the fulcrum of the judgment. Ergo, viewing CSEAM, even in the confines of one's home, even one time, constitutes an offence. It has also stated that demand will always incubate the corresponding production of CSEAM. Abusers are motivated to create and distribute the material to satisfy the demand. Killing the demand by prosecuting the viewing of CSEAM would eventually lead to a decrease in its production.

The Kerala Police's report is rather

poignant. It reflects on the vulnerability of children who might not even know how they have been exploited till it is too late. The SC has also held that the knowledge that their abuse is being watched by countless strangers, sometimes much after the act, for years to come, exacerbates the wounds. The realisation that our children might be walking on the road or eating at a restaurant and strangers identify him/her from CSEAM available freely on the internet, maybe by way of a spy camera installed in a school/public bathroom/changing room, is deeply disturbing.

This affects every one of us. In the words of Justice J B Pardiwalla, who authored the judgment with sensitivity and perceptiveness, CSEAM perpetuates a culture in which children are seen as objects to be exploited rather than as individuals with rights and agency.

While prosecution in cases of CSEAM is imperative, in the longer run, what will make the most difference are preventive measures such as sex education and awareness, in schools, children's homes, etc. Essentially, the prevention of crime is paramount for ensuring a safe space for our children, both online and offline. I can only hope that in implementing this judgment, law enforcement agencies, schools and governments realise that the exploitation of a child anywhere, is exploitation of a child everywhere.

The writer is a litigator practising in the Delhi High Court and Supreme Court

LETTERS TO THE EDITOR

A BREAKTHROUGH

THIS REFERS TO the editorial, 'Breaking stalemate' (IE, October 23). It is quite encouraging that both India and China have agreed to revert to the pre-Galwan locations. India has to verify the progress through continuous monitoring. It is imperative to establish peace at the Line of Actual Control before any moves in the economic, communication and other fields. The past trust deficit will be dissolved if there is mutual respect and well-coordinated mutual consultation between the two states in the de-escalation and disengagement process.

Subhash Vaid, New Delhi

THIS REFERS TO the editorial, 'Breaking stalemate' (IE, October 23). In welcome news, India and China have agreed to resolve their four-year military standoff. Assuming that the patrolling agreement heralds a return to status quo ante, India shouldn't relent on its past decisions like banning Chinese apps. Similarly, FDI by Chinese firms should be judged on a case-to-case basis. There can't be a free licence for investment by Chinese firms in India. India's relations with China can be repaired but at a slow pace. There are no instant solutions in global politics. It can't suddenly be business as usual with China.

Sanjay Chopra, Mohali

COVERING GROUND

THIS REFERS TO the article, 'Social ill and legal response' (IE, October 23). The guidelines of the Supreme Court are welcome. The Prohibition of Child Marriage Act (PCMA) in cases where minors marry by choice requires a closer look. The resultant destitution of girls due to husbands taking undue advantage of the marriage's void status to re-marry is unjust. This judgment may not succeed in upholding the true essence of absolute justice as these harsh ground realities, but it may shed some light on the misuse of the rule of law.

Shashwat Jena, Chhatzibad

WHERE ONUS LIES
THIS REFERS TO the article, 'A nascent but welcome thaw' (IE, October 21). External Affairs Minister S Jaishankar's visit to Pakistan to participate in the SCO summit, is significant. Bilateral ties have been in deep freeze since the Pulwama terror attack and the retaliatory Balakot airstrikes in February 2019. While one cannot dispute that both countries must move forward and tap the full potential for bilateral trade, it must be pointed out that the ill-effects of isolationism to create a conducive atmosphere.

Khokan Das, Kolkata



The EDITORIAL PAGE

The IndianEXPRESS

FOUNDED BY
RAMNATH GOENKA

BECAUSE THE TRUTH INVOLVES US ALL

An American deadlock

Gender, race, class, state will together determine who wins the upcoming US elections



ASHUTOSH VARSHNEY

NOVEMBER 5 IS America's election day. It is hard to predict who will win the presidential race: Kamala Harris or Donald Trump. Current polls suggest a very tight contest. Which way it finally turns will depend on a host of factors, some uniquely American, especially the electoral college. The US was famously called by Samuel Huntington "a Tudor Polity", roughly meaning extreme decentralisation and no national uniformity. States in the US not only have disproportionate power; they also have quite different electoral rules. Unlike India where the Election Commission conducts and certifies electoral results, that power in the US belongs to states. And such power, most of all, is embodied in the concept of an electoral college which is, comparatively speaking, an unusual institution. It has the capacity to undo popular will. Let us begin with a larger national-level overview, which will allow us to unpack the intricacies of the electoral college later. The US has a population of roughly 335 million, and there are approximately 245 million eligible voters. If the turnout is as high as 66-67 per cent, the level it touched in 2020, among the highest in decades, anywhere between 160-165 million votes will be cast. That will make it the third largest election exercise in 2024, exceeded only by India and Indonesia.

The four largest voting groups by ethnicity/race are the Whites (67 per cent), Latinos/Hispanics (13 per cent), Blacks (12 per cent) and Asians (5 per cent). The political inclinations of the three minorities are easily described. In 2020, these groups voted 65-87 per cent in favour of the Democratic party, with Blacks going as high as 87 per cent. According to the most recent polls, vote for Democrats is down in all three categories, but it is not necessarily going hugely in favour of Trump.

The possible shift among Black men has come to be widely noted, especially after President Obama exhorted them to exercise wisdom and sense, not conventional gender prejudice. Compared to women, 7-8 per cent fewer men are saying they will vote for Harris. According to James Carville, a long-time adviser to Democrats who shot to fame as lead strategist to Bill Clinton in 1992, the

reason is that some Black men think the Democratic party has become too feminised. They are unwilling to accept a female president. But this problem may not be confined to Black males. The US has always had a male president. Is it ready to accept a woman as the nation's highest leader and commander-in-chief? Some believe Hilary Clinton also suffered for this reason.

What can we say about the White vote? Its division appears to be both on racial and class lines, especially if education can be viewed as an indicator of class. The Pew Research Center reports that Republican voters are "overwhelmingly White", accounting for 79 per cent of the total vote for the party. And "overall, about half of Republican voters (51 per cent) are White adults without a college degree, making them the single largest bloc within the party when looking at race, ethnicity and education together."

Harris appears to be ahead in national vote, but it is the electoral college that will determine who wins — it is possible to win the national vote but lose the presidential election, which has happened five times in American history, twice recently — in 2000 and 2016. But how would such divergence come about? The electoral college has 538 votes: 435 for the House of Representatives, 100 for the Senate and three for Washington DC. The House is entirely population-based. In the Senate, every state has two seats regardless of its population size. This makes the electoral college not entirely based on national popular will.

Let us examine these numbers a bit differently. According to the US Census Bureau, only 38 per cent of the US population (age 25 and older) was college educated in 2021, and 42 per cent of White population belonged to this category (as compared to 28 per cent of Black, 21 per cent of Hispanic, and 61 per cent of Asian communities). Nearly two thirds of White support for Trump is non-college-educated and only a third college educated. In non-White communities, the education-based class polarisation is not so sharp. Trump is likely to get only 31-32 per cent of non-White, non-college educated vote, with nearly two thirds of non-White non-college vote going to Harris. In sum, most college-educated Whites would vote for Democrats and most non-college-educated Whites for Republicans, whereas for non-White communities, ethnicity and race would trump class.

But, after all is said and done, these country-level disaggregations are not going to be decisive. Harris appears to be ahead in national vote, but it is the electoral college that will determine who wins — it is possible to win the national vote but lose the presidential election, which has happened five times in American history, twice recently — in 2000 and 2016. But how would such divergence come about?

The electoral college has 538 votes: 435 for the House of Representatives, 100 for the Senate and three for Washington DC. The House is entirely population-based. In the Senate, every state has two seats regardless of its population size. This makes the electoral college not entirely based on national popular will. Rather, the popular will gets a coating of small-state bias. Essentially, to win the presidency, a candidate must obtain 270 votes of the electoral college. Some states, such as California and New York, are reliably Democratic, while others, like Texas and Florida, unquestionably Republican. As of now, Harris is sure of 226 votes, and Trump 219. To be president, the former needs 44 more electoral college votes, and the latter 51.

Where will these votes come from? From the so-called battleground or swing states. Currently, there are seven such swing states: Pennsylvania (19 votes), Georgia (16), North Carolina (16), Michigan (15), Arizona (11), Wisconsin (10), Nevada (6). They are deadlocked. Because they can swing an election, these states take up disproportionate energy of campaigns. Harris and Trump always seem to be campaigning there (over three decades in Massachusetts, nearly always Democratic, I have seen only one candidate campaign. Barack Obama came in 2012, and only once).

A conceptual category can be used to sum up the situation. This election will depend on what scholars call "intersectionality." An unpredictable combination of gender/race/class/state will determine who wins. But whichever way this mix ultimately settles, it will be, substantially though not wholly, in answer to two fundamental questions.

Is America ready for a Black woman president, or would White supremacy make a comeback via Trump? Will America continue to be engaged in the world, or would it descend into a world of Trumpian tariffs, immigration cuts and isolationism?

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CRUDE AND IMPROPER

TMC MP Kalyan Banerjee's actions hurt his party politically and are a disservice to the people he represents

FOUR-TERM MEMBER OF Parliament — a lawyer and among the most senior leaders of his party — should not require lessons in either civics or civility. On Tuesday, Kalyan Banerjee of the Trinamool Congress was suspended for a day from the Joint Committee of Parliament on the Waqf (Amendment) Bill. The disciplinary action against him came after he smashed a glass bottle during the JCP meeting, reportedly during a heated exchange with former Calcutta High Court Judge and BJP MP Abhijit Ganguly. Committee Chair Jagdambika Pal has alleged that Banerjee was attempting to throw the bottle at him — the TMC leader ended up injuring himself. Parliament — including its committees — is a place for dissent, debate and even vociferous argument. It is not — and must not become — an avenue for abuse and violence. Banerjee, unfortunately, seems not to realise this. And at a time when the Opposition is trying to gain ground, and at times, the moral high ground — after a decade in relative political wilderness — his actions are a terrible letdown.

A representative to the Lok Sabha carries the privileges and expectations of the people who voted for him. Unfortunately, the incident this week is not the first time Banerjee has pushed the boundaries of propriety. Last year, when 147 MPs had been suspended and the Opposition was besieged, the TMC MP's crude mimicry of Vice President Jagdeep Dhankhar drew unwarranted attention. In fact, throughout Dhankhar's tumultuous tenure as Governor of West Bengal, Banerjee constantly avoided the high ground — he called Dhankhar a "blood-sucker" and filed cases against him. Earlier this year, during the Lok Sabha campaign, he referred pejoratively to CPM candidate Dipсата Dhar's complexion, and in 2009, he made off-colour and unsubstantiated remarks about then West Bengal CM's personal habits.

Banerjee's conduct at the parliamentary committee meet, then, is no aberration. Given his position and seniority in the TMC, it can also be seen as part of what ails the party. Into this third term in office in West Bengal, and as the fourth-largest party in the Lok Sabha, the TMC is no longer just a party of protest and the street. While its origins were "anti-establishment" in an era of Left dominance, it is now part of the power structure. Its leaders, with their words and actions, cannot be so immature as to resort to abuse and violence. Banerjee's behaviour is not just politically counterproductive. It also shows an unconscionable disregard for the processes of Parliament and the people he represents.

SO SHORT, FAREWELL

There is more to a New Zealand airport's attempt to limit goodbye hugs to three minutes than meets the eye

SORRY, AS ELTON John sang, may very well be the hardest word, but a close second is goodbye. Who knows when that night might come when the same two ships pass each other again? It's no wonder that people tend to linger over their parting, stretching it out into farewell parties and dinners, drawing out those last few moments to postpone, if only for a second or two more, the pangs of parting. It's an all-too-universal experience, yet New Zealand's Dunedin Airport is having none of it, going by a sign in its drop-off zone: "Max hug time 3 minutes. For fonder farewells, please use the car park."

Photographs of the terse sign have been widely shared this week, eliciting outraged questions about how far an airport could go to ensure a smooth flow of traffic, people and their belongings, with its "hug police" and violation of travellers' "human rights". Officials have been quick to disclaim any actual measure to time people's hugs — no uniformed buzzkill will be hanging around the drop-off zones with a stopwatch. The sign is more a suggestion and less an injunction, a reminder to those lingering over their adieus to be mindful of the fact that airports are busy places where the slightest hold-up by one person can end up derailing someone else's vacation plans.

The real question, however, is how Dunedin Airport arrived at the specific duration of three minutes for a hug. Were travellers interviewed and studies conducted at the airport? In any case, the airport's CEO pointed to research that shows a 20-second hug is more than sufficient for a hearty dose of the feel-good hormone oxytocin. He also pointed out that the quicker the hugs, the greater the number of people who can experience them. So, far from being the enemy of love that it's been painted as, the airport just wants to spread the love around a bit more. Can one really complain about this?



ABHIJIT SINGH

THE UK'S DECISION to transfer sovereignty of the strategically significant Chagos Archipelago to Mauritius is a watershed moment in international relations and maritime geopolitics. This long-standing issue had simmered for decades until London settled it to the apparent satisfaction of key stakeholders while securing its own strategic interests. The transfer not only addresses the colonial legacies but also reshapes power dynamics in the Indian Ocean, with significant implications for maritime strategy and regional security.

In many ways, this outcome was inevitable, given the mounting pressure on the UK from the International Court of Justice, the UN General Assembly, and several regional states, including India. India has been a vocal advocate of the decolonisation agenda, reinforcing the Mauritius cause and asserting its leadership role in the Global South. With its diplomatic stance under increasing scrutiny, the UK likely saw this as a necessary move to align with the international consensus.

Strategically, the deal holds substantial significance. While it grants Mauritius full sovereignty, it ensures US-UK control of the military base at Diego Garcia for 99 years. For India, the principal security provider in the Eastern Indian Ocean, the implications extend far beyond potential access to Diego Garcia's military facilities, touching on broader themes of strategic autonomy, regional alliances, and the evolving balance of power in the Indian Ocean Region (IOR).

Given India's close military ties with the

INDIAN OCEAN CHURN

India must guard its strategic interests after UK's handover of Chagos to Mauritius

US and UK, Diego Garcia could provide the Indian Navy with a valuable forward base for maritime patrolling, anti-piracy operations, and intelligence gathering. With increasing Chinese naval activity in the IOR, India could leverage closer logistical and military cooperation with the US to counterbalance China's maritime expansion.

However, India's proximity to the US military's prime Indian Ocean facility could complicate its broader calculus. Diego Garcia is not just any American base; it is a hub for US nuclear submarines and a key staging ground for naval operations in the Western Indian Ocean — a theatre where India-US cooperation has traditionally been constrained. Using this facility raises larger questions about India's strategic autonomy, especially as the Indian Ocean becomes more contested amid rising tensions in the Red Sea and the escalating Israel-Iran conflict.

India has long adhered to a policy of strategic autonomy. Deeper military cooperation with the US could be seen as a shift towards aligning with the West, potentially undermining India's efforts to remain an independent player capable of engaging with a range of partners, including non-Western actors like Russia, Iran, and other Middle Eastern powers. While Diego Garcia is pivotal to US operations in the Middle East, India knows tensions between Israel and Iran complicate its options. While India leans more toward Tel Aviv, overt cooperation with the US, Israel's main ally against Iran, could strain India's ties

with Tehran and other non-Western partners.

Chagos' handover is exactly the outcome India had long hoped for. Delhi even played a behind-the-scenes role to encourage both sides to reach such an agreement. But, while it sees the continuation of the Diego Garcia base under US control as a positive, it is likely to temper its responses to project a balanced stance, avoiding the perception of excessive alignment with the US-UK axis.

Even so, India's strategic community will likely view this development through the lens of China's growing presence in the Indian Ocean. With a naval base in Djibouti and likely future bases in Pakistan, China is positioning itself as a significant Indian Ocean power. Despite having to manage the expectations of other regional states — many of whom have close ties with China — India's main imperative will be to counterbalance China's influence in the Western Indian Ocean.

India is also mindful of Mauritius' security needs. Port Louis will likely seek New Delhi's assistance in capacity-building, particularly in monitoring its Exclusive Economic Zone (EEZ) and safeguarding its maritime assets from illegal fishing and other threats. Given its own concerns over Chinese intrusions, India has a vested interest in strengthening Mauritius' security capabilities. The key for India would be to protect its interests, maintaining its image as an independent regional power.

The writer is head, Maritime Policy Initiative, ORF, New Delhi

OCTOBER 24, 1984, FORTY YEARS AGO

HEAD PRIESTS VS GOVT

TWO ROUNDS OF prolonged talks between Sikh head priests and the government representatives failed to sort out the controversy of the Nihang chief of Buddha Dal, Baba Santa Singh's intention to visit Akal Takht to offer prayers on Diwali. The government representatives, however, reached an agreement with both the parties on maintaining law and order on the occasion.

US BACKS INDIA

AFTER TWO DAYS of talks with the Indian government, the US Assistant Secretary of State,

Richard Murphy, came out with a statement "reiterating" the US conviction that India has no intention of attacking Pakistan. Murphy's statement was apparently aimed at assuaging Indian anger over the statement by the US Ambassador in Pakistan, Deane R Hinton, portraying India as a potential aggressor.

INDIA-MAURITIUS TALKS

INDIA ASSURED All possible assistance to Mauritius in its development activity and agreed to enlarge areas of co-operation such as education, culture, technology, technical know-how and health. India's keen interest in the overall progress of Mauritius was con-

veyed to the Mauritian Prime Minister, Anerood Jugnauth, when he called on the visiting Indian President, Zail Singh.

JANATA SPLIT

THE JANATA PARTY unit in Bihar split vertically with majority of legislators and MPs owing allegiance to Karpoori Thakur, favouring entry into the newly formed Dalit Mazdoor Kisan Party (DMKP), headed by Charan Singh. The resolution adopted at the residence of Thakur authorised him to take a final decision on the evolution of a national alternative in the context of Opposition unity, preservation of democracy and national interest.



Researchers meld AI and genomics to find thousands of new viruses

Computational algorithms look for proteins similar to sequences in databases. As a result, they risk missing proteins that have evolved and changed. This risk may not hold for long, however, thanks to scientific approaches that combine genetics, gene-sequencing, and deep-learning methods

Sridhar Sivasubbu
Vinod Scaria

For most of modern history, people have overlooked viruses, even though they are the most abundant biological entity on the planet and carry immense ecological significance. Viruses are found in every nook and corner of the world – from soil and water to the atmosphere and even extreme environments like hot springs and hydrothermal vents.

Viruses are obligate parasites; they require a host to infect and replicate. This relationship goes both ways. Thanks to advances in research, scientists are increasingly recognising viruses as agents of disease but also as integral components of ecosystems. Viruses drive genetic evolution through horizontal gene transfer, control microbial population balance, and even affect biogeochemical cycles.

They play critical roles in maintaining biodiversity and may even influence climate regulation. Understanding their influence is thus key to unravelling the complexities of life on earth. Yet only a small fraction of the roughly 100 million to a trillion viral species has been identified to date.

The unknown-unknown threat

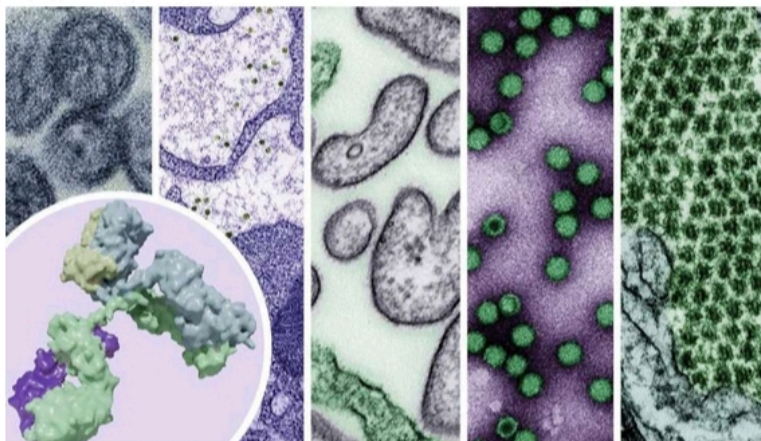
Beyond their environmental roles, understanding viruses is crucial for us to anticipate emerging infectious diseases. Some studies have estimated there are around 300,000 mammalian viruses yet to be discovered, many of which pose zoonotic threats. Unlike microbes, which scientists have studied using culture-based methods, viruses have remained understudied because of challenges to culturing them.

The rapidly improving scale and declining costs of nucleotide sequencing have resulted in the widespread use of genome sequencing approaches to understand microbes in the environment, particularly in metagenomics studies. These approaches have transformed our ability to explore the vast diversity of microbes and viruses in the last decade. In a metagenomic study, researchers analyse genetic material directly from environmental samples, allowing them to identify and study an organism without the need for culturing organic material like tissues in an intermediate step.

Bugger but faster

In recent years, metagenomics has helped scientists identify a staggering number of previously unknown microbes in diverse environments. These discoveries have significantly expanded our understanding of microbial ecosystems. As sequencing technologies continue to improve – becoming more accurate, faster, and more affordable – alongside better global data-sharing practices, scientists are beginning to unlock the secrets of the microbial world at an unprecedented pace.

In this regard, RNA viruses are of especial significance primarily because they mutate rapidly and adapt quickly to new conditions. More specifically, DNA viruses have more stable genomes, and their genome-replicating mechanism makes fewer 'mistakes' when they



A 3D rendering of an antibody (foreground left) and examples of high-priority 'prototype' pathogens that threaten human health, which are the focus of pandemic preparedness research efforts worldwide. From left to right: hantavirus, yellow fever virus, Nipah virus, picornavirus, and Chikungunya. WAP

proliferate – whereas RNA viruses replicate faster with higher error rates. This characteristic is also particularly relevant in the context of emerging infectious diseases: COVID-19, Ebola, and influenza are all caused by RNA viruses.

Serratus ups the ante

One way to identify an RNA virus is to track down and isolate fragments of a specific gene that is essential for the virus to replicate: RNA-dependent RNA polymerase, or RdRP. RdRP is one of the most ancient of genes, so much so that many researchers believe it was among the world's first genes. RdRP proteins have regions that are well-conserved (i.e., which the organism preserves as it evolves) and motifs in the protein that are essential for its function, which is to replicate RNA using a template.

In 2022, Canadian researchers led by Artem Babaian built an open source tool called Serratus. When scientists sequenced a gene, Serratus could match the sequence data with sequences known to be related to viral RdRP proteins. The researchers collected more than 10 petabytes of sequencing data encompassing 5.7 million sequencing libraries from diverse ecologies. When they fed this dataset to Serratus, it uncovered the presence of more than 100,000 viruses, considerably expanding the diversity of viruses known to humankind. Their findings were published in *Nature* in January 2022.

In another study published in *Science* in the same year, U.S. researchers led by Ahmad Zayed at the University of Ohio used computational tools to sift through terabytes of RNA sequence data to identify thousands of new RNA virus species. In particular, this team identified a new viral species to fill an important gap in our scientists' understanding of RNA virus evolution; a new species that dominated the oceans; and another species that could infect mitochondria (organelles in cellular organisms that

serve as the energy source, believed to have originated from microbes).

A transformative effect

An important shortcoming of the metagenomic approach is that computational algorithms typically look for proteins very similar to sequences already in databases. As a result they risk missing proteins that have evolved and changed form. This risk may not hold for long, however. In a recent study, researchers from multiple Chinese research organisations combined genomics with a transformer.

In deep-learning, a transformer is a type of machine learning model known for its ability to train rapidly to identify specific patterns.

In the study, researchers fed genome-sequencing data and data from ESMFold, another machine-learning model adept at predicting the structures of proteins, to their transformer and trained it to spot genetic patterns corresponding to RdRP.

Then they used the transformer to analyse large tranches of metagenomic data, where it identified more than 160,000 new RNA viruses. More than half of these viruses were described for the first time and many came from unique and/or extreme environmental niches, including hot springs, salt lakes, and air. Their findings are to be published in a forthcoming issue of *Cell*.

Because transformers look for patterns rather than amino-acid sequences, they can find proteins even when they have diverged significantly. They can also help

computers design proteins based on these patterns, to perform functions that no natural proteins can. The discovery of new RNA viruses from new places in the environment is also important to our understanding of public health. Each new discovery betters our ability to identify and characterise similar viruses better, teaches us what to keep an eye out for and how/where to improve our methods, and helps us discover more species faster.

Fighting pandemics are they begin

On the ground, a key advantage of such discoveries is with regards to pandemic preparedness. As sequencing technology becomes more widespread and data-sharing increasingly the norm, we are equipped better than ever to identify pathogenic viruses with zoonotic potential – i.e. those that could spill over from animals to humans – long before they pose a significant threat. Early detection allows us the opportunity for timely intervention and even the chance to prevent large-scale outbreaks.

Looking ahead, the deeper understanding of viruses and their evolution through genomics, with help from ecological surveillance and machine-learning, will enhance our preparedness against pandemics. By continuously mapping viral diversity in nature and improving our understanding of viral-host interactions, we can also develop machine-learning models that can anticipate and mitigate viral spill overs. This future holds the promise of not only managing emerging viruses but also tackling the risk of pandemics at the microscopic rather than at the planetary scale.

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A bed of rock showing chunks of ripped-up seafloor debris from a tsunami that followed a huge meteorite impact about 3.26 billion years ago in a region called the Barberton Greenstone Belt, South Africa. REUTERS

Ancient meteorite was 'giant fertilizer bomb' for life on earth

Reuters

The space rock that slammed into the earth 66 million years ago caused a global calamity that doomed the dinosaurs. But that was far from the largest meteorite to strike our planet.

One up to 200 times bigger landed 3.26 billion years ago, triggering worldwide destruction at an even greater scale. But new research shows the disaster actually may have been beneficial for the early evolution of life by serving as "a giant fertilizer bomb" for the bacteria and other single-celled organisms called archaea that held dominion at the time, providing access to key nutrients phosphorus and iron.

Researchers assessed the effects of this meteorite impact using evidence from ancient rocks in a region called the Barberton Greenstone Belt in northeastern South Africa. They found ample signs from the geochemical signature of preserved organic material and fossils of mats of marine bacteria that life bounced back with aplomb.

Life not only recovered quickly once conditions returned to normal within a few years to decades, it actually thrived, said Harvard University geologist Nadja Drabon, lead author of the study published on Monday in the *Journal of the National Academy of Sciences*.

"At this time, the earth was something of a water world, with limited emergence of volcanoes and continental rocks. There

The meteorite spanned approximately 37-58 km, making it about 50-200 times the mass of the asteroid that wiped out the dinosaurs

was essentially no oxygen gas in the atmosphere and oceans, and no cells with nuclei," Harvard geologist and study co-author Andrew Knoll said. The meteorite was a carbonaceous chondrite rich in carbon and containing phosphorus. Its diameter was approximately 37-58 km, Drabon said, making it about 50-200 times the mass of the asteroid that wiped out the dinosaurs.

"The effects of the impact would have been quick and ferocious. The impactor hit with so much energy that it and whatever sediment or rock it hit vaporised. This rock vapour cloud and dust ejected from the crater would have circled the globe and turned the sky black within hours," Drabon said.

"The impact likely occurred in the ocean, initiating a tsunami that swept across the globe, ripping up the sea floor and inundating coastlines. Lastly, a lot of the impact energy would get transferred into heat, meaning the atmosphere started heating up so much that the upper layer of the oceans started boiling," Drabon added.

It probably would have taken a few years to decades for the dust to settle and for the atmosphere to cool enough for the water vapour to return to the ocean, Drabon said. Microbes depending on sunlight and those in shallow waters would have been decimated.

But the meteorite would have delivered a large amount of phosphorus, a nutrient for microbes crucial for the molecules central to storing and conveying genetic information. The tsunami also would have mixed iron-rich deep waters into shallower waters, creating an environment ideal for many types of microbes because iron provides them with an energy source.

THE SCIENCE QUIZ

Magnetism's moment in the sun

Vasudevan Mukunth

QUESTION 1

Particles like atoms have a property called spin, which can be said to point 'up' or 'down' at any given time. In a ferromagnetic material, the spins of all the particles are pointing in the same direction. But in X, the spins of adjacent particles alternate between 'up' and 'down'. Name X.

QUESTION 2

Sometimes, in nanoparticles of a X material (from Q1), a form of magnetism called Y appears. It causes the spins of the material's properties to randomly flip due to temperature changes. Y nanoparticles are highly susceptible to external magnetic fields. Name Y.

QUESTION 3

Say a material is exposed to a magnetic field. When the field strength is changed just a little, there is a disproportionately large change in the material. What is the magnetism of such materials called?

QUESTION 4

In 1920, Wilhelm Lenz posed a problem to his student Ernst Ising. Ising solved it in 1D in 1924, and Lars Onsager solved it in 2D in 1944. The solution is one of the simplest models to show a phase transition in magnetic materials. Name the model. Hint: It had a cameo in this year's physics Nobel Prize.

QUESTION 5

Since around 2019, scientists have been reporting a new form of magnetism called Z. It can be

described as a mix of ferromagnetism and X (from Q1) and has been reported in manganese telluride and ruthenium dioxide. Name Z.

Answers to October 22 quiz:
1. Bell-shaped curve described by Maria Agnesi – **Ans: Witch of Agnesi**

2. Discoverer of theorem linking symmetries to conserved quantities – **Ans: Emmy Noether**

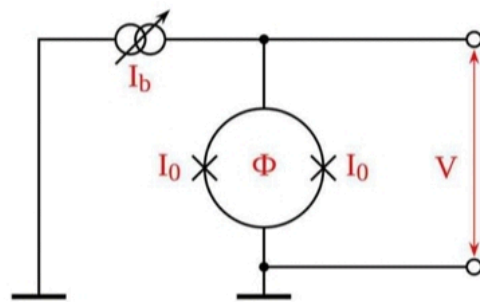
3. Mathematician who inspired the film *Hidden Figures* – **Ans: Katherine Johnson**

4. Theorem whose proof benefited from the work of Sophie Germain – **Ans: Fermat's Last Theorem**

5. Nurse who used mortality dynamics to identify causes of death during the Crimean War – **Ans: Florence Nightingale**

Visual: Maryam Mirzakhani

First contact: K.N. Viswanathan | Anmol Agrawal | Namdev Singh



Visual: This circuit shows the components of a device so sensitive to magnetic fields it may even detect the presence of a (hypothetical) magnetic monopole. I_0 and I_1 are the critical and bias currents, V is the voltage, Φ is the magnetic flux, and X is a Josephson junction. Name the device. **JAN CLAF**

For feedback and suggestions for 'Science', please write to science@thehindu.co.in with the subject 'Daily page'

Sharp practices

RBI right in reining in usurious micro lending

Opinions are divided on whether the Reserve Bank of India (RBI) was justified in its latest regulatory direction to four NBFCs (non-banking finance companies) asking them to 'cease and desist' from sanctioning and disbursing loans. Of the four NBFCs, two are microfinance players and two are investment and credit companies offering retail and MSME loans. RBI has cited their lending rates and spreads not being in line with its microfinance regulations and Fair Practices Code violations in support of its order.

In addition to their 'usurious' loan pricing, RBI has found the NBFCs not adhering to its income and asset classification norms, and not providing mandated disclosures to borrowers. While RBI has been criticised for being too harsh on the NBFCs, experience in the last couple of years suggests that it resorts to this extreme measure only when repeated warnings fail to yield results. Some new-age lenders do seem to take compliance rather lightly when it comes to chasing new segments of borrowers. RBI officials have warned lenders not to push the limits on unsecured retail lending.

However, if the NBFCs concerned are to take remedial action it is important for RBI to clarify what it considers 'usurious' on the pricing of loans. Prior to March 2022, there was very little ambiguity on this because RBI regulations had a clearly defined cap on microfinance loans (officially defined as collateral-free loans to households with less than ₹3 lakh annual income). The cap was set at a 10-12 percentage point margin over the lender's cost of funds or 2.75 times the base rate of the top five commercial banks, whichever was lower. In March 2022 however, noting that most lenders were treating the rate cap as an informal benchmark, RBI did away with the cap and mandated that lenders not charge 'usurious' rates. However, recent reports of some NBFCs extending loans at 40 per cent plus with additional penalties and fees, suggest that a section of the industry is flouting the spirit of this regulation. Nor has competition between lenders, as RBI hoped, helped lower borrowing costs for really needy borrowers. RBI should perhaps consider going back to explicit norms on lending rates for microfinance loans. Given that two of the NBFCs affected by its order are not microfinance lenders, RBI also needs to clarify if it is opposed to high rates only with respect to microfinance loans or frowns upon them for all borrowers. The latter may not be a tenable position. With savvier retail borrowers relying on loans for conspicuous consumption and risky activities such as derivatives trading, capping rates for all borrowers entails moral hazard. Lenders also need freedom to price loans to reflect default risks.

Finally, when putting out 'cease and desist' orders, RBI also needs to bear in mind that many NBFCs now raise retail money through the bond markets. Sudden business curbs on NBFCs with retail bond exposure can undermine confidence in this still-nascent market.

OTHER VOICES.

The Guardian

A Democratic government is the one we need

It is hard to imagine a worse candidate for the American presidency in 2024 than Donald J Trump. His history of dishonesty, hypocrisy and greed makes him wholly unfit for the office. A second Trump term would erode the rule of law, diminish America's global standing and deepen racial and cultural divides. Even if he loses, Mr Trump has shown that he will undermine the election process, with allies spreading unfounded conspiracy theories to delegitimise the results. There are prominent Republicans — such as the former vice-president Dick Cheney — who refused to support Mr Trump owing to the threat he poses. Gen Mark Milley, the chairman of the joint chiefs of staff under Mr Trump, calls his former boss a "fascist". America was founded in opposition to absolute monarchy. LONDON, OCTOBER 23

THE WALL STREET JOURNAL

What Real Russian Interference Looks Like

Vladimir Putin's meddling in the U.S. election won't matter to the result. But the same can't be said for Russia's neighbors, as the Kremlin interferes in the Black Sea nations of Georgia and Moldova. On Sunday Moldova held the first round of its presidential election, and voters also considered a referendum to amend the constitution to define European Union membership as a national strategic objective. The referendum passed 50.4% to 49.6%. Pro-Western incumbent president Maia Sandu led with 42.45% but failed to gain an outright majority. On Nov. 3 she'll face off against an opponent supported by the pro-Russian Party of Socialists. The first round was marked by what the European Network of Election Monitoring Organizations called "massive illegal foreign interference attempts" that included "large-scale vote-buying schemes". www.wsj.com, OCTOBER 22

Why 'network issues' persist in Indian telecom

SPECTRUM PRICING. The reserve prices need to be reduced for Mobile Network Operators to buy unsold spectrum



V SRIHAR
K MAHADEVAN

The recent performance report published by the Telecom Regulatory Authority of India (TRAI) indicates that the contribution of 4G and 5G data usage in total volume of wireless data usage are about 79.17 and 20.26 per cent respectively, indicating the huge uptake of these services.

However, the quality of service of even plain old telephony on our mobile networks continues to be very poor. We continue to get call drops, especially inside buildings and on highways. According to the recent Ookla Speed Test report, India slipped to 26th position in the average mobile broadband speeds with 92 Mbps and 8 Mbps as the downlink and the uplink speeds respectively.

The TRAI initiated Quality of Service (QoS) regulation in 2000 and revised the measurement and metrics in 2009, and 2012. However, despite these measures, the overall quality of experience often is not good enough for consumers. Realising the same, TRAI floated a consultation paper on developing new norms and metrics for mobile broadband service in 2023.

The most question is what is the root cause for the poor network quality?

The signal quality is often very poor in rural and remote areas due to the cellular tower in which the Base Transceiver Station (BTS — also called as eNodeB in case of 4G networks) is often far from the mobile handset. The signal quality drops as the distance increases.

Further, depending on the spectrum that is used, the propagation of radio waves inside buildings can also be very poor leading to poor signal quality, which in turn affects voice and data transmission. The high frequency radio waves often have poor propagation characteristic compared to low frequency spectrum (often referred to as sub 6GHz spectrum).

The Mobile Network Operators (MNOs) often use the two sides of the coin: spectrum and the BTSs to provide coverage and quality of service. If the spectrum held by the operator is less or the MNO does not have adequate low frequency spectrum, then they should deploy more cell sites and BTSs to cover a specific area.

However, the cellular towers and the associated radio equipment are capital intensive. Most of the MNOs often lease this access infrastructure from tower companies such as Indus Towers, which results in higher leasing and rental costs.

The MNOs do a trade-off between acquiring spectrum in the appropriate band versus the deploying cell sites and BTSs. This typically results in higher prices for the low frequency bands such as 700 MHz and lower prices for high frequency band such as 3.3 GHz and 26 GHz bands. The average winning bid prices of 700 MHz, 3.3 GHz and 26 GHz in the 2022 spectrum auctions were \$0.32, \$0.054, \$0.012 per MHz per capita. In Delhi, the reserve price for 700 MHz was \$1.84 per MHz per capita, much higher than in many countries.

One of the main factors determining the winning bid prices in spectrum auctions is the reserve price or the starting bid price at the beginning of the auction. In India about 2 X 35 MHz per Licensed Service Area and hence a total of 1,540 MHz was put on block in the spectrum auction held in October 2016.

However, due to no bidding activity in this band, possibly due to high reserve prices at an average of \$1.16 per MHz per capita, the whole lot went unsold. The subsequent auctions held in 2021 also witnessed no activity in this band. Finally, in the auction held in July 2022, about 2 X 10 MHz per LSA was picked up by one of the MNOs across all LSAs at an average winning bid price of \$0.32 which is equivalent to the reserve price in most of the LSAs.

However, the metro areas of Delhi, Mumbai and Kolkata witnessed a very high price of \$1.84, \$1.54, and \$0.74, respectively. In effect, a large amount of spectrum in this band has been unused for the last eight years! Further the 600 MHz band of which 1,320 MHz across the country was put into auction in 2022 remained unsold.

Hence, it is time to re-look at the reserve prices of these sub 6GHz bands in the future auctions. Research indicates that the number of cell sites required to provide equivalent geographic 5G speed coverage with 700 MHz is about one-fourth with that using the mid-band spectrum such as 1800 MHz.

The availability of 600 and 700 MHz at appropriate price points will encourage the MNOs to acquire enough spectrum for improving 5G penetration especially in rural areas. Even in urban areas, the low band spectrum can provide superior in-door coverage thereby augmenting the widely used mid band (3.3 GHz band).

It is time that we depart from the formula of fixing reserve prices based on the winning bid prices in the previous auction. This method provides no room for decreasing the reserve price. We can use Simultaneous Multiple Round Ascending (SMRA) auction, invented by the Nobel Laureates Milgrom and Wilson, with enough guard rails that is proven to induce "truthful bidding".

If we reduce the reserve prices to allow the methodology and the market to determine winning prices, we are sure to witness the MNOs picking up the yet unsold 600 and 700 MHz spectrum bands. Only then we will be able to realise the true benefits of 5G and beyond networks.



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Srihar is Professor, and Mahadevan is an MSc student at IIT-Bangalore

Long-term steps needed to control food inflation

From the supply side, farmers need remunerative prices through better post-harvest management and marketing support

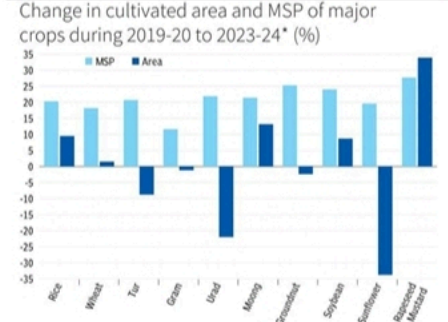
A Amarendra Reddy
Tulsi Lingareddy

India's food inflation, after decelerating to a 13-month low of about 5.4 per cent in July and 5.6 per cent in August 2024, once again jumped up to 9.2 per cent in September 2024. The apparent slowdown in food inflation during July and August 2024 was largely on account of high base effect in almost all sub-groups of the Consumer Food Price Index (CFPI). The inflation of vegetables returned to higher trajectory of 35.9 per cent in September 2024 from 6.8 per cent and 10.7 per cent registered in July and August 2024 respectively, as the high base effect diminished.

Persistence of high food inflation adversely affects vulnerable sections. On the supply side, farm output needs better policy support.

BEHIND HIGH FOOD INFLATION Inflation of cereals and products remained elevated in the range of 7 to 17 per cent for over two years, since August 2022. Further, prices of pulses and products recorded a double digit increase ranging from about 10-21 per cent since June 2023. Tur (red gram), chana (Bengal gram) and urad (black gram) have led this increase.

Similarly, prices of vegetables also registered a steep and persistent increase of more than 20 per cent during most months after July 2023. On the other hand, oils and fats witnessed a deflationary (negative inflation) trend since February 2023 supported by cheap imports with sharp reduction in import duty.



Source: Agricultural Statistics at a Glance 2023 *crop year

However, the inflation of oils and fats turned positive with a 2.5 per cent increase in September 2024. Further, the increase in customs duty on imports of edible oils with effect from September 14, 2024 may drive the inflation of oils and fats up in the coming months.

To promote domestic production, minimum support prices (MSP) of major pulses and oilseeds were increased significantly by more than 20 per cent, barring chana, during the last five years (see graph). But, only moong (green gram), rapeseed and mustard and soyabean witnessed expansion in their

cultivated area by about 13 per cent, 34 per cent and 9 per cent, respectively, while the rest of the major pulses and oilseeds posted a fall their area. Further, MSP of major pulses and oilseeds for kharif 2024-25 was increased by about 6-8 per cent but, the progress in their kharif sowing till October 7, 2024 indicated a limited increase in selected crops. Therefore, the impact of MSP on acreage is somewhat uncertain, while yields have not really risen.

The per hectare yields of major pulses and oilseeds including tur, urad, moong, soyabean and sunflower have remained

low and stagnant for over four decades compared to the rise in yields of major cereals, groundnut, chana and cotton. The cultivation of these crops is largely confined to un-irrigated and marginal lands. This kharif, area under pulses expanded modestly by 7 per cent, while that under oilseeds increased only by 2.7 per cent over the same period last year. Among major pulses, only tur and moong witnessed a significant increase, whereas urad registered an 8 per cent. Among oilseeds, only groundnut registered an increase in area by 9 per cent, while soyabean posted marginal increase of 2.5 per cent till October 7.

The apparent reluctance of farmers to shift for cultivation of oilseeds and pulses could plausibly be on account of uncertainties due to lack of procurement at MSP. Prices of oilseeds, particularly soyabean and sunflower have been falling steadily over the past two years, as evident from their wholesale price trends.

There is limited scope to expand pulses imports given their limited global availability. Requisite measures are needed to enhance crop yields with climate change resilient technologies and practices, while promoting optimal use of scarce natural resources like soil and water. It is equally vital to ensure that farmers receive remunerative prices by strengthening post-harvest management, marketing infrastructure and logistics.

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LETTERS TO EDITOR Send your letters by email to bleditor@thehindu.co.in or by post to "Letters to the Editor", The Hindu Business Line, Kasturi Buildings, 859-860, Anna Salai, Chennai 600002.

BRICS imperatives

United they may well be in their frustration with an omnipotent dollar, in reality each BRICS nation has prime bilateral relations with the US. And more importantly, each is entangled as much, in the resultant global politics.

There is need for caution. Now that BRICS has a central bank it may tempt the Bloc to position itself far too soon as an alternative to the dollar driven trade and bring into the equation the hitherto dormant monetary part of BRICS operations.

An early temptation to go in for a common trading currency would tilt the scale in favour of China whose opaque economy may not merit the tag of a stable tender for global transactions. BRICS would perhaps need to wait for couple of decades till it gains greater economic status.

R Narayanan
New Mumbai

Beware of China's games India's trust in China over agreements related to patrolling along the LAC has been cautious, given the historical context and recent tensions between the two nations. However, the news that the two neighbours have reached an agreement on patrolling along the LAC in eastern Ladakh leading to disengagement, is encouraging. While agreements and dialogues between India and China regarding the LAC can help avoid immediate conflicts and create mechanisms for disengagement, trust is fragile and deeply contingent on China's actions on the ground. India's past experiences, especially after the

Galwan Valley clash, have made it wary of fully trusting China's commitments. While being cautious, India cannot treat business as usual with China.

Gregory Fernandes
Mumbai

Boost to Kashmiri apples This is with reference to the article 'Boost to Kashmiri apples' (October 22). The government cannot afford to ignore the hardships faced by apple farmers. The authorities should improve infrastructure

including the transport system and roads so that the Kashmiri apples can move swiftly from Kashmir to various parts of India. The farmers should be given whole-hearted support so that they can make various other food items from the apples like juices, jams, jellies and other sweets so that the farmers earn extra revenue. By levying heavy import duties on apples, the authorities can help the Kashmiri farmers to sell their apples at a comparatively cheaper rate.

Venna Shenoy
Thane

In e-comm, trust is vital

Brands must meet evolving consumer expectations

M Muneer

Ever since the pandemic, the rise of online shopping has reshaped consumer habits globally, including in India. As the first wave of festival sales online has ended, this preference for premium brands, larger packs and surfing with intention to buy brands that are chosen but for better deals are all visible.

Looks like trust has emerged as the most valuable asset for brands aiming to capture the attention of cautious shoppers. With the online sales festivals, consumers are more careful about where they spend their money, seeking assurance of safety, reliability and value.

With the e-commerce sector expected to cross \$180 billion by 2025, brands need to adapt to the evolving expectations of consumers who are now more tech-savvy and information-hungry than before. The trust factor has become even more critical, as consumers actively research brands online before making purchases.

KPMG India reports that 65 per cent of Indian shoppers prefer to read reviews or search for product ratings before buying online. Moreover, consumers in Tier 2/3 cities are more likely to rely on digital platforms and e-commerce websites to evaluate a brand's trustworthiness.

WINNING TRUST
How many brands can win trust when it comes to online sales? They must adopt comprehensive plans to go beyond simple advertising. Here are some effective steps:

Emphasise authentic reviews: A Local Circles survey found that 82 per cent of Indians look for authentic reviews and feedback before making online purchases, especially during the festive season when buying decisions peak. For brands, collecting and displaying reviews on third-party platforms such as Amazon, Flipkart, or niche product review platforms have proven to be crucial. Ensuring these reviews are recent and credible builds a trustworthy online image.

Engage actively with feedback: Brands engaging with both positive and negative feedback tend to have stronger consumer nodes. A 2022 EY report on consumer behaviour suggests that 72 per cent of shoppers feel more connected to brands that promptly address their concerns, especially when dealing with delivery issues, returns, or exchanges. Effective responses



REVIEWS. Key in online sales

turn negative situations into positive experiences.

Enhance online service: A Forrester study indicates that poor customer service remains a sore issue with customers for cart abandonment — 47 per cent consumers cite it as a critical issue. Brands need to invest in customer service infrastructure — multilingual support, live chat, and quick query resolution. This can enhance their service quality perception.

Leverage SEO and Google seller ratings: Strong ratings and reviews, combined with robust search engine optimisation (SEO), will have a direct impact on consumer trust. Brands using structured data for SEO and integrate Google Seller Ratings get higher visibility and more clicks.

Showcase reviews on product pages: Such displays will have a major impact on purchasing decisions. A Nielsen study points out that 58 per cent of consumers are more likely to buy a product if they see positive user-generated content on product pages.

In recent years, issues such as sustainability, ethical sourcing, and CSR have gained traction. The Indian Retail Industry Report says that 54 per cent of urban shoppers prefer brands that demonstrate a commitment to ethical practices, such as fair wages, eco-friendly packaging, and community support.

A 2022 PwC report suggests that brands using sentiment analysis tools to assess customer feedback can make timely interventions to mitigate negative experiences. In addition, predictive analytics enables companies to foresee purchasing trends and adjust their marketing plans accordingly, thereby enhancing trust.

In the virtual marketplace where trust is the ultimate luxury, those brands that build it will reign supreme.

The writer is a Fortune-500 advisor, start-up investor and co-founder of the non-profit Medico Institute for Innovation



ADIKESAVAN S

Finance Minister Nirmala Sitharaman recently emphasised that banks will play a pivotal role in making India a "developed" nation by 2047. The vision of a Viksit Bharat, centred on economic growth, social progress, and good governance, places Indian banks at the heart of these initiatives.

Banks' participation in India's economic growth must come from their own balance sheet growth. The more deposits banks accumulate and the more they lend, the greater their contribution to national growth. Due to the clean-up of both corporate and banks' balance sheets, and the institutionalisation of the IBC, which empowers lenders, Indian banks are now better positioned to fuel the country's growth trajectory. With growth rates projected at over 7 per cent, and potentially 8 per cent, India is on course to becoming the third-largest economy by 2027.

However, catching up with China — the world's second-largest economy — will take much longer. A simple logarithmic calculation reveals that even if India were to grow at twice the rate of China, it would take about 37 years for their economies to reach parity, given that China's economy is currently about four times the size of India's. That said, India's recent growth rates offer hope.

One of the underappreciated outcomes of India's growth is the significant expansion of its financial institutions, with a few surpassing international organisations like the World Bank and the IMF in size. This remarkable achievement has not garnered the public attention it deserves.

Traditionally, the Bretton Wood twins, led by the West, were seen as financial giants to whom the Global South turned for assistance in times of crisis. India was no exception. In 1991, India had to secure an emergency credit of \$2.2 billion from the IMF by pledging 67 tonnes of gold as collateral to tide over a forex crisis. This remains a ranking memory.

Fast forward to today, India's foreign exchange reserves are nearly \$700 billion, making it the fourth-largest reserve holder, just behind Switzerland with \$800 billion. Simultaneously, the balance sheets of Indian financial institutions have grown impressively. As of June last year, the World Bank's balance sheet stood at \$347 billion, while India's largest lender, the State Bank of India (SBI), boasted a balance sheet of \$807 billion. Even the second

Our banks must be big, strong, global

EXPAND REACH. Indian banks now are larger in size than the World Bank and IMF. They should grow further and expand their footprint in the Global South



largest bank by size in India, HDFC Bank, has assets of \$430 billion. For context, the IMF's balance sheet was around \$560 billion.

India's financial muscle has also enabled it to extend international assistance. Last year, India extended a \$1 billion loan to Sri Lanka through SBI, while the IMF and other global lenders took two years merely to reschedule Sri Lanka's existing loans. Notably, India's assistance came sans any conditions that would compromise Sri Lanka's economic sovereignty. IMF loans often come with stringent standard conditions born out of the "Washington Consensus". Recently, Kenya, a struggling African nation, received a \$3.7 billion loan from the IMF, but with typical conditions of tax hikes and subsidy cuts, sparking widespread unrest.

As India prepares to become the

For India to be taken seriously on the global financial stage, at least three to four Indian banks must rank among the top 20 global banks within the next 15 years

world's third-largest economy and a "developed" nation by 2047, several key questions arise: How should India position itself as a global power? How can its financial institutions support the country's ascent to economic leadership? And can India create an independent financial support system for smaller economies in the Global South, providing an alternative to the IMF/World Bank model?

NECESSARY CONDITIONS

There are at least three necessary conditions to be fulfilled for India to establish itself as a leading global economic power.

Expansion of Indian financial institutions: First, Indian banks must grow in size and influence. Currently, the world's four largest banks by asset size are Chinese, far ahead of Western banks like JPMorgan Chase and HSBC. SBI and HDFC Bank do not figure in the top 30. For India to be taken seriously on the global financial stage, at least three to four Indian banks must grow their assets (mainly domestically) to rank among the top 20 global banks within the next 15 years. With the economy expected to grow at 7-8 per cent annually, credit growth, (including lending to infrastructure by the large banks) will need to accelerate by 15-16

per cent in nominal terms, driving corresponding balance sheet growth.

Supporting Global South economies: Second, India must increase its financial assistance to countries in the Global South, particularly in Africa. China has expanded its international influence through institutions like the China Development Bank and the China Investment Corporation. Similarly, India will have to either through the government or a sovereign wealth fund, provide development assistance in the form of grants, soft loans, and technology transfers. Without such initiatives, India's rise may not bestow corresponding relevance.

Ensuring economic inclusivity: Last, India must ensure that the benefits of development are shared equitably. This means not only focusing on wealth creation but also job creation to raise incomes across all sectors of society. A truly Viksit Bharat can only be realised when "economic democracy" is achieved, lifting millions out of poverty and into the fold of national progress.

With thoughtful strategies and bold moves, Indian banks and financial institutions can help the country achieve its vision of becoming "developed" by 2047.

The writer is a commentator on banking and finance

thehindubusinessline.

TWENTY YEARS AGO TODAY.

October 24, 2004

Subrata Roy enters elite club with Boeing

A local circles survey found that 82 per cent of Indians look for authentic reviews and feedback before making online purchases, especially during the festive season when buying decisions peak. For brands, collecting and displaying reviews on third-party platforms such as Amazon, Flipkart, or niche product review platforms have proven to be crucial. Ensuring these reviews are recent and credible builds a trustworthy online image.

NTPC gets coal block for captive consumption

After two years of negotiations, the National Thermal Power Corporation (NTPC) has finally been awarded a coal mining block for captive consumption by the Coal Ministry. NTPC can now control the fuel cost for a new power plant, which constitutes around 50 per cent of the tariff.

World oil price at new highs

World oil prices vaulted to record highs, stirring fears of \$60-a-barrel New York crude, as traders sweated over tight US energy stocks and rampant, China-driven demand. New York's main contract, light sweet crude for delivery in December, set a record \$55.50 a barrel and finished at a record settlement of \$55.17, up 70 cents on the day, on Friday.

Parshwati Saha

It has been a spectacular growth story for the Indian sugar industry over the last decade. Let us go back in time to trace the process. In 2012, the industry was semi-decontrolled. The Rangarajan Committee set up by the then government to look at the long-term sustainability of the sector made several key recommendations. One of the key reforms was dismantling the levy obligation for sourcing PDS sugar at a price below the market price.

The Indian Sugar and Bio-energy Manufacturers Association (ISMA), formerly known as the Indian Sugar Mills Association, played a significant role in shaping public opinion. The positive effects of the reforms started reflecting soon. However, it faced yet another challenge.

Through the efforts of sugarcane farmers and the sugar mills, the country witnessed surplus sugar production from the 2010-11 sugar

season, with seasons 2017-18, 2018-19 and 2020-21 seeing bumper sugar production.

The annual sugar production of the country outpaced the total annual sugar consumption requirement, leading to over-availability of sugar. Excess supply led to reduced prices, straining revenues while costs related to sugarcane payments soared, causing financial constraints to the industry.

BIG CHALLENGE

The game-changing moment for the industry arrived when the government announced the ethanol blending programme.

Although the programme faced initial hiccups due to pricing and infrastructural issues, measures announced by the government in 2018 fast-tracked the programme and gave a strong impetus to the indigenous production of ethanol biofuel.

The programme faces an important challenge of achieving 20 per cent



PRICING POLICY. Must be consistent

blending within the next two years. Monsoon uncertainties and the persistent debate about food vs fuel have forced the government to take a more conservative approach and balance food security with ethanol production.

This was evident last year when the overall sugar production estimate for the country had to be lowered due to initial scanty monsoon rains over Karnataka and Maharashtra. In

response, the government imposed curbs on the production of ethanol from sugarcane juice and 8-heavy molasses, and imposed a complete ban on sugar exports.

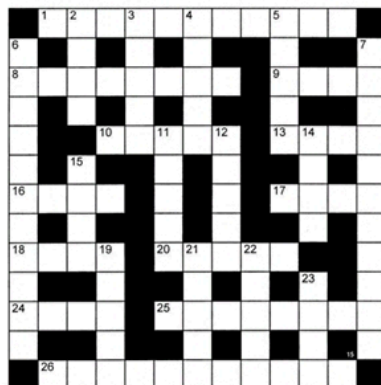
Going forward, it is crucial to ensure the steady availability of raw materials and feedstocks for the ethanol programme. The industry is working hard to increase cane acreage in the country so that the cane crop is assured.

With rising sugarcane prices and incremental cost of ethanol production, the sugar industry expects a higher procurement price for the ethanol to be supplied by the mills. This will provide the desired quantity of ethanol to progress towards the target of 20 per cent ethanol blending.

A consistent ethanol pricing policy that compensates the ethanol production costs incurred by sugar mills is the need of the hour.

The writer is a journalist and former sugar industry official

BL TWO-WAY CROSSWORD 2554



EASY

ACROSS

1. Slain (11)
8. Made an expressive sign (8)
9. Stronghold (4)
10. Contradiction, opposition (5)
13. Boy's name; old Irish blood fine (4)
16. Second-hand (4)
17. Let fall (4)
18. Be at an angle (4)
20. Was not awake (5)
24. Talk as though delirious (4)
25. Mockery (8)
26. Former newspaper centre (5,6)

DOWN

2. Ultimate (4)
3. Normal (5)
4. Parts of shoes (5)
5. Firearm spirally grooved (5)
6. Land cultivation (11)
7. Accumulating reserves (11)
11. Wrong, out of order (5)
12. Item of gym apparatus (5)
14. Thin, very uncommon (4)
15. Bring to the ground (4)
19. Subject for discussion (5)
21. Vegetable related to onions (5)
22. Previous; friars' head (5)
23. Grape-derived drink (4)

NOT SO EASY

ACROSS

1. Killed off as myth in the Southeast started dwindling (11)
8. Made signs that urged set of variations (8)
9. Trading-post full of rather tasty starters (4)
10. Opposing walls colliding for a pound in ready money (5)
13. Little by little, a boy was fine in Ireland (4)
16. Took advantage of one as one was wont in the past (4)
17. Don't go on with a bit of liquid medication (4)
18. Be inclined to take part in the lists (4)
20. Was perhaps dreaming of first love among seven in France (5)
24. Enthusiastic review thrown out on leaving Verona (4)
25. One is rid of disruption caused by mockery (8)
26. Where journalists were quick to put setter straight (5,6)

DOWN

2. A model of the foot that should endure (4)
3. Normal part for Santa Claus, unless he's upset (5)
4. Cads one kicks back out of the scrum (5)
5. Plunder an infantryman's best friend? (5)
6. True garlic grown with uranium as a rural pursuit (11)
7. What's in store mounting up as one is amassing weaponry (11)
11. There's something wrong with a schoolteacher (female) (5)
12. This sense of heroin is common (5)
14. It isn't easy to find meat so underdone (4)
15. Lost one's balance or one's heart (4)
19. It is to be developed as article the writer is given (5)
21. Vegetables that look smooth and glossy head-to-tail (5)
22. There's a name for an ecclesiastic in a previous sense (5)
23. Drink one will get in in opposite directions (4)

SOLUTION: BL TWO-WAY CROSSWORD 2553

ACROSS 1. Portable 4. Afar 8. Rid 9. Piper 10. Rib 11. Swollen 12. Pleat 13. Pilot lights 17. Paths 18. Watcher 20. Run 21. Irons 22. Don 23. Seek 24. Adultery

DOWN 1. Parish 2. Radio 3. Lupin 5. Ferment 6. Rebate 7. Propagates 9. Pillow-slip 14. Intense 15. Spares 16. Brandy 18. Wooded 19. Hedge