



Learning lessons

Flight crew all over the world need better training for rare emergencies

The grim footage of a Boeing 737-800 sliding across the runway at Muan airport, to end as a fireball extinguishing 179 lives, will forever be a reminder of an air crash that holds important lessons for everyone from airport authorities to aviation regulators to airline pilots. Jeju Air flight 7C2216, on a scheduled flight from Thailand's Suvarnabhumi airport, was on approach to Muan international airport in South Korea's southwestern corner after air traffic control cleared its landing on the single runway. There was also a caution of bird activity. The airfield's environs — an oceanic setting, with also some wetland — are known to host a variety of avian life. The airport uses non-lethal and lethal bird scare techniques during operating hours. From that point on, the aircraft transitioned from what seemed a stable approach to a phase of multiple issues, with "mayday, mayday, mayday, bird hit" being one such call by the crew who were in apparent distress. The go-around and subsequent landing have led aviation experts to raise questions about the responses by the crew and also that of air traffic control. The touchdown, with the landing gear up, had the crippled craft hurtling on its fuselage and engines, and impacting a concrete structure at the runway end housing ground-based landing aids. In focus is the 'unusual concrete wall', which the Korean authorities have said is 'found in other airports in Korea', and was built according to the country's code. Whether this follows ICAO's Annex 14 (Standards - Aerodrome) will need investigation. Some accident investigators have called this the key factor that trumped operational safety, overwhelming the 'flapless gearless' landing.

The accident, South Korea's worst in decades, comes amidst a political crisis. However, the new acting President, Choi Sang-mok, seems to be steering the response with a task force in place and the authorities having been instructed to review aviation operations and inspect airline fleets. The Ministry of Transport's highlighting of several issues would need a thorough probe, especially with representatives from the U.S.'s NTSB, the FAA, and the aircraft manufacturer, Boeing, on board. Boeing will again find the spotlight back on its workhorse, the 737. While the accident is the first for Jeju Air, a popular 41-jet budget airline, air safety in South Korea is generally considered to be of industry best practice. Every accident has its lessons, and for India too, with air travel on the rise, there must be a thorough review of every aspect of crew training as well as of runway safety at its 157 operational airports.

Stay out

Any external interference in Georgia will entail great harm

The inauguration of Mikheil Kavelashvili, a former football player, as the President of Georgia, could deepen the political crisis in the Caucasian country which has seen back-to-back street protests and crackdowns. Mr. Kavelashvili, a conservative leader and a critic of the West, was opposed by the country's opposition and his predecessor Salome Zourabichvili. Ms. Zourabichvili, who had said earlier that "there would be no inauguration" of Mr. Kavelashvili, announced her leaving office "voluntarily", slamming his swearing in as "a parody". She later joined opposition protests outside Parliament. The latest spell of the crisis goes back to the October legislative elections. The ruling conservative Georgian Dream party, with a foreign policy that was sceptical of the West and a call for stronger ties with Russia and China, won. The opposition, which said the elections were fraudulent, demanded a re-election, but the Georgian Dream went ahead with government formation. Among those who denounced the legitimacy of the elections was the pro-western Ms. Zourabichvili. A sitting President's support for anti-government protests challenging the veracity of the polls was a testimony to the deep political divisions. But underdetermined, the ruling party picked Mr. Kavelashvili as President under a new system of electoral college, consisting of lawmakers from Parliament and other regional and local assemblies.

The crisis in Georgia looks like a political tug of war between a ruling party and its opponents. But the actual situation is more complicated. Georgia, a former Soviet Republic, is strategically important, sharing a border with Russia. In 2008, months after it was promised NATO membership, Russia invaded it in the name of defending two breakaway regions. Leaders in Tbilisi have generally been pro-western. But this trend changed with the rise of Georgian Dream, founded in 2012 by billionaire businessman Bidzina Ivanishvili. Tbilisi's rapprochement with Moscow was not received well in western capitals. When allegations of election fraud emerged, the West immediately backed the opposition. In November, amid tensions with the West, the Georgian government suspended talks to join the EU until 2028, triggering more street protests, reminiscent of the 2014 pro-western Maidan protests in Ukraine. Last week, the U.S. imposed sanctions on Mr. Ivanishvili. Georgia's rulers say the West is pushing the country into a conflict with Russia which they do not want. They also point out that the country's Constitutional Court has rejected a lawsuit filed by Ms. Zourabichvili, seeking the annulment of the election results. Georgia's politicians should resolve the differences among themselves. They should be mindful of the tragedy of Ukraine and seek common ground in bringing the political crisis to an end. The best external players can do is to stay out of Georgia's politics.

2024 — the politics of singularity and beyond

The year 2024 began with the inauguration of the Ram Temple in Ayodhya, which was a culmination, Uttar Pradesh Chief Minister Yogi Adityanath said at the event, of a long anticipation, "We have waited for 500 years," he said. As 2025 begins, we see the Rashtriya Swayamsevak Sangh (RSS) chief Mohan Bhagwat facing resistance from co-travellers of the Sangh Parivar for emphasising the singularity of Ayodhya for Hindutva. "The Ram temple was a matter of faith and Hindus felt that it should be built... Raising issues about some new sites out of hate and enmity is unacceptable," Mr. Bhagwat had said on December 20, 2024, responding to several claims over more religious places. Many allies of the Parivar questioned this premise soon after, and asserted that a reclamation of all alienated Hindu sites was non-negotiable. What we are witnessing is a conflict between the Sangh Parivar's desire to stabilise itself as the natural platform of governance and the power of the politics it created which is increasingly not in its control. It is the politics of anticipation, which ignores culmination.

Parties that and leaders who mobilise people to question the existing order through civil disobedience, and even sabotage, want order, discipline and hierarchy as soon as the set goal is achieved. The founding leaders of the Republic said, as soon as Independence was won, that there would be no place for civil disobedience any more. But then, new political ideas and new political entrepreneurship come into play, and new movements take shape.

On anticipation

Looking forward is a more evocative act for the human mind than looking back, psychological experiments reported in the *Journal of Experimental Psychology* suggest. People relate more intensely to emotional events that are expected in the future than those that happened in the past. Anticipation of something — it could even be a negative thing — is more engaging than retrospection about a past event. But for the human bias for anticipation in comparison with retrospection, there would be no yearning for progress, and there would be no politics or religion. It is anticipation that drives political and religious action (for instance, Christians wait for the second coming of Jesus), and the Bharatiya Janata Party (BJP) has used this psychology to the maximum benefit. *Ram Lalla Ayenge*, *Bhavya Mandir Banayenge* (roughly translated as, Infant Ram will arrive, the majestic temple will be built) was the slogan of the Ayodhya movement; the slogan that catapulted it as the dominant party in 2014 was 'Aachech Din Aamey Waley Hain - Good days are arriving'. Anticipation is set against the backdrop of retrospection in political campaigns



Yarghese K. George

— what is coming is to reclaim, avenge or/and change the past. The intense emotional energy of the masses behind the Ayodhya agitation was built on an extraordinary anticipation-retrospection frame. The arc of time it proposed to cover was five centuries into the past and a millennium into the future, in contrast with the five-year terms of governments. Speaking at the inauguration of the temple, Prime Minister Narendra Modi said it was the beginning of an epoch of 1,000 years.

Claim of singularity, election results

The temple inauguration was suggested as a moment of singularity of space, time and community. "The temple has been built where we had resolved to build it," Yogi Adityanath said, alluding to another slogan that had animated its supporters since the 1980s — "*mandir wahin banayenge*". This meant the temple would be built at the exact spot believed to be the birthplace of Lord Rama, replacing a masjid that stood there. Ayodhya was to be the Hindu nation what Mecca is to Muslims, and Jerusalem is to the Jews and Christians. "All roads lead to Ayodhya," said Yogi Adityanath. "All minds are united in the thought of Sri Ram." Now that its political power is consolidated, the RSS possibly wants to bring the revolution to an end, and establish order. "There is no need to look for a *shifting* in every mosque," Mr. Bhagwat had already said in 2022.

But this claim of singularity was challenged, during the 2024 general election by a new anticipation that swelled among the subaltern caste groups. The fear that the BJP might use any massive parliamentary majority to roll back the reservation policy of the country by amending the Constitution spread like wildfire in the heartland of Hindutva, and stopped the BJP short of a majority in the Lok Sabha. The retrospective component in this context is the history of caste oppression. A temple was meant to unite all minds, but the fear of reclamation of the old social order through an end to reservation drove many subaltern voters away from the party.

Though the BJP tripped on the caste quota question in the general election, it remained largely in control of the narrative in 2024. The party's expansive anticipation-retrospection plane that spans centuries, allows it to sidestep the 'promise vs performance' paradigm that traps incumbents between two consecutive elections. All Opposition parties are caught in an extremely unfavourable anticipation-retrospection frame — for instance, a plurality of voters in Uttar Pradesh and Bihar appear to be fearful of the return of the Samajwadi Party and Rashtriya Janata Dal, respectively. Looking forward, and looking back far enough, the voters could be inclined towards the BJP than its opponents, and this is

particularly true for the Congress. Though the party has been out of power for 10 years in Delhi and more in States such as Gujarat, it is still bearing the burden of its earlier decades in power. Its retrospective political capital, as the party of the freedom struggle, has long been exhausted, and its call for a national caste census has created no intense anticipation among the target group. In the retrospective frame for the Congress, voters see the Emergency, the 1962 war with China, and the dynasty, but not the agricultural revolution or the communication revolution. Though 2024 was a bad year for incumbents worldwide, the BJP and Mr. Modi fared quite well. Anti-incumbency is stronger against the Opposition parties, it appears. The BJP won a third consecutive term at the Centre, but with reduced strength, and it has managed to stay in power in the two crucial States of Maharashtra and Haryana, in the recent Assembly elections.

Parties and their challenges

The capacity of the RSS/BJP to sketch out a retrospection-anticipation plane comes from a willingness to constantly introspect. The BJP recovered from the setback in Uttar Pradesh and Maharashtra in the general election and launched a new campaign of Hindu unity — *batenge to katenge*, i.e. divided (along caste lines), you will be slaughtered, and *ek hain to saf hai*, i.e., you are safe when you are united". It went on an overdrive to reassure the OBC/Dalit voters that reservation would never cease. Meanwhile, its opponents lulled themselves in triumphalism and complacency after the general election and failed to interpret the results correctly in order to build on them. The party that won the 2024 elections went back to its constituents in panic mode; and the ones that lost went into a prolonged season of self-congratulation. The setback to the BJP in the general election, in hindsight, was more an irritant in the long arc of Hindutva than a rupture.

But that does not mean the BJP can take its popularity or success for granted. Hindutva, unlike monotheistic religions, promotes multiplicity and circularity and has an innate resistance to singularity — of faith, leader or even god. For the Sangh Parivar, the challenge is the beginning of 2025 — which is also the 100th year of the RSS — lies in taming the mutinous anticipation among its supporters who are searching for new sites to project it; and the anxiety among the subaltern social groups about its long-term plans for oneness. For the Congress, the challenge is to build a politics of anticipation, and shift the retrospective frame of the public to a favourable angle.

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COP29, climate finance and its optical illusion

Finance has been a major point of climate change negotiation since the launching of the United Nations-led climate change negotiations in 1991, producing the United Nations Framework Convention on Climate Change (UNFCCC) 1992, Article 4 (7) of the UNFCCC clearly says "that the extent to which the developing country Party will be fulfilling their climate action commitments is contingent on how much finance and technology they get from developed country Parties".

The Paris Agreement relates, in Article 9(i), the provision relating to finance, binding the developed countries to mobilise finance for the developing countries. The sixth assessment report of the Intergovernmental Panel on Climate Change (IPCC) has described finance, capacity-building and a transfer of technology as critical enablers of climate action in developing countries in the backdrop of anthropogenic greenhouse gas emissions responsible for 1.1° Celsius of warming (above what it was in 1850-1900) in 2010-20.

Falling short

In pursuance of their responsibility, the developed countries agreed in 2009 that they would collectively mobilise \$100 billion a year by 2020. The \$100 billion mark, met by the developed countries only in 2022, does not match the growing needs of climate finance corresponding to the developing countries' nationally determined contributions (NDCs).

Second, the mark has been considered in many reports to be well-short of estimated finance to fund the actions needed across different sectors to keep the average global temperature rise within 1.5° Celsius by the end of this century. The 29th Conference of the Parties (COP 29) meeting at Baku, Azerbaijan, in November 2024, was meant for the Parties to the Paris Agreement to have a New Collective Quantified Goal on Climate Finance (NCQG), replacing a \$100 billion floor and laying a new floor taking into account the needs and the



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priorities of developing countries to tackle the climate crisis.

In response to persistent demand by all the major negotiating groups belonging to the developing south that the developed north mobilise \$1.3 trillion by 2030, the developed north agreed to release only \$300 billion per year by 2035. The \$300 billion mark ignores the estimation by the UNFCCC's Standing Committee on Finance (SFC) relating to the annual financial needs of developing countries, which it derived from their NDCs. As in the SFC's estimation, the financial needs stand at between \$455 billion-\$584 billion. Even these figures cover around half of the 5,760 costed and non-costed needs identified by 98 developing countries in their NDCs (Third Report of the Independent High-level Expert Group on Climate Finance, November, 2024).

The decision on the NCQG makes reference to the financial needs of those particularly vulnerable to the adverse effects of climate change such as the least developed countries (LDC) and small island developing states (SIDS). But the NCQG does not make minimum allocation floors for the LDCs and SIDS.

During the meeting, the Alliance of Small Island States demanded the allocation of \$39 billion for SIDS while the LDC demanded at least \$220 billion for them. It appears that the first-ever Global Stocktake (GST) in consonance with the Paris Agreement in 2023 also failed in influencing the cause of loss and damage concern in the NCQG. In the GST estimation, economic costs are estimated to reach \$447 billion-\$894 billion per year by 2030.

India and the NCQG

India's perspective on the delivery of climate finance from the developed north to the developing south is derived from equity frame expressed in the principle of common but differentiated responsibility and respective capability. It is notable that India joined the Montreal Protocol to protect the ozone layer from

further depletion, which led to setting up of a multilateral fund of \$240 million, including an additional \$80 million for use in India, China and other eligible low-income Parties. During COP29, India specified that the new floor should mobilise \$1.3 trillion by 2030, of which at least \$600 billion should come in the form of grants and concessional resources. On other major agenda items, mitigation work programme, just transition work programme and GST, India's representative called for an adequate provisioning of finance and other means of implementation to fulfil them. India's submission of NDC next year is contingent on a decision relating to finance (Earth Negotiations Bulletin, November 22, 2024).

India has expressed its extreme disappointment on the adoption of the NCQG in its present form, shape — which was without its consultation. It made serious objections against the COP29 presidency and the Secretariat in the way it was finalised — which is at the expense of trust, collaboration and in contravention of the UNFCCC's norm, on an issue which is a creation of the developed north but which affects developing countries more. India outrightly rejected the NCQG. It also added that this NCQG expects the developing world to mobilise resources. In India's view, the paltry sum will influence the ambition and the implementation of its NDC.

What the developed north must do

The pith and substance of the Paris Agreement are the NDCs. In expecting the developing south to bring out more ambitious NDCs relating to the mitigation of greenhouse gases and implementing the same effectively, it is equally important on the part of the developed north to raise their scale and quality of climate finance and also make sincere efforts in putting in place a coherent climate finance architecture.

This will ensure adequate, directly accessible and affordable climate finance to the developing countries.

LETTERS TO THE EDITOR

Manmohan Singh
A truly fitting tribute to former Prime Minister Dr. Manmohan Singh would involve both the Bharatiya Janata Party and the Congress setting aside their differences to honour his legacy. Dr. Singh, a paragon of statesmanship, and known for his calm demeanour and unwavering

commitment to the nation, deserves commemoration that reflects his stature. A powerful demonstration of respect would be for each politician who has publicly lauded Dr. Singh to pledge to emulate one of his admirable qualities in their own service to the country.
V. Nagarajan,
Chennai

During my years in college, I had the privilege of participating in the Model United Nations, where I often played the part of Dr. Singh. While researching his life and work, I was deeply inspired by his humility, wisdom and statesmanship. Dr. Singh is a shining example of how education can be a transformative tool

— not only for individuals but also for society as a whole. He stands as a testament to the power of knowledge and character in shaping history. I am confident that history will remember him with the kindness and the respect that he truly deserves.
Harmanbeer Singh Waraich,
Ludhiana, Punjab

The passing of Dr. Singh ends an extraordinary chapter in India's political and economic narrative. As a statesman par excellence, he leaves behind a legacy that transcends politics and economics, embodying the value of humility, integrity and dedication to the nation. His life and career were marked by his

unwavering dedication to public service, his profound economic acumen, and his humble demeanour. History will judge him kindly, for he exemplified the best of India's spirit.
R. Sivakumar,
Chennai
Letters emailed to letters@thehindu.co.in must carry the full address.

The geopolitics of platform-publisher tussles

Last month, *The Australia Today's* coverage of External Affairs Minister S. Jaishankar's visit was discussed less for its substance and more for being inaccessible on Facebook in Canada. Coming on the back of diplomatic tensions between India and Canada, where Mr. Jaishankar's interview and joint press conference, covered in *The Australia Today*, inaccessible in Canada due to a nudge by the Trudeau government? Or was it part of Meta's strategy to block news on social media platforms in Canada?

Some argue that this is a casualty of Canada's approach to mitigate asymmetries between all-pervasive platforms, such as Facebook and Google, and news publishers, such as *The Australia Today*. The blackout has less to do with the politics of foreign policy and more to do with the politics of Meta's corporate strategy. Mostly, it has to do with the geopolitical ramifications of developments in Canada's media policy.

Let's start with the actors involved. Platforms facilitate publishers to reach a very large audience, and publishers offer platforms a stream of content to incessantly engage users. In this seemingly symbiotic relationship, only platforms know the true popularity of the news distributed to their users and therefore, the incremental advertising revenues trickling in from the content produced by publishers. Platforms are also known to change the metrics to gauge popularity and audience preference. These problems raise questions about transparency, accountability, and parity in the dealings between platforms and publishers.

Governing frenemies
In June 2023, Canada devised a bargaining framework for platforms to duly remunerate news outlets. The resultant Online News Act (ONA) sought to protect publishers from losing income that is justifiably due to them from Meta and Alphabet. These platforms are legally obliged to fashion commercial agreements



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with one or a group of publishers. If either party disagrees, a bargaining process ensues with the involvement of a mediator. If no agreement is arrived at despite this, each party can propose a final offer, and an arbitration panel is empowered to choose which offer becomes binding.

Canada was the second country to move on this matter, after the Australian initiative of 2021, known as the 'Bargaining Code'. While concerns over the financial health of local news websites led to the enactment of the ONA, the Bargaining Code has been criticised for legitimising a mechanism that safeguards the interests of giants in the news business. After initial opposition, Meta and Google negotiated deals with many, but not all, Australian news outlets.

In Canada, Google complied with the ONA by agreeing to pay publishers and journalist associations. Meta adopted a contrary route: from August 2023, it foreclosed news offerings on its platforms, Facebook and Instagram, in Canada. However, web pages of journalists can still be accessed on both platforms.

Since the ONA does not define a news website, Meta decides which is a news site and which is an opinion or community site. For instance, *Baaz*, a Canada-based news outlet catering to the Punjabi and Sikh diaspora, was inaccessible for a while on Facebook and Instagram. After it switched to Substack, a subscription-based platform, and rechristened defined itself a 'community page', *Baaz* became visible on both platforms.

Interrupting global flows

Following the uproar over Mr. Jaishankar's interview, Meta maintained that it blocks news in Canada, irrespective of its geographical origins. However, the editor of *The Australia Today* pointed out that prior to the interview, the content of the site was visible, suggesting that Meta restricted the site around the time the interview was posted. Such experiences render Meta

vulnerable to criticism of selective compliance with the ONA.

The unavailability of the Jaishankar interview on Facebook in Canada also uncorks the geopolitical ramifications of national media policy. Regulations in Australia, Canada, and Indonesia have tackled the imbalances between platforms and publishers, as seen in their respective news markets.

Consequently, they vary in normative considerations, policy priorities, and institutional design. Recently, Australia disincentivised platforms which refrain from, or do not renew, agreements with publishers. Its News Bargaining Incentive (NBI) policy proposes to penalise platforms harvesting revenue of \$250 million and more and failing to finalise agreements. This is to ensure, *inter alia*, that Meta does not replace its Canadian strategy in Australia, since earlier this year, it had announced plans to discontinue paying news outlets there. What is interesting is that the NBI also incentivises platforms by offsetting payments to publishers against some of their fiscal liabilities in Australia.

How is India tackling publisher-platform asymmetries? Since 2022, the Competition Commission has been inquiring into the conduct of platforms, following pleas by news associations. We don't know if their efforts factor in geopolitical dimensions of the matter. If the policy paralysis continues, India's news outlets will continue to be devoid of fair shares of online advertising revenues, and vulnerable to the whims of the Alphabet-Meta duopoly.

Meanwhile, structural censorship, seen in the Jaishankar interview case, could recur. It will proliferate if Meta replicates its Canadian strategy in the U.K., South Africa, and Germany, where fair compensation regulations are being evolved. If so, interviews by Indian Ministers to news outlets in those countries will be inaccessible on Meta's platforms there. Therefore, policy pundits must weigh in urgently on fair compensation.

The pulls and pushes in J&K

Despite the LG's posturing, Omar Abdullah is seeking to reconcile with Delhi

STATE OF PLAY

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The first elected government of the five-year-old Union Territory (UT) of Jammu and Kashmir seems to be struggling to settle even more than two months after coming to power. The all-powerful Lieutenant Governor, Manoj Sinha, one of the few politicians to occupy the seat in J&K, and Chief Minister Omar Abdullah, the National Conference (NC) leader who is riding high on his second best electoral victory in the past three decades, have been at loggerheads in the last few weeks.

It is becoming more and more evident that Raj Bhavan and the Chief Minister's Office are not just two power centres but two different ideological forces. On November 27, Mr. Sinha paid tribute to former Finance Minister, Girdhari Lal Dogra, on his 37th death anniversary. Speaking at a well-attended function, Mr. Sinha remembered Dogra, a former NC leader from Jammu, as a

"multifaceted personality who contributed immensely to the welfare of poor and marginalised sections of our society". However, just about a week later, he turned down a proposal by NC to reinstate an official holiday marking the birth anniversary of Sheikh Muhammad Abdullah, the founder of NC. He also decided against paying tribute or issuing a customary message for the leader, who ratified the Instrument of Accession with India in 1948.

After assuming office in 2020, the LG had dropped Sheikh Muhammad Abdullah's birth and death anniversary from the official holiday list and instead included Dogra monarch Maharaja Hari

Singh's birthday. Abdullah represented the progressive democratic forces of pre-1947 who revolted against Sinha.

In fact, most elected Bharatiya Janata Party (BJP) leaders prefer to seek the LG's intervention on governance issues rather than the Chief Minister's Office. The tension between the Raj Bhavan and the Chief Minister's Office is also evident from the fact that Mr. Sinha and Mr. Abdullah are yet to be seen together at any public or official function, except the swearing-in ceremony and the J&K Assembly.

The absence of business rules has made matters worse. The Jammu and Kashmir Reorganisation Act, 2019, gives power to the LG to make rules with the 'aid and advice of the Council of Ministers'. However, the process is yet to be finalised and has impacted governance.

In the absence of business rules, the LG's decision to unilaterally extend the terms of two vice chancellors of two universities raised eyebrows in the Chief Minister's Office, which said that the LG office was "dumping the institution of consultation". NC legislator and former High Court Judge Hasnain Masoodi said, "The mandate has to be respected and the institution of consultation must be in place".

Earlier last month, Mr. Abdullah's decision to retain advocate D.C. Raina as Advocate General of J&K was shot down by Raj Bhavan. Similarly, the LG's move to transfer Vishesh

Mahajan, a J&K Administrative Service officer, as director of tourism was not accepted by the Chief Minister's Office. Such tit-for-tats have become the new normal in a region that requires a delicate handling of situations, given the sense of alienation on the ground. The friction may also cast a shadow on the people's growing faith in the electoral process.

With the LG also invoking Article 311 to terminate two government employees for "anti-national" activities, the space for Mr. Abdullah has been squeezed further. In fact, his party had promised to review such cases in its manifesto. Raids against suspects from the National Investigation Agency and the J&K Police spreading "malicious, seditious propaganda" have also gained pace. The LG controls law and order in J&K.

Facing a formidable LG, who is resetting the rules of both governance and politics in J&K, Chief Minister Abdullah is repositioning himself. He has sought to tread the path of reconciliation between Srinagar and New Delhi. Mr. Abdullah has met the top leadership of the BJP, including Prime Minister Narendra Modi, Home Minister Amit Shah, and Defence Minister Rajnath Singh, and pleaded the case for full Statehood for J&K.

Recently, he said that the Congress will have to justify its leadership role in the INDIA bloc, instead of "taking it for granted". He also dismissed the Congress's objections to electronic voting machines, arguing that the party's stance on the issue is inconsistent. He also praised the Central Vista project in the capital.

These remarks reflect Mr. Abdullah's attempt to position himself as a rational and pragmatic politician who is ready to engage with New Delhi.

India among 25 nations with high religious restrictions

Pakistan, France, Israel, Nigeria, Egypt, Sri Lanka, Nepal and Maldives were also part of that list

DATA POINT

The Hindu Data Team

On an index measuring religion-related hostilities for 2022, India scored the highest among 198 nations, according to a report recently published by the Pew Research Center. A higher score on the social hostilities index (SHI) indicates greater levels of religion-related harassment, mob violence, terrorism, militant activity, and conflicts over religious conversions or the use of religious symbols and attire. India scored 9.3 on a scale of 10 on the SHI. Scores above 7.2 are considered 'very high'.

The report also assessed countries based on the government's restrictions on religion, using the government restrictions index (GRI). The GRI measures laws, policies, and actions that regulate or limit religious beliefs and practices. These include policies banning particular beliefs or practices, the unequal granting of benefits to certain religious groups, and bureaucratic rules requiring religious groups to register to access benefits. India had a 'high' GRI score of 6.4 out of 10 in 2022. Scores above 6.6 are classified as 'very high'.

Chart 1 plots the GRI (horizontal axis) and SHI (vertical axis) scores of 198 countries for 2022. The higher a country is on the chart, the more it experiences religion-related hostilities by non-government players. The farther to the right, the more government restrictions there are on religions.

Only 12% (25 countries) had 'high' or 'very high' GRI scores and SHI scores in 2022: India, Nigeria, Syria, Pakistan, Iraq, Egypt, Afghanistan, Israel, Libya, Palestinian territories, Ukraine, Bangladesh, France, Jordan, Iran, Sri Lanka, Somalia, Tunisia, Indonesia, Yemen, Laos, Nepal, Algeria, Maldives, and Armenia. In about

62% of the countries, including Canada and South Korea, the GRI and SHI scores were 'low' or 'moderate'. In 16% of the countries, the GRI was 'very high' or 'high', but the SHI was 'low' or 'moderate'; these include Cuba and China. In 10% of countries, the GRI was 'low' or 'moderate', but the SHI was 'high' or 'very high'. These include Brazil and the Philippines.

The number of countries with 'high' or 'very high' SHI scores rose to 59 (30% of 198 countries) in 2022 from 55 in 2021 (Chart 2). In 2007, when the index was started, only 40 nations (20%) had 'high' or 'very high' scores.

The number of countries with 'high' or 'very high' SHI scores rose to 45 (23% of all countries analysed) in 2022 from 43 countries in 2021 (Chart 3). In 2012, 65 countries had 'high' or 'very high' scores — the highest share (33%). Harassment by governments — a broad measure encompassing verbal and physical pressure by authorities on religious groups — was among the most prevalent types of restrictions in 2022. It was reported in 186 of the 198 countries and territories studied (94%).

Government interference in worship was also widespread in 2022 and was reported in 170 countries and territories (86%). This includes policies and actions that disrupt religious activities, such as withholding permission to worship or denying access to places of worship. It also covers restrictions on religious practices and rituals not directly tied to worship, such as burial practices.

Chart 4 shows the number of countries where there was government harassment of religious groups and government interference in worship. The report said that government restrictions and social hostilities often align closely, i.e., the lower the score on one index, the lower the score on the other too generally, and vice-versa.

Shades of intolerance

The data for the charts were sourced from the Pew Research Center's report titled "Government restrictions on religion stayed at peak levels globally in 2022"



Chart 1: The GRI (horizontal axis) and SHI (vertical axis) scores of 198 countries for the year 2022. The higher a country on the chart, the more the religion-related hostilities by non-government players

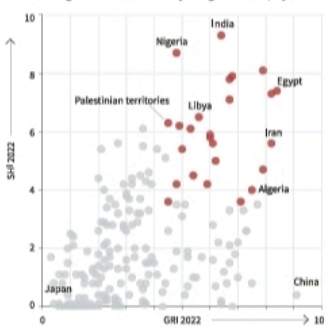


Chart 4: The chart shows the number of countries where there was government harassment of religious groups and government interference in worship. 186 nations Government harassment of religious groups, 170 nations Government interference in worship

Aftermath: A Muslim man watches from his house after a shop was demolished in communal violence during a Hindu religious procession in New Delhi's Jahangirpuri on April 20, 2022

Chart 2: The share and number of countries (in bold) with high or very high GRI score over the years

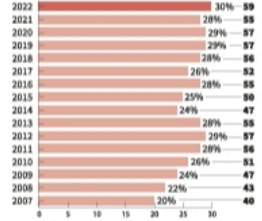
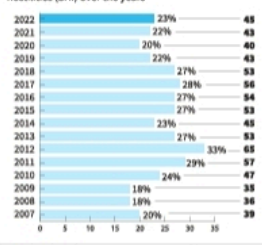


Chart 3: The share and number of countries (in bold) with high or very levels of religion-related hostilities (SHI) over the years



FROM THE ARCHIVES The Hindu

FIFTY YEARS AGO JANUARY 1, 1975

India and Portugal end two decades of confrontation

New Delhi, Dec. 31: The treaty signed by India and Portugal to-day has, in the words of the two Foreign Ministers who put their signatures to this historic document, buried two decades of confrontation and established the basis for friendly co-operation between them.

The first article of the treaty says, "Portugal acknowledges that the territories of Goa, Daman, Diu, Dadra and Nagar Havel have already become parts of India, and hereby recognises the full sovereignty of India with effect from the dates when they became parts of India under the Constitution of India."

An official announcement was made simultaneously about the resumption of diplomatic relations at the Embassy level between the two countries with effect from 16-00 hours IST to-day. The two countries decided to dispense with the formality of waiting for the ratification of the treaty for beginning this new and happier chapter in their relations.

The two countries have further agreed under this treaty to settle through bilateral negotiations all outstanding questions concerning property, assets or claims of their respective citizens, and matters relating to the property and assets of either side in the territories of the other State.

The treaty provides for a similar settlement of the rights and claims of Indian citizens and other persons who returned to India from territories under Portuguese administration in regard to the properties and assets left behind by them.

A HUNDRED YEARS AGO FROM THE DECEMBER 31, 1924 AS THERE WAS NO ISSUE ON JANUARY 1, 1925

Communists arrested

Bukharest, Dec. 28: Following the recent arrests of Communists (see cable of Dec. 23rd) the police have captured documents showing the existence of three organisations supported by the Soviet Government together with complete proofs of their relations with similar organisations in Moscow, Vienna, Berlin, Sofia and Athens. 230 out of 430 persons arrested are being held for trial and remaining 200 are being deported.

FROM THE ARCHIVES



The Tricolour at the Hyderabad House in Delhi. SUSHIL KUMAR VERMA

India must protect and preserve its hard-won freedoms

The Tricolour must remind us of the composite culture which makes us a great democracy. We must resolve to never let our freedoms be robbed by authoritarian arrogance or allow fomented hatred to undermine the unity of the Indian people. That is the best tribute we can pay to our flag

Manmohan Singh

Former Prime Minister Manmohan Singh passed away at the age of 92 on December 26. In this article, dated August 15, 2022, Mr. Singh warns Indian citizens to hold as precious the unity, freedom and diversity which makes India a truly unique democracy.

The world's largest democracy is soon to become the most populous country on earth. Therefore, the celebration of 75 years of Independence brings a special responsibility to set global standards in the protection and the promotion of individual and collective freedoms. While every Indian will proudly salute the flag as it flies high, the Tricolour must also remind us of the composite culture which makes us a uniquely great democracy in the world. On this historic occasion, we must resolve to never let our freedoms be robbed by authoritarian arrogance or allow fomented hatred to undermine the unity of the Indian people. That is the best tribute we can pay to our flag.

A unity that is precious

India emerged from the chokehold of colonial rule to build a nation from a wide scatter of British-ruled territories and princely States. This unity did not magically materialise overnight. It was the freedom struggle, inspired by Mahatma Gandhi and led by the Indian National Congress, which united Indians across the land to seek an end to foreign rule. This movement united Indians across multiple identities of language, religion, caste, gender and social status. That unity is precious to India and should not be frittered away through communally divisive, linguistically chauvinist, callously casteist and gender insensitive campaigns that will fragment the Indian identity. Such plays may pay temporary political dividends, by setting Indians against Indians, but they will create craters on

India's path to progress as a great nation.

We were robbed of our riches by colonial rule and began our life after Independence as a poor developing country. We rose from that level to become one of the world's leading economies, whose growth is essential to the stability of the global economy. The policy of economic liberalisation, initiated in 1991, had a galvanising effect on our economic growth. At the same time, poverty reduction and the bridging of economic inequalities became a cardinal principle of public policy. As we pursue the path of inclusive economic growth, we should not permit only a select few among India's business leaders to reap the benefits of prosperity while income gaps keep widening.

Flag divisive politics

Jobless growth is not a safe bet for any economy. Unemployment not only does not permit the optimal use of our human resources but also creates the breeding ground for social discord and divisive politics. As we move ahead towards the next 25 years of independent India, we must aim to optimally utilise the demographic dividend of a young population through education, skilling, suitable employment and support to young entrepreneurs and innovators. This requires easy mobility across the country for education and employment. Communal and linguistic barriers will hinder such mobility and adversely impact growth. Captains of Indian industry must recognise this danger and raise their voice for national unity, not remain mere spectators when divisive politics are posing a threat to the economy.

Uphold scientific tradition

India adopted excellence in science as a path to progress since the early years of Independence. The national science policy was forward looking. Great institutions of scientific learning and

research were established. India's various institutes of technology have won world renown, with many of their graduates leading global enterprises of repute. Our space, oceanography and nuclear programmes have placed us in a select group of nations whose scientific prowess and technological excellence are respectfully acknowledged by the whole world. It would be unfortunate if our scientific institutions, universities and research bodies are undermined through the induction of sub-optimal leadership, whose given mandate is to pursue cultural revivalism at the cost of academic integrity. India has had a proud scientific tradition since ancient times, but that should not become the camouflage for pseudo-science that brings discredit to our scientific community.

In the comity of nations, India won respect for adopting principled positions, opposing colonial rule, leading the Non-Aligned Movement when two power blocs were seeking global domination, espousing human rights and promoting the cause of peace. Our relations with most of our neighbours were cordial. Even when we had conflicts with some, we tried to build bridges of understanding to enable peaceful co-existence. We need to maintain these positions, even as the world witnesses new conflicts and alliances. It is essential for us to be regarded as a reliable and respected friend in most countries of the world, but especially in South Asia. We should not let our foreign policy wobble through dependence on personalised gestures for the camera but follow clear-headed initiatives through wise leadership supported by able diplomats.

Well-being of the young

India must focus on enhancing the health, education and skilling of young persons. The recent National Family Health Survey (NFHS-5) reminds us that stunting, under-nourishment and anaemia continue to afflict a large percentage of

our children and women in the reproductive age group. We need to ensure that the nutrition-specific programmes deliver, even as we advance nutrition-sensitive policies in other sectors, especially water and sanitation.

COVID-19 revealed several weaknesses in our health system. From disease surveillance to provision of health care, we need to strengthen the capacity of health services. There are marked differences in the capacity and performance of health systems across different States. It is essential that States invest more in health and also that centrally sponsored programmes aim to provide greater support to States whose health indicators are lagging. Providing needed health services to all persons, with adequate financial protection, must be the goal of universal health coverage. We must achieve this uniformly across the whole country.

For the citizen to ponder over

As a young boy of 14, I experienced both the exhilaration of newly gained independence as well as the painful tragedies that marred the country's partition. I hoped that India would grow strong as a nation without ever again having to experience such discord. Today, I am proud of what India has achieved and am optimistic about the future of this great nation. However, I am also worried about the sectarian slogans and communal slurs that are vitiating social harmony and dividing the people. Alongside, there is also a weakening of institutions which must safeguard democratic freedoms, uphold norms of good governance and shield electoral politics from the onslaught of money power and co-opted state agencies. It is for the citizens of India to protect and preserve the hard won gains of our freedom. Let each one of us reflect on that duty as we raise and salute our flag.

Dr. Manmohan Singh was Prime Minister of India from 2004 to 2014.



ABSTRACT

How corruption spurred growth in China

Prashanth Perumal

Widespread corruption is often seen by economists as a major reason why many countries remain poor. But some have argued that not all corruption is bad. One among these is Singaporean political economist Yuen Yuen Ang who is known for her 2020 book *China's Gilded Age: The Paradox of Economic Boom and Vast Corruption*. Ms. Ang argues that corruption can be good or bad for economic growth depending on the reason why bribes are paid. If bribes are paid just as a form of extortion where the person paying the bribe gains nothing in return for the bribe that he or she pays, this can act as a drag on economic growth. Ms. Ang classifies this form of corruption as petty theft or grand theft depending on the scale at which it happens. Such theft hinders growth.

Corruption can be good

On the other hand, if bribes are paid to gain access to rights or resources that are under the control of the elite or non-elites, this can lead to faster economic growth at least in the short run. This is because, in many cases, bureaucratic rules and other barriers restrict free access to resources and the freedom to exchange resources, and in such cases corruption can help ease access and promote economic freedom, thus boosting economic growth. Ms. Ang calls this form of corruption as speed money or access money. It should be noted that while this form of corruption can "grease the wheels" of the economy, such growth is likely to be far from ideal. For example, since not everybody may be capable enough to influence government officials with bribes, we are likely to see the rise of a few large business groups, causing greater economic inequality. A system where there is the opportunity for free entry without the need to bribe public officials will lead to more rapid economic growth that is also more equitable. Ms. Ang argues that China managed to witness rapid economic growth despite vast corruption because most corruption in the country was in the form of access money rather than petty or grand theft.

In a recent paper named "A political economy analysis of recent growth slowdown in West Bengal," Debajit Jha, Jagadish Prasad Sahu and Parinita Singh use Ms. Ang's classification of corruption to explain the economic slowdown in West Bengal. The authors state that West Bengal's growth rate began to slow down after the Trinamool Congress came to power in 2011, with the average growth rate becoming lower than the national average. Most of this growth slowdown, they argue, has been due to the underperformance of the large non-farm sector (manufacturing and construction) which constitutes about 80% of the State's GDP and has been plagued by petty theft by the 'syndicate raj' run by the ruling Trinamool Congress. The farm sector, in contrast, has done relatively better as the corruption in this sector is in the form of access money that helps economic growth in the short term.

THE DAILY QUIZ

Happy New Year to all our readers! A quiz on calenders which are/were used in India

Serish Naniseti

headed the committee?

QUESTION 1

According to India's national calendar, used for all Indian gazette notifications and official communications of the government of India, which is the first day of the year?

QUESTION 2

Prime Minister Pandit Jawaharlal Nehru set up the Calendar Reform Committee under the Council of Scientific and Industrial Research to devise a national calendar in 1952. Who

QUESTION 3

How many different calendars did the committee examine before selecting Vikram Samvat as the standard for the national calendar?

QUESTION 4

Which Iranian poet and philosopher was also an astrologer, and devised the rules for the leap year?

QUESTION 5

The unified 'National Calendar' (the Saka Calendar) was adopted for use with effect from March 21, 1956 A.D., that is, 1 Chaitra 1878 Saka. What does Saka refer to?



Visual question:

An Indian crime caper is roughly based on this American movie and stars Shah Rukh Khan.

Questions and Answers to the previous day's daily quiz: 1. In 2014, this Malaysian Airlines flight disappeared and this one was shot down over Ukraine. **Ans: MH370 and MH17**

2. This football club lost eight players to an aviation accident in 1958. This Brazilian football club lost 19 players in 2016. **Ans: Manchester United; and Chapecoense**
3. The feature shared between Mangaluru and Kozhikode airports which played a part in two accidents. **Ans: Table-top runways**
4. The location where Saudi Arabian Airlines flight 763 collided mid-air with Kazakhstan Airlines flight 1907. **Ans: Charkhi Dadri in Haryana**

5. The pilot who managed to save all lives on board after his aircraft experienced engine failure. **Ans: Chesley "Sully" Sullenberger**
Visual: Name this airport. **Ans: Tribhuvan Airport, Kathmandu**
Early Birds: Dodo Jayaditya Rajmohan Velayudhan; Viswanadha Rao Batchu; Jagrati Shukla; M. Suresh Kumar

Word of the day

Condone:

excuse, overlook, or make allowances for; be lenient with

Synonym:

excuse

Usage:

We should not be seen as condoning violence.

Pronunciation:

newsth.live/condonepro

International Phonetic Alphabet:

/kənˈdoʊn/

For feedback and suggestions for Text & Context, please write to letters@thehindu.co.in with the subject 'Text & Context'

Text & Context

THE HINDU

NEWS IN NUMBERS

India's fiscal deficit from April to November

8.47 In trillion rupees. The country's fiscal deficit for April-November was 52.5% of the estimate for the financial year. Total government expenditure for the period was 27.11 trillion rupees. Net tax receipts for the first eight months of the FY were at 56% of the annual target. **IN**

Number of Indian startups with at least one woman director

73,000 The Indian startup ecosystem experienced a rollercoaster ride in 2024, with a slight decline in funding activity and a shift in investor sentiment, alongside a silver lining with several startups achieving unicorn status. **IN**

Monthly honorarium under Pujari Granthi Samman Yojana

18,000 In ₹. A group of priests staged a protest outside the Pracheen Hanuman Mandir in Connaught Place and demanded that Arvind Kejriwal should clarify why no financial support was provided in the last 10 years. **IN**

The area advanced by Russian forces in Ukraine

3,985 In square kilometres. Russia advanced by 3,985 square kilometres in Ukraine in 2024, seven times more than in 2023. Much of their gains came in autumn, as they took 610 sq kms in October and 725 sq kms in November. **AFP**

The applications disposed of during government campaign

3 In crore. Nearly three crore service delivery applications were disposed of during the Prashasan Gaon ki Ore campaign aimed at further ensuring ease of governance mainly at the grassroots level. The campaign was conducted in 700+ districts across India. **IN**

COMPILED BY THE HINDU DATA TEAM

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The nature of dissent in the Indian judiciary

The dissents of the U.S. Supreme Court are largely based on the political inclination of judges, who are direct appointees of the President, confirmed by the Senate. Indian judicial dissents have, however, varied from political, to social to purely intellectual disagreements

LETTER & SPIRIT

Shivani Vij

Dissent is an important facet of a true democracy. While this is true for citizens in the republic, or parliamentarians in the legislature, it is also true for judges of a constitutional court. India and the U.S. are two strong democracies with opinionated judiciaries. Though dissents in the Indian Supreme Court (SC) are as powerful as the U.S. Supreme Court (SCOTUS), their reasons differ.

The dissents of SCOTUS are largely based on the political inclination of judges, who are direct appointees of the President, confirmed by the Senate. Justice Stephen Breyer, for instance, an appointee by the Democrats, has shown himself to be pro-affirmative action, pro-abortion and against capital punishment. His dissent in *Glossip versus Gross* (2015) held that capital punishment violated the Eighth Amendment of the Bill of Rights, which prevented inhumane and degrading punishment. Justice Samuel Alito, on the other hand, a Republican appointee, is both anti-abortion and anti-gay rights. His dissent in *Obergefell versus Hodges* (2015) reasoned that the Constitution did not address the right to marry of same-sex couples and therefore, the courts could not grant it.

Indian judicial dissents have, however, varied from political, to social to purely intellectual disagreements.

Political dissent

Unlike the U.S., Indian judges are not appointees of the ruling party and are selected through a collegium of senior judges. Their decisions do not have a similar political undertone and may or may not associate with the view of the ruling party that was in power when they were appointed.

In the case of *ADM Jabalpur* (1976), four out of five judges held that the enforcement of fundamental rights,



ISTOCKPHOTO

including Article 21, remained suspended during the national emergency under Article 359. The majority judgment was the politically sound one at the time. Justice H.R. Khanna, however, withstood the political pressure of the time, dissented and reasoned that if Article 21 remained suspended, there would be no recourse to deprivation of life and liberty, albeit in emergency. His resolve to keep 'rights' intact amidst a turbulent India, strengthened his voice on the Bench and also became the law later by a constitutional amendment to Article 359.

Another example of this could be found in the *P.V. Narasimha Rao* (1998) case, where the question was if accepting bribes for voting in Parliament was covered under parliamentary privilege, and whether it enjoyed immunity from prosecution. The majority said yes, but Justices S.C. Agarwal and A.S. Anand

dissented. The majority view reflected the political atmosphere at the time and was favourable to the ruling Congress party. However, the dissent endured and later became the view of the court in *Sita Soren* (2023), where the SC overruled such an expanded view of immunity.

Dissent which is social

A dissent could also reflect a different social understanding or implication of a legal issue. In *Shayara Bano* (2017), the SC dealt with the constitutionality of the 'triple talaq' as a form of divorce among the Sunnis in Islam. Justices J.S. Khehar and Abdul Nazeer dissented with the majority, which struck down triple talaq for violating the rights of life of Muslim women. The two judges reasoned that the triple talaq was an integral part of the Sunni personal law and not violative of constitutional rights. Further, it was not

for the courts to determine its constitutionality, since it is only the legislature that can intervene in socially unacceptable practices in different religions.

The decision in *Aishat Shifa* (2022) also displayed a discordant understanding of religion. This case did not have a dissent but had two separate opinions. The question was whether the State could prohibit Muslim girls from wearing a hijab to school by enforcing a universal dress code. Justice Hemant Gupta was of the view that secularism permitted the State to do so since religion was a private affair, which had no space in classrooms of a State-run school. Justice Dhulia, on the other hand, disagreed and considered 'diversity', 'plurality' and 'tolerance' as values underpinning the Constitution. This disagreement stemmed from different understandings of secularism.

Intellectual critique

A dissent could also be plainly intellectual, like that of Justice B.V. Nagarathna in *Lata Prasad Vaish* (2024), the industrial alcohol case. Here nine judges of the SC determined whether States have the legislative competence to tax 'industrial alcohol', or does only the Centre have the authority. Disagreeing with eight judges, Justice Nagarathna said that States could not tax industrial alcohol. The disagreement was on the interpretation of the term 'intoxicating liquor' under Entry 8 of List 2 in the Seventh Schedule of the Constitution. The majority believed that this legislative entry was broad enough to include liquor unfit for human consumption, and therefore industrial alcohol. States could therefore tax it. This reasoning did not sit well with Justice Nagarathna, who opined that industrial alcohol is used for manufacturing purposes and cannot be subsumed within 'intoxicating liquor', which is liquor for human consumption. The difference of opinion was solely on the interpretation of the text of the Constitution—an intellectual one. Shivani Vij is a lawyer practising in Delhi.

THE GIST

Unlike the U.S., Indian judges are not appointees of the ruling party and are selected through a collegium of senior judges.

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A dissent could also be plainly intellectual, like that of Justice B.V. Nagarathna in *Lata Prasad Vaish* (2024), the industrial alcohol case.

Are former Prime Ministers mandated memorials?

What was the Congress party's demand with respect to the funeral and memorial of former Prime Minister Manmohan Singh? Is there any rule regarding memorials for former PMs?

Vijlata Singh

The story so far:

Former Prime Minister Manmohan Singh passed away on December 26. The Union Ministry of Home Affairs (MHA) declared seven days of State mourning and announced a state funeral for the dignitary. Mr. Singh was cremated at the Nigambodhi Ghat in central Delhi, a first for any former PM. The Congress party said it was an 'insult' that a separate place was not allocated by the government for the funeral of the former PM. The Congress party demanded that a memorial be built at the designated place where the cremation took place.

Is there a rule related to memorials? While guidelines exist for State funerals, there is no specific rule or government order regarding allocation of space for

memorials for former PMs. According to constitutional expert P.D.T. Achary, there was a departure in the case of Mr. Singh. "As far as I know, there is no such rule. The convention is that former PMs have been cremated at designated places and in this case there is a departure. They cremated him at a place where anybody can be cremated even a common man. In our country though everyone is equal before the law, in society, a former PM has a status and especially a person like Manmohan Singh who was also globally respected," Mr. Achary said.

What has been the trend in the past?

Except P.M. Vishwanath Pratap Singh, all other former PMs have memorials dedicated to them, mostly in Delhi and other parts of the country. P. V. Narasimha Rao got a memorial in his name at Ekta Sthal in Delhi in 2015, 10 years after his death in 2004. In Delhi, the

samadhi of Jawaharlal Nehru is known as Shanti Vana. Lal Bahadur Shastri's memorial is known as Vijay Ghat, that of Charan Singh's is Kisan Ghat, Indira Gandhi's memorial is at Shakti Sthal, and Rajiv Gandhi's memorial is known as Vir Bhumi. In 2013, due to paucity of space, the Congress government decided that all memorials will be built at Smriti Sthal.

Who maintains the memorials?

According to a reply furnished by the Culture Ministry on December 11, 2012 in Lok Sabha, the memorials of various personalities are maintained by the respective State Governments and local municipalities. "However, the Central Government through the Ministry of Urban Development is looking after the upkeep and maintenance of the Samadhis adjacent to Rajghat, New Delhi, Morarji Desai's Samadhi at Abhay Ghat at Ahmedabad and the Rajiv Gandhi

Memorial at Sriperumbudur (Tamil Nadu)," the reply stated.

What is the Congress's demand?

On December 27, Congress president Mallikarjun Kharge wrote to Prime Minister Narendra Modi, requesting the Union Government to identify a designated place where the last rites of the departed leader could be held and a memorial built thereafter. Despite the request, the cremation was held at Nigambodhi Ghat on December 28. Following an uproar, the MHA released a press statement on December 27 at 11.45 pm. It stated that the government received a request to allocate space for a memorial for the former Prime Minister. "Immediately after the Cabinet meeting, Home Minister Amit Shah communicated to Congress President Kharge and the family of Late Dr. Manmohan Singh that the Government will allocate space for the memorial. In the meanwhile cremation and other formalities can happen because a Trust has to be formed and space has to be allocated to it," the statement said. Till December 30, the memorial for Mr. Singh had not been announced. Atal Bihari Vajpayee who passed on August 16, 2018 was cremated at Smriti Sthal, and a memorial came up at the same place within 45 days. The memorial was funded by the 'Atal Smriti Nyas Society'. It was built at a total cost of ₹10.51 crore which was borne entirely by the society.

THE GIST

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Challenges of a complex world

From Delhi, 2025 looks both promising and challenging. For much of the world, Donald Trump's presidency presents a major X-factor. There are important opportunities for India to exploit, but it will still have to confront some hard realities from 2024, especially in its relations with China, the US, and Canada

SHUBHAJIT ROY
LOOKING AT
2025
DIPLOMACY

TWO ONGOING wars, regime changes in India's neighbourhood and in West Asia, and a phenomenal return to the United States presidency by Donald Trump in 2024 foretell a fascinating 2025 geopolitically. Trump is the biggest X-factor as seat belts are fastened in world capitals for the next four years.

From New Delhi, 2025 looks promising and challenging. India will host the Quad leaders' summit and a possible India-EU summit. Prime Minister Narendra Modi could travel to China for the SCO summit, and President Vladimir Putin is expected to visit India. A Modi-Trump meeting is likely sooner than later in the year.

On the last day of 2024, here are the hard realities from the year gone by, and the opportunities and challenges that the new year will likely present.

THE HARD REALITIES

Donald Trump 2.0

The most consequential election in the world returned Trump to the office he left early in 2021. American Presidents usually get back-to-back terms, with no opportunity to see the impact and consequences of the first four years from outside the Oval Office.

Trump has come back after a break, more confident and possibly wiser — and has announced nominees for all key appointments long before inauguration day on January 20. His declared intentions of ending ongoing wars and imposing steep tariffs on trade rivals of the US have piqued curiosity and anxiety in many countries.

India's neighbourhood

Important countries in India's neighbourhood got new governments in 2024.

BANGLADESH: Weeks of sustained street protests drove Sheikh Hasina from power after 16 years, and forced her to flee to India. The new establishment under Chief Adviser Muhammad Yunus has asked New Delhi to send her back, even as his interim government itself faces heat on the struggling economy, and for failing to protect religious minorities in Bangladesh.



Illustration: Sanjiv Dey

SRI LANKA: The leftist politician Anura Kumara Dissanayake, who does not belong either to the traditional mainstream parties or the political elite that has ruled Sri Lanka from the beginning, was propelled to the presidency by mass disaffection that had brought down the government of Gotabaya Rajapaksa in 2022. The way the new President deals with the political aspirations of the Tamil minority will be important.

MALDIVES: Almost a year after Mohamed Muizzu came to power on an anti-India plank, New Delhi was able to secure a visit — and some positive signalling — from him in early October 2024.

NEPAL: KP Sharma Oli, whose pro-China stand has not been comforting to India, became Prime Minister for the fourth time in July. His alliance with Sher Bahadur Deuba's Nepali Congress, however, has had a calming influence.

SEVERAL UNCERTAINTIES

The war in Ukraine

President Volodymyr Zelenskyy has indicated that he is ready for talks with Russia, but as the war nears the end of three years, the possible terms of engagement with President Putin remain unclear.

The cost of peace will be the big question and the key challenge that negotiators from the US, Russia, Ukraine, and Europe must engage with. China will have a say in the nego-

tiations, and India could play an important role as a neutral venue or a go-between among the Russians and the US-led West.

But New Delhi will evaluate whether it does want to play a role, what it can bring to the table that others can't, and what happens if it doesn't succeed. Putin's visit to India for the annual summit will be watched closely.

With China, reasons for hope

After the breakthrough in the disengagement process, New Delhi and Beijing have signalled they are discussing both border issues and other steps to normalise ties impacted by almost five years of the standoff in Ladakh. Some 50,000-60,000 troops continue to be deployed along the border, and a drawdown could happen in the summer of 2025.

India will be closely watching the next steps of de-escalation and de-induction of troops before it yields on the economic and visa restrictions that it has placed on Chinese businesses. Much will depend on whether Beijing keeps its end of the de-escalation bargain, and whether Indian soldiers are indeed able to patrol till the pre-2020 patrolling points, and local villagers can access their traditional grazing grounds.

The trust deficit remains high, and it will take a long time and a lot of effort to repair the damage. Prime Minister Modi's possible visit to China for the SCO summit will be key to the effort. Before that, Modi might meet with President Xi Jinping at the BRICS summit in Brazil in July.

No engagement with Pak

The doctrine of indifference towards Pakistan continues, with India not agreeing to play cricket in that country. The public rhetoric has been muted, but bilateral engagements have not picked up yet.

Bangladesh's Yunus has suggested a revival of SAARC, but the idea seems to be a non-starter. New Delhi is firm that talks and terror cannot go together, and the attacks in the Jammu region have reinforced that red line.

New leaders in Europe

There will be fresh elections in Germany in 2025. France is battling with political instability, and the rise of the far right will not be reversed — it could be only a matter of time before these groups come to power in both countries.

The increasingly shrill debate on immigration will cast a shadow on Indians and others looking to study, live, and work in Europe. This issue is likely to come up as India and Europe negotiate a free trade pact.

The United Kingdom, which took a strong position on immigration under the Conservative government, is also negotiating a trade pact with India, and it will be interesting to see whether the sticking points are addressed by the British negotiators. An India-EU summit is in the works as well.

Africa: push for engagement

An engagement with Africa may be a new

area in Indian foreign policy this year, and both sides have been trying to find a mutually convenient schedule for it. There is some talk of hosting the summit in Ethiopia this year.

The 2015 summit in New Delhi, in which 40 heads of state and government from Africa participated, had been a major success. PM Modi is expected to travel to South Africa for the G20 leaders' summit this year.

India-US, India-Canada

The assassination of Khalistani separatist Hardeep Singh Nijjar, in which Canada has accused India, has severely damaged ties, and complicated some aspects of the relationships with the US as well.

While India's response to the US has been different from the way it has reacted to Canada, allegations of plotting a transnational extra-judicial killing has raised questions on India's commitment to the rules-based order.

The alleged plot targeting Gurpatwant Singh Pannu in the US also has a reputational cost for India's global image, and for many supporters of Indian democracy in the West, especially those who see India positively vis-à-vis authoritarian China. That is a question that New Delhi will have to answer, and assuage concerns across Western capitals.

Shubhajit Roy is Diplomatic Editor, The Indian Express

NEXT: SPORT

Bird hit and belly landing: What we know about the Jeju Air crash that killed 179

PRANESH DEY
NEW DELHI, DECEMBER 31

TWO DAYS after Jeju Air flight 7C2216 from Bangkok exploded in flames after making a belly landing in Muju, South Korea, there are no answers on why the landing gear had not deployed — and whether the bird hit had contributed to the catastrophe that killed 179 of the 181 people on board the twin-engine Boeing 737-800. Here's what we know so far.

First, what exactly is a 'belly landing'?

In an emergency, an aircraft can make a risky attempt to land with its undercarriage retracted — that is, on its belly, not wheels.

With the landing gear up, the wings, which will be very close to the ground, must be held absolutely 'level' (parallel to the ground) — a slight left or right bank, either by the pilot or a strong wind, could cause a wing to hit the ground, which can flip the aircraft, send it cartwheeling, or break it apart.

Even in the best case scenario, a belly landing does considerable damage to the aircraft, its engines, and wings. Friction from skidding on the runway can result in a fire.

A belly landing may be attempted if

- the landing gear fails to deploy;
- the plane is forced to land in a field, and the pilot decides it is safer to skid than to touch down on wheels;
- the aircraft has to be "ditched", that is, landed on water;
- if the pilot, for whatever reason, considers a belly landing safer.

There have been incidents of task-saturated or distracted pilots forgetting to deploy the landing gear, but modern aircraft



Flight 7C2216 touches down on its belly on December 29. Reuters

issue alerts in such cases.

Did a bird strike lead the landing gear to malfunction?

The plane was cleared to land at 8:54 am, but three minutes later, air traffic control warned about birds above the airport. At 8:59 am, the pilots reported a bird hit, and issued a Mayday (distress) call. They were cleared to land from the direction opposite to the usual one, and the plane made contact with the ground

at roughly the middle of the 2,800-m runway, a BBC report said. Videos of the aircraft show its undercarriage was retracted.

Why did the pilots ask to land immediately? Why did the landing gear not deploy?

It is not known. A bird ingestion can disable an aircraft's engines, and a hit can dent its skin, damage navigation/communication antennae, or even break the windshield/windshields. But a bird strike damag-

ing an aircraft's landing gear — which is retracted into bays locked by hydraulically operated doors in flight — is unlikely.

Could the crew have consciously attempted a belly landing?

It is possible they considered it safer to belly-land than landing with the gear down. But there is a procedure for it: fire trucks and emergency services must be on standby for a possible fire or to evacuate passengers and crew.

Under what circumstances would the pilots prefer a belly landing?

Videos of the crash suggest the B737-800 landed "long and fast". In aviation jargon, this is when a plane overshoots the designated touchdown zone, and the pilots have less runway length to stop the aircraft, which is moving faster than the recommended landing speed.

It is possible that during the approach the captain realised that the plane was coming in long and fast, and a "go-around" — calling off the approach — was not possible. The captain may

then have decided that landing on the belly gave a better chance of stopping within the runway than landing on wheels would.

But why was the aircraft coming in faster than it should have?

While landing, a pilot uses slats and flaps, which are retractable surfaces on the front and back of the wing. As the aircraft slows, the wings cannot generate sufficient 'lift', the upward aerodynamic force that keeps a plane aloft. At slower speeds, the slats and

flaps help the wings generate extra lift.

Investigators will examine whether one or several birds got stuck in the wings and prevented the flaps from being deployed. In such a situation, the crew may have had no choice but to execute a high-speed landing.

With flaps, stall speed is lower; without flaps, it is higher. Stall is a condition in which an aircraft's wings flying forward and starts to fall from the sky. An aircraft can stall if its nose is too high (which disturbs the flow of air around the wings, spoiling generation of lift), or when it is not going fast enough (which also spoils the generation of lift).

So an aircraft whose stall speed without flaps is, say, 120 knots, could have a stall speed of 80 knots with the flaps extended. If, due to a bird strike, the flaps of the Boeing failed to deploy, the plane would have had to come in faster in order to prevent a stall.

Could the pilot have braked?

Modern aircraft have (i) thrust reversers, (ii) spoilers, and (iii) wheel brakes. **THRUST REVERSERS:** Once an aircraft touches down, the thrust from the engines is redirected in the reverse direction, slowing down the plane.

SPOILERS: These movable panels on the wing's surface are flushed during flight and deployed after the plane lands, slowing it down with aerodynamic drag.

WHEEL BRAKES: The computer system on a modern plane may prevent automatic brakes from deploying unless it 'senses' that the aircraft is in landing configuration, flaps are extended, and the wheels are on the ground. Investigators will look at what sort of braking was available with the landing gear retracted.

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AGING AMID SOCIETAL INEQUALITY MAY WORSEN BRAIN DEGENERATION: STUDY

SOCIAL INEQUALITY is directly linked with changes in the brain that are known to be related to aging and dementia, a study has found. As dementia cases are projected to rise in the years to come, especially in low- and middle-income countries, the findings stressed interventions targeted at addressing the local socioeconomic landscape are needed for treating the root causes of brain health disparities.

Researchers from universities in South America and the Trinity College Dublin, were involved.

They looked at the relationship between structural inequality — as measured by national indices — and brain volume and connectivity.

Over 2,100 individuals with neurodegenerative conditions, including Alzheimer's disease, and without such conditions from Latin America and the US were recruited.

Socioeconomic disparities measured by country-level indices were directly linked to changes in brain structure and connectivity, especially in the regions essential for memory and cognitive function, which are known to be affected with aging and dementia. "Greater structural inequality was linked to reduced brain volume

and connectivity, with stronger effects in Latin America," the authors wrote in the study published in the journal *Nature Aging*. "Structural inequality linked to brain volume and network dynamics in aging and dementia across the Americas".

Latins with Alzheimer's were found to experience the most severe impacts, suggesting that growing old in an environment of societal inequality may worsen neurodegeneration in aging populations. The researchers said that the links persisted despite adjusting for individual factors such as education, age, sex and cognitive ability. The result highlighted the independent role of macro-level social factors in shaping brain health, they said.

"Our findings emphasise the urgency of integrating not only individual social determinants of health into global brain health research but also macro-level exposure factors such as social and physical variables," said first author Agustina Legaz, Latin American Brain Health Institute (BrainLat), Chile. "These findings pave the way for future studies exploring the biological mechanisms linking aggregate inequality to aging and neurodegeneration," Legaz said.

PAPER CLIP
NEW RESEARCH



The Editorial Page

WORDLY WISE

GOOD RESOLUTIONS ARE SIMPLY CHECKS THAT MEN DRAW ON A BANK WHERE THEY HAVE NO ACCOUNT.

— OSCAR WILDE

The IndianEXPRESS

FOUNDED BY
RAMNATH GOENKA

BECAUSE THE TRUTH INVOLVES US ALL

HAPPY NEW YEAR

India's 2024 verdict told both Government and Opposition to reset, rethink. Hopefully, that will happen in 2025

A NEW YEAR calls for a new courage, a renewed political imagination. The 2024 Lok Sabha election mandate paved the way for a break with the same old. The Narendra Modi government came back to power but the voters denied it a majority — Other message to it was that it needed to press the refresh button. The Opposition was given a greater voice but not power — the voters were giving it more space for manoeuvre in which to reboot. Six months later, as they step into the new year, both sides need to ask themselves whether they have taken heed of the voters' subtle nudges. Has a government that has entered its third term, despite its reduced numbers and because of them, acknowledged its responsibility to break new ground? Has an Opposition that has climbed out of a long and steep downside used its hard-won visibility to shore up an alternative more engaging and persuasive? The answer to both these 2024 questions is, unfortunately, no. And therein lies the challenge that 2025 brings.

With its impressive victories in the assembly elections of Haryana and Maharashtra, the second one a comprehensive sweep, the Modi government has the political capital it needs to cushion itself from the short-term blow-backs of the much-needed big moves. And in a year with only two major elections — 2025 will be book-ended by the Delhi and Bihar polls — it has a crucial opening and expanse in which to take its eye off the election calendar. The upcoming budget will be an opportunity it cannot afford to miss to usher in long delayed reforms — on getting government out of business so that it can focus on governance, building knowledge capacities for the future, or on rationalising spending by moving from market-distorting subsidies to cash transfers, and on recognising the limits of cash transfers as stand-ins for enhancing state capacity and delivery. It could be said that with growing pressure on the rupee, with GDP growth slowing down and foreign funds waning, the hard decisions can no longer be deferred. Boldness has arguably been thrust upon the Modi government. It only remains to be seen whether and how it steps up to it. Of course, underlying the economic and governance task will be the fundamental political challenge. Can the Modi-BJP, now a three-time winner, let go of the anger and insecurity that has become for it a source of primal energy? Can it find the confidence and large-heartedness — and the outreach — that can make more credible its claims to "sabka saath" in a land of great diversities?

The Opposition's challenge is, if anything, more arduous. So far, after the Lok Sabha verdict which brought it back into the reckoning, the Congress has shown only a risk-averse return to old slogans on caste and not-so-old spectres featuring the Constitution-in-danger or Adani emblazoned on pieces of clothing. For the rest, its face-off with the BJP reeks of a me-too-ness, most conspicuously in its attempts to out-bid the BJP in the lazy politics of cash transfers. In the new year it must make its own ground, find its feet. Let 2025 be the year of ideas and of the imagination. Happy New Year.

A TRYST IN SPACE

Launch of docking mission opens a new chapter for ISRO.

Its success will be critical for agency's ambitions

ISRO HAS CAPPED a year of notable achievements by launching the country's first space docking mission, SpaDeX. On Monday, the agency's workhorse, PSLV, placed two satellites in Earth's lower orbit. The two space vehicles, "Chaser" and "Target", will drift out in the coming days through a series of carefully choreographed manoeuvres. ISRO scientists will then attempt to reduce the distance between the two, ultimately leading to the docking of the spacecraft. India's premier space agency expects the operation to last little more than a week. SpaDeX's success will place India in an elite group of nations with space docking capacity, which currently includes only the US, Russia and China. Docking is essential for missions that require heavy spacecraft and equipment that cannot be launched in one go — the International Space Station, for example. SpaDeX is pivotal for India's space ambitions, including a manned foray to the Moon and the operation of the country's space station. It could also open up opportunities for India's space research agency to partner global missions that require docking facilities.

In the last two years, ISRO has transitioned from an agency that placed satellites in orbit — largely for communications, weather prediction and atmospheric surveys — to an institution that leads planetary exploration. The launch of Chandrayaan-3 and Aditya-1 in 2023 was followed last year by the setting up of the first space observatory to study the polarisation of cosmic X-rays. In September 2024, the Union Cabinet approved the Venus Orbiter Mission to study different facets of Venus including its surface and atmosphere and Chandrayaan-4, which intends to collect soil and rock samples from the Moon and bring them back to Earth. The country is expected to make its maiden attempt at sending humans to space next year. The precursor missions for this landmark foray will be launched this year. The new era of Indian space exploration will be markedly different from recent ventures like the Moon mission of 2023. Chandrayaan-4, for instance, will have five components, launched at different times and then integrated into two separate modules. Similarly, the Bharatija Antarktika Station will have five modules that will be brought together in space — the first of them is scheduled for launch in 2028. SpaDeX will lay the ground for these missions.

The payload launched on Monday also carries incubators of several experiments, including a box carrying eight cowpea seeds which, if plans go right, will develop to a two-leaf stage in space. In recent years, ISRO has sent signals that it has enough expertise to contribute to all aspects of planetary research. In 2025, and beyond, many more journeys await the agency.

HOMEWORK FOR 2025

Technology and its bros may promise placid perfection. But people must make their own New Year resolutions

FOR MOST PEOPLE, New Year resolutions are predictable, even somewhat depressing. Lose weight, eat healthy, quit smoking. Join the gym — promises to the self that are acknowledgement of the failures of the year gone by. Then there are the more affirmative promises of learning a new language, reading more and making time for travel, family and friends. The question in 2025, though, is whether technology and its conveniences have made the New Year resolution obsolete. Semaglutide drugs like Ozempic (originally a diabetes medication, now also prescribed and used as a way to treat obesity) can reportedly curb appetites and urges that can help reduce weight and excessive consumption. Elon Musk, the world's richest man and First Friend to the president-elect, recently posted a picture of himself dressed up as "Ozempic Santa". Tech and AI promise to erase the need to read — all human knowledge can now be queried and put in any format. Large Language Models can even approximate the elusive "voice" that writers, comedians and so many other artists have struggled to find.

It is perhaps the case that human beings are on the verge of placid perfection, a dystopia where there is no becoming, just being. Maybe then cyborgs who simply consume — content, products, medication and food — are the future. 2025, though, need not be the year people give in and give up. The point of exercise is not just to be thin: The body was designed to move. Reading is not just about acquiring facts, the act itself is enriching. So go ahead, make the resolutions, the propaganda of technology and its bros notwithstanding.



PRATAP BHANU MEHTA

IT HAS BECOME a cliché to describe the current moment in terms of Gramsci's idea of an interregnum, the sense that an old order has dissolved but a new one has not coalesced. There is something to this thought. It is also, in its own way, comforting. History still has a direction. This is a period of transition towards something new. But there are two challenges. The first is defining where the interregnum begins. That depends on what we think is pivotal. Was it the 2008 financial crisis? Is the advent of AI potential heralding a profound qualitative change in humanity's prospects? Is it the end of the liberal international order? Is it the rise of populism? Is it the pulling back from globalisation? Is it the return of war? Is it the end of the carbon economy?

But more importantly, where are we headed? Is it really an interregnum with a direction? Or is it simply a permanent drift: One damn thing after the other. I was asked by the editors of *The Indian Express* to think of five things to watch for in 2025. These are not predictions; it would be presumptuous to claim omniscience or even foresight. But here are five trends more in the realm of how the world might feel, rather than a prediction of actual events.

The Age of Conspiracy: Years have often been associated with different markers: Planetary positions, astrological omens, different animals. But, perhaps increasingly, our world, as befits our times, will not be measured by cosmic markers. Instead, it will be characterised by the word of our era, a vibe. If one had to choose a vibe for 2025 in much of the world, especially its two democracies, India and the US, it would be conspiratorial.

Conspiracy theories have always shadowed political arguments, especially in democracies. It is hard to know whether belief in conspiracy theories is rising. Such theories seem more plausible when familiar frameworks are eroding. But two moods will dominate. On one or another issue, at least half their populations will feel the world is one small step away from ruin. The second is that this ruin will be the product of small shadowy forces — non-existent deep states, small cabals, ethnic groups, malevolent demons lurking around the corner.

The combination of these two often

From conspiracy to communalism and creativity, the trends that will shape 2025

5 VIBES, SERIOUSLY

One of the reasons we keep using words like 'uncertainty' and 'interregnum' is that we are in a phase where we know much less about social and economic systems than we pretend to. Of course, many common sense truths about societies and economies still hold. But one of the remarkable things about the world since the financial crisis of 2008, the scars of Covid, and now the wars in Ukraine and Israel, is that we have discovered so many things about how the world works after the fact, as it were.

leads to a demand for scapegoating particular groups, targeting fictitious sources of power, unearthing secret motives behind even the most ordinary of political actions. It will make political discourse even more fragile, accusatory and existentially high stakes.

The Age of Communalism: In India, communalism has shadowed democracy and nationalism. For almost two decades since the 1990s, communal violence has been on the decline. But this trend is reversing. This is not a conspiracy in the recesses of a deep state. It is a growing sociological reality hidden in plain sight. It has also become the default ideological consciousness of the most powerful sections of society.

The fault lines being thrown open, the communal wounds being scratched, the widespread legitimisation of a politics of hate will be harder to contain. But it is slowly simmering. There is a late 1930s or early 1940s feel to our political consciousness — a communal settlement coming apart. Trends in our neighbourhood and the global legitimisation of right-wing politics may give even more cover for communalism at home. The lack of large-scale overt violence till now should not disguise the deep sense of foreboding building up.

The Crisis of Social Self Knowledge:

One of the reasons we keep using words like "uncertainty" and "interregnum" is that we are in a phase where we know much less about social and economic systems than we pretend to. Of course, many common sense truths about societies and economies still hold. But one of the remarkable things about the world since the financial crisis of 2008, the scars of the Covid pandemic, and now the wars in Ukraine and Israel, is that we have discovered so many things about how the world works after the fact, as it were.

Economies across the world have turned out to be resilient in places we least expected and most vulnerable where we did not. Assumptions about what causes inflation and what degree of pressures economies can handle have been blinking policymakers.

Then there is the gap between what the data supposedly tells us and how economies are represented in the imaginations of people. In short, our confidence about whether

we can adequately represent our societies to ourselves as objects of knowledge is deeply suspect. This is perhaps reflected in the crisis of the social sciences but also in forms of authoritative knowledge that claim to represent social workings. In some ways, this can be liberating. It is a vibe consistent with a post-technocratic world, where the orientation is going to be "let us do it" — we will learn whether it works after the fact. We should be more prepared to say, "We don't have a clue."

Price Discovery in International Relations: Everyone expects Donald Trump to disrupt the international order — though, to be fair, the United States has been doing it for quite a while. The Joe Biden administration was not a radical departure from the first Trump administration. But every power, in its own way, is trying to be a revisionist power: Russia, China, even middle powers like Turkey. The question each one is asking is not what rules of the international system we want to uphold or even what is our long-term national interest. The question is more "What can we get away with?" And again, the answer to this question is often available only after the fact. So, there will be a lot of pushing at the boundaries, and the probability of more wars is very high.

The Trump administration will begin exuberantly, and there may even be initial euphoria over the possibility of bringing peace to Ukraine and stabilisation of China-US relations. But ultimately, the deep trust deficits amongst the great powers will not be overcome, none of the major global public goods problems — for example, climate change, public health and the stability of financial systems — will be addressed.

The Age of Creativity: On the other hand, the extraordinary mobilisation of talent in the world means that technological and cultural creativity will continue apace. The financial euphoria over AI will settle down, and developments will be received more calmly, avoiding both euphoria and doom. Technological and artistic creativity will continue to enchant. Bollywood will not make a comeback. Taylor Swift's popularity will have peaked. The music that replaces it will, alas, be much darker.

The writer is contributing editor, The Indian Express

HOPE AND SOME CAVEATS

From data protection to universal access, digital trends for the new year



NISHANT SHAH

WHEN I TOLD a friend I am spending some of my winter break working on a preview of digital technologies, there was a considered silence. "Are you going to be all doom and gloom about it?" she asked. I checked my notes and was surprised that while the risks and consequences of emerging technologies continue to persist, often impacting the most vulnerable among us, I am still beginning the year on a note of hope — with some caveats.

Most positive reports of technology development and deployment focus on innovation, economy, and access as indicators of success and growth. However, technologies are not mere tools. They are conditions that shape us, contexts we live in, and contestations that define how we work, speak, and love. So, instead of looking at the shiny new thing or the next big thing, I am choosing to focus on five significant milestones that future technology users will look at as history-in-the-making.

The year 2024 will go down in history as the one when we accepted digital and data privacy as our foundational right. The passing of the historic Digital Personal Data Protection Act (DPDPA) put India in league with developed nations that offer the most comprehensive protection to individual and personal data online. The DPDPA might not dramatically change how we use the internet, but in the backend, it puts severe limitations and safeguards on how our data is used in our digital transactions. Conversations around digital privacy in India started in 2009, with the establishment of the Unique Identification Authority of India, which later became Aadhaar. It has taken many consultations, protests and mobilisations, and greater public literacy, for data privacy to become a fundamental right. Going forward, the DPDPA rightly puts the responsibility for the protection and safety of individual data on companies, intermediaries, and actors rather than individuals, and marks a wonderful way forward for securing our digital futures.

As the year of general elections though, 2024 was also the year of misinformation.

The unsupervised, uncontrolled, and weaponised use of misinformation for political segregation, profile targeting, inciting hatred, and creating conditions of deep uncertainty were visible throughout the year. It is impossible to point fingers at just one source or bad actor because we have witnessed an entire ecosystem of misinformation forming in the country. Significant work has been done by fact-checking communities, the unsung heroes diligently fighting these misinformation attacks. However, we are left with a naturalised misinformation baseline that particularly targets women, non-conforming people, and minority communities in disproportionate ways. In 2025, we can only hope that the pioneering work started by the amazing information warriors, who have shown that human collectives are essential to counter AI-driven misinformation, will continue to grow.

Generative AI is the elephant in the room, where no matter what we talk about, we eventually talk about the disruptions and affordances it has been bringing in. This is an emerging technology and we will have to live through the futures it is foretelling. While it is impossible to figure out what will persist, the one thing to look out for is the localisation of technologies. For the longest time, the digital divide has been exacerbated by language divides. While many other populous language groups have successfully created local language internet spheres — think about the Chinese and Spanish internet, for example — India has lagged in developing local internet. Partly, this has been because of varying literacy levels, partly because of the linguistic diversity of the country, and partly because of the reluctance of corporations who do not cater to smaller language communities because they are not considered profitable. With Generative AI, the leaps we have made in simultaneous multi-language translation are incredible. GenAI language apps are expanding and supporting the phenomenal work of Open Knowledge champions and collectives like Wikipedia. This brings for-

ward the possibilities of localising technologies and enabling more people to find a voice online.

The next trend that is worth recognising is the emergence of universal access in the country. This does not feature immediately in the imagination of the glossy, consumerist, big-tech internet stories we are used to. However, the consistent expansion of digital access, and India's rise in network readiness, found fruition in 2024. For those of us who remember the struggle to preserve net neutrality in the country without sacrificing universal access, 2025 will be the year that proves the two can co-exist. As more Indians in rural and disconnected parts come online, as India continues to offer one of the most competitive and affordable rates of digital access, and as we build more community-driven hubs, there is hope for more equitable social and economic structures for mobility and development.

And if there was ever something more to look forward to, it is you, the people. 2024 in tech was also a year of people unteching. More than ever before we are online, connected, talking to each other. There are continued assaults on our collective imagination and power. Yet, even as technologies become more consolidated and corporatised, the efforts of people who fight to keep the internet free, open and empathetic are what make it worth maintaining. Perhaps 2025 will turn out to be the year where we learn to care not only for the people around us, but also those far away facing genocide, violence and hate. One can only live in hope.

In this new year, I hope that we continue to focus on establishing digital infrastructures as fundamental rights, offering opportunities and safeties to marginalised and first-time-users to participate in our digital futures.

The writer is professor of Global Media at the Chinese University of Hong Kong and faculty associate at the Berkman Klein Centre for Internet & Society, Harvard University, USA

THE IDEAS PAGE

The year she stole the show

2024 was a landmark for women's voices in film. 2025 holds the promise of diversity and representation becoming features of our cinema, not just trends



KIRAN RAO

"MEN ACT, AND women appear. Men look at women. Women watch themselves being looked at."

Perhaps John Berger's famous argument in his book *Ways of Seeing* (1972) was finally tested in India in the exciting year that was 2024. For it has been a landmark year for the voices of women in film, voices that have risen to the forefront, pushing boundaries with their unique perspectives and creating compelling narratives that have captivated audiences and critics.

From the critical acclaim of *Girls Will Be Girls* by writer-director Shuchi Talati, which kicked off the year in January, to the incredible path-breaking success of Payal Kapadia's *All We Imagine as Light* — which continues to resonate well into this year — 2024 marked an extraordinary wave of women in Indian cinema. The achievements this year of filmmakers such as Anupama Srinivasan (co-director of *Nocturnes*), Sandhya Suri (writer-director of Oscar-shortlisted *Santosh*), Lakshmi Priya Devi (writer-director of *Boong*), Rima Das (writer-director of *Village Rockstar 2*), Reema Kagti (director of *Superboys of Malegaon*), Arati Kadav (director of *Mrs.*), and many others, have further underlined that women filmmakers are not only helping shape Indian cinema, but they are also defining its future on the global stage. Their ability to craft authentic, thought-provoking stories showcases the diversity of Indian cinematic voices. And I think that these accomplishments represent an occasion for celebration and contemplation.

Ever since the birth of the cinema industry in India over 100 years ago, women have occupied positions of varying influence but have never monopolised the spotlight as they have this year — as writers, actors, producers, directors, cinematographers and more. Special mention must be made of Sneha Desai (co-writer of *Laapataa Ladies and Maharaaj*), Ishita Moitra (creator and co-writer of *Call Me Bae*), producer Jyoti Deshpande (president of Media and Content Business at Reliance Industries Ltd), Aamra Purohit (chief executive officer of Aamir Khan Productions), actors Kani Kusruti, Anasuya Sengupta, Shahana Goswami, Chhaya Kadam, Nitanishi Goel, Prathiba Rana and Parvathy, cinematographer Shreya Dev Dube and so many more who have pushed the envelope for all of us.

The success of Kapadia and her film deserves every celebration, as does Guniet Monga's journey to the Oscars with *Anuja* (co-produced by Monga, it is shortlisted in the Live Action Short category) and



C R Sasikumar

Sandhya's with *Santosh*, shortlisted in the International Feature Film category at Oscars 2025. Here's hoping they all bring home even more glory. Their achievements reflect the importance of representation and the power of their voices, not just in terms of gender but in creating opportunities for unique narratives to flourish. I am also particularly grateful for the opportunity to pitch *Laapataa Ladies* on a global stage, well after all the love the film received from audiences at home. While we didn't make it to the end, we gave the journey our very best, pushing boundaries and finding new paths, as those before us did.

As we step into this new year of possibilities, the challenge ahead is not merely about replicating the success of 2024 or the years gone by but also about ensuring that these achievements are sustainable and lead to an on-ground change in the industry. To make the triumphs of 2024 a long-term reality, some challenges must be overcome: That of creating an enabling environment where both emerging and experienced filmmakers — especially those from underrepresented groups like women — have the infrastructure and support they need to thrive.

The success of any cinema industry cannot be defined solely by the number of films showcased at international festivals or the box-office success of big-budget films. It must also be defined by the inclusivity of its narratives and the diversity of the people telling those stories. The industry must actively work to foster inclusivity, which is the hallmark of a robust and vibrant film ecosystem. In this regard, kudos to Richa Chadha and Ali Fazal for their initiative in setting up the Undercurrent Lab to introduce more female gaffers to the industry. Kudos also to Guniet and her team for set-

5 FRAMES, A STORY

As we step into this new year of possibilities, the challenge ahead is not merely about replicating the success of 2024 or the years gone by but also about ensuring that these achievements are sustainable and lead to on-ground change in the industry. To make the triumphs of 2024 a long-term reality, some challenges must be overcome: That of creating an enabling environment where both emerging and experienced filmmakers — especially those from underrepresented groups like women — have the infrastructure and support they need to thrive.

ting up the Women in Film chapter in India and — most important of all — the Women in Cinema Collective (WCC) for their remarkable and sustained work towards creating a safe and equitable workplace for women in the film industry. There is hope that initiatives like these will inspire the change that we deserve: Change that starts as a delicate ripple and then gathers the force to reshape the world.

Looking ahead, 2025 already holds immense potential — not only for homegrown box-office successes but also for pushing the boundaries of Indian cinema and expanding its global market and influence. The year is poised to begin with a bang as the Marathi film *Sabar Bonda* competes at the prestigious Sundance Film Festival. Soon after, the Rotterdam International Film Festival will showcase films like *Bad Girl* and *The Puppet's Tale* in competition, while Palm Springs will feature *Bun Tikki* and *Headhunting to Bearbong*. The Berlinale, one of Europe's most revered film festivals, will continue to highlight Indian talent with Rima's *Village Rockstar 2*.

I am filled with optimism — not only for the stories that we will tell but for the creative and collaborative community we will continue to build.

Here's hoping that in 2025, we reflect on the successes of the past year and learn from them that diversity of voices and greater representation become embedded features of our industry and that we are able to create environments that allow the traditionally underrepresented to thrive. These are not mere trends to look forward to but changes that must take place if the future of cinema in this country is to remain vibrant.

The writer is a filmmaker

WHAT THE OTHERS SAY

"Given the wave of interruptions the education system has faced ever since the pandemic, it is all the more important to get things firmly back on track. Ensuring that schoolchildren receive their books promptly can lay the foundation for a strong academic year ahead."

—THE DAILY STAR, BANGLADESH

In search of returns

From FPI flows to stretched valuations, issues the markets will face this year



NILESH SHAH

IN THE LAST five years, equity returns have been broad-based and exceptionally high, especially in small and mid-caps. Almost a four-fold jump in profits between 2020 and 2024 supported the broad-based rally. A lower base due to the below-year return in the preceding 10 years also helped generate higher returns. Loss-making sectors like PSU banks, telecom, and oil marketing companies that were turning profitable helped make the big jump. Local investors have used every opportunity, including heavy selling by FPIs — October 2021 to June 2022 and October to November 2024 — to increase their equity allocation. Regular supply from promoters and IPOs haven't deterred their appetite. In such a strong flows-driven market, it is natural that there are some excesses. Some stocks with controlled/low float are trading well above their fair value. Some stocks are valued at exceptional future performance or, as we call them, price to vision. Some IPOs have happened at a valuation higher than the valuation of existing listed companies. These are bull market excesses, which do get sorted out over time. While it is difficult to predict the future, it is rational to expect that the following five factors will need to be monitored in 2025.

Investor confidence: Domestic investors are confident about India's growth story. Unlike in the past, it is backed by strong leadership at the country and corporate levels. India is likely to remain the fastest-growing major economy for some time, growing at mid-single digits. The capital allocation efficiency of India Inc. is expected to remain better than that of its peers, reflected in a higher return on equity/capital. Investors will be confident of double-digit growth India implements next-generation reforms like more straightforward land acquisition, flexible labour laws, and the rule of law. India must aim to be richer before it gets older. Our window of opportunity is short. The world is changing from globalisation to protectionism. From Unipolar (US-centric) to Multi-polar (US and China). From excessive to adequate liquidity. From zero/low interest rates and low inflation to elevated rates and high inflation levels. From ignorance of environmental norms to awareness of environmental conditions. Unlike China, whose growth had tailwinds of globalisation, India will have to grow in the headwinds of globalisation. The disruption unleashed through technology can become our headwind or tailwind depending upon how we master it.

Return expectations: 2025 will likely be a year of significantly lower returns than the last five years. The range of returns will be narrower between large, mid- and small caps. Sector rotation and stock selection will be key as the market rally narrows and moves across sectors and stocks. Bruised

bluechips, reasonably valued stocks/sectors like Pharma, IT, telecom, rural consumer staples and financial services are likely to outperform momentum stocks. Some stock pricing in exceptional future performance will likely face a reality check when the burden of profitable growth starts weighing on the fund flows. Keep an eye on insider activity, especially at these counters.

FPI flows: Since Covid, FPIs have been using the revolving door to enter/exit India. They are buyers one month and sellers another. Markets weaken when FPIs sell aggressively. FPIs are underweight in India. While they can justify the underweight based on valuation, it will be challenging to ignore the long-term growth potential. Many peers of India are scoring self-goals. Russia is out of bounds due to the Ukraine war. Brazil is losing favour due to communist policies. South Africa is in social turmoil. Under President Donald Trump's administration, China and Taiwan will have high uncertainty. Other emerging markets like Argentina, Vietnam, Indonesia and Saudi Arabia, etc., are not large from an investor's point of view. As long as our growth and governance are compelling to FPIs, they will likely be buyers at lower levels. Markets can spike up in case FPIs turn aggressive buyers as no one gives easy entry to an aggressive buyer. The Indian market is easy to exit but difficult to enter.

Regulatory measures: Our markets will react to regulatory measures. Any change in capital gains taxation, increase in equity allocation from pension, increase in divestment supply, fair implementation of ESG norms, etc., will impact our markets. Trump's announcements will add its share of regulatory measures that the market will have to deal with. Undoubtedly, America First will be the cornerstone of his policy. The DXY has become stronger on expectations of such policies. India must convince the US that a partnership will create a win-win situation. The US has improved efficiency and created trillions of dollars of wealth through Indian IT talent. Whatever the US imports from China, they will be worried about sabotage and bugging. Despite millions of lines of coding and programming imported from India, they don't have to worry about any cyber security breach. The India-US partnership can materially improve security, efficiency and cost for the US while creating jobs and growth in India. Realisation by the US and shift from China to India will benefit our economy and market.

Valuation: India Inc. will have to carry the burden of expectations as reflected in our premium valuation, by delivering better earnings growth and corporate governance. Despite subdued growth in the second quarter of 2024-25, earnings expectations for the full year are likely to be met. Considering slowing global and domestic growth, 2025-26 earnings expectations will have to go down from high to low teens. As long as investors feel that any disappointment in earnings is a short-term deferment, valuations can be sustained.

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The writer is MD, Kotak Mahindra AMC

A leader's task

What Rahul Gandhi needs to do in 2025 to build on his popularity



HILAL AHMED

RAHUL GANDHI'S EVOLUTION as leader of Opposition (LoP) has been remarkable. He made a serious attempt to establish a link between the Congress party and civil society. The Bharat Jodo Yatra was the most important political outcome of this initiative and played a crucial role before the Lok Sabha elections. The Congress manifesto managed to incorporate many of the issues which Gandhi and his fellow travellers discovered in those yatras. His creative process transformed the party manifesto into one of the most powerful political documents of this decade. Even BJP leaders, including Prime Minister Narendra Modi, recognised the potential of the Congress manifesto to reorient BJP's electoral campaign. The CSDS-Lokniti pre-poll survey 2024 had also shown that Rahul Gandhi's popularity as a serious challenger increased in this period. Around 27 per cent respondents across India claimed that they would like to see him as the next PM. Although Modi was the most preferred face for PM (47 per cent), one cannot underestimate the growing popularity of Gandhi.

Political developments post the Lok Sabha elections were, however, quite different. Despite gaining support from various sections, the Congress could not form the government in Haryana. The political alliance with different parties in Maharashtra did not go well either. The INDIA alliance has not yet evolved into an effective electoral coalition so far; and there is growing unease among powerful regional players. These show that Rahul's image as "the" leader of the Opposition has been open to challenges in the last few months. So, what went wrong?

Broadly speaking, there are at least five aspects of opposition politics which require a careful analysis — ideas, identities, institutions, infrastructure, and instruments. A critical assessment of these aspects will show where

Gandhi stands and what he needs to do. **Ideas:** It is important to remember that Rahul Gandhi was instrumental in introducing a new narrative of *nyay* or justice in recent years. That might be the reason why the Congress's manifesto was called the *Nyay Patra*. Unlike the exclusively caste-centric social justice politics of the 1990s, this has so far tried to establish a link between caste-based exclusion and economic exploitation. The Congress has emphasised on the Nav Sankalp economic policy which focuses on work, welfare, and wellbeing.

At the same time, it has embraced the idea of a caste census to emphasise the need to have a more inclusive affirmative action policy. In a way, the Congress, and for that matter Gandhi, has been playing a serious challenge to what I call the charitable-state model of the BJP. Rahul Gandhi's article in this newspaper ('A New Deal for Indian Business', IE, November 6) was an elaboration of this line of thinking. It shows that he has evolved as a "thinking politician" who can offer a set of constructive resolutions while challenging the structural problems inherent in the political economy of the country. Interestingly, however, this "creative thinking" has not translated into any constructive political programme so far.

Identities: The question of identity is slightly different and more demanding. Rahul

Gandhi, like other Opposition leaders, is keen to assert his Hindu identity to destabilise the BJP's criticism of Hindutva. It makes sense as a political strategy. However, the Congress is almost reluctant to redefine its position on secularism — not merely in terms of Hindu-Muslim relations, but also regarding the misuse of religion in politics. Of course, the party has raised the issue of targeted lynching of Muslims and "bulldozer justice" yet, there is a need to have a principled position on Muslim presence in India. It is expected of Gandhi that he

address the Pasmenda Muslims' assertion in its entirety. After all, the Pasmenda movement is not merely about Muslim reservation; it questions the economic justice and social exclusion of deprived and marginalised sections among Muslims. It fits well within the framework of his *nyay* discourse.

Institutions: That Rahul Gandhi has transformed the Constitution into a political object is a significant move. However, the politics of the Constitution cannot become effective if it is not linked to an equally constructive politics of institutions. The Congress, for some reason, has not used Parliament as an important institutional site to make its presence felt. Even his interventions in Parliament seem to be guided by media considerations. As an intelligent LoP, he needs to create a balance between constructive pro-

posals offered during the legislative proceedings and performative acts inside Parliament.

Infrastructure: There is a serious imbalance between the discourse of *nyay* propagated by Rahul Gandhi at the national level and its acceptability as an ideology by grassroots Congress workers. The party infrastructure at the state level is yet to be revived. Congress's regional leaders find it difficult to speak a coherent political language which resonates with the concerns raised by him in his speeches and yatras. There are two reasons behind it. First, the party has not made any effort to reorganise itself at the regional and local level. Second, the top leadership has failed to establish a model which makes Congress a distinctive national party. As a result, there is no connection between the engineering process and the revival of Congress's organisation.

Instruments: Rahul Gandhi's close association with civil-society groups has certainly empowered him to learn a new language of alternative politics. His yatras were also framed as a non-electoral effort aiming to create a cohesive and inclusive social order. In this sense, the yatras became an effective instrument to carve out a distinctive space for the Congress. However, no attempt has been made to rationalise these alternative civil-society instruments in the sphere of electoral politics. This is not an easy task. Competitive electoral politics has lost its moral value and linking it to civil society-oriented moves such as Bharat Jodo or Nyay Yatras requires serious creative thinking. Rahul Gandhi, and for that matter, the Congress must give thought to this. After all, success in politics depends on the efficacy of instruments and their rigorous refashioning.

The writer is associate professor, CSDS

5 TIPS, POLITICS

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LETTERS TO THE EDITOR

FOR REGIONAL PEACE

THIS REFERS TO the editorial, 'A crisis to the West' (IE, December 30). Pakistan's cross-border airstrikes in Afghanistan have not violated sovereignty and worsened relations between the Shehbaz Sharif government and the Taliban. This is in the aftermath of Pakistan accusing the Taliban of sheltering outlaws while ignoring its own record. Cross-border trade and the free movement of people in a peaceful environment will benefit all countries.

Sankar Paul, Nadia

THE OLD GUARD

THIS REFERS TO the report, 'Drawn to defeat' (IE, December 31). India's crushing defeat in the Boxing Day Test has once again exposed deep issues: Battling collapses, missed chances, and questionable decisions. The most pressing concern lies with senior players Rohit Sharma and Virat Kohli, whose recent struggles raise

the question: Is it time for India to make tough decisions? Sharma's performance in this series has been dismal. Kohli, while having a more respectable record, has also lost his edge. When players fail to meet standards, it's time to reassess.

Sanjay Chopra, Mohali

HOLISTIC LEARNING

THIS REFERS TO the article, 'The crisis of history' (IE, December 31). Democracy can be strengthened in India only by rational citizenry holding mutual dreams of national progress. India has a large population, with the young constituting the majority. Mobilising the demographic dividend has always remained a challenge for India. Rewriting history books has been the most important prerogative of the current government, which is detrimental to understanding our past, biases aside. If history is written holistically, it will create a country of non-judgmental and critical thinkers.

Vaibhav Goyal, Chandigarh

Banking stability

Risks may emerge from the global economy

As the eventful year 2024 drew to a close, the bi-annual "Financial Stability Report" (FSR) of the Reserve Bank of India (RBI), published this week, offered an overview of the current state of the Indian financial system and provided a broad understanding of what to expect in the year ahead. In terms of financials, gross non-performing assets (GNPA) in the banking system — supported by lower slippages, write-offs, and credit demand — declined to a 12-year low of 2.6 per cent in September 2024, while net non-performing assets were at 0.6 per cent of the book. Although balance sheets in the Indian banking system have steadily improved over the past decade and are now in a position to support private investment and growth, the FSR highlighted GNPA could increase marginally to 3 per cent under the baseline scenario by March 2026. This will need to be monitored.

There has been considerable focus on retail lending over the past year. In fact, the RBI had increased risk weightings on certain kinds of consumer lending from banks and non-banking financial companies (NBFCs) in late 2023. As a result, both banks' retail lending and lending to NBFCs moderated. The retail side of the book for banks remains stable with a GNPA of 1.2 per cent. GNPA for unsecured retail loans was slightly higher at 1.7 per cent and slippages in this segment also dominated the fresh creation of NPAs. Notably, small finance banks have higher GNPA in their retail portfolio at 2.7 per cent and should review their lending practices before it becomes a bigger problem. As for NBFCs, their overall position remains healthy. Growth in bank borrowing in their liabilities has declined significantly, which must be welcomed. However, NBFCs have increased their foreign borrowing, which could increase risks in the case of sharp currency movements, a real possibility in the present context.

Although the banking and financial sectors are stable, the risks in 2025 could emanate from other sources. Growth in gross domestic product slipped to 5.4 per cent in the second quarter. While it is expected to revive in the second half of the year, more efforts will be needed to sustain higher growth over the medium term. The inflation rate based on the consumer price index is expected to moderate in the coming months, but the extent to which monetary policy can support growth remains to be seen. Bigger challenges in 2025, however, are likely to originate from the global economy, particularly the US. The US Federal Reserve has revised its projection for policy interest-rate cuts, which has led to significant financial-market volatility. Relatively high US interest rates will attract capital and strengthen the dollar, which will put pressure on other currencies, particularly in emerging markets.

The pressure may increase substantially if President-elect Donald Trump pursues his stated policies after taking office later this month. The rupee has remained relatively stable, largely because of the aggressive intervention of the RBI, which may not be sustainable for an extended period. There is another big issue that the global economy will have to deal with. As the FSR highlights, global public debt is projected to have exceeded \$100 trillion by the end of 2024 and is expected to surpass 100 per cent of GDP by 2030. Global debt is driven primarily by the two largest economies, posing a potential risk to the stability of the global financial system. Indian policymakers, while making interventions to push economic growth, will need to be prepared to deal with such risks.

Caution ahead

Ken-Betwa link downplays ecological impacts

With Prime Minister Narendra Modi laying the foundation stone for the "Ken-Betwa River Linking National Project" on December 25, a controversial project is off the ground 29 years after it was conceived. This is the first of 16 river-linking projects under a decades-old river-linking plan, which involves some Himalayan rivers. The Ken-Betwa project involves transferring "excess" water from the Ken river to the Betwa river, both tributaries of the Yamuna, via a 221-km link canal, including a 2-km tunnel. The project is expected to provide water to the traditionally parched and backward area of Bundelkhand, covering 13 districts of the two states. It is expected to provide annual irrigation of 1,062 million hectares, meet the drinking-water needs of 6.2 million people, and generate 103 Mw of hydro-power and 27 Mw of solar power. This enormous \$44,605 crore project will involve, in its first phase, building a dam, link canals and tunnels, and a power house. Though the developmental objectives of the project appear unexceptionable, the question that has been raised by a range of environmental groups over the years, including the Supreme Court's Central Empowered Committee, is whether the human and environmental cost balances these gains.

The project will displace over 6,000 families, cause the felling of some 2.3 million trees, and with the construction of the dam planned inside the park, submerge 98 square km of the Panna National Park, including 10 per cent of the core area. The disruptive human and ecological consequences of this environmental destruction are significant. The Panna Tiger Reserve has been one of the more heartening success stories of recent years with the successful reintroduction of tigers in 2009 after this big cat population had been wiped out due to poaching. There are now 70 tigers in the reserve, which also carries within it all the precious biodiversity — from, among others, vultures to the gharial, one of the most endangered freshwater crocodile species — that slows the consequences of climate change. The Ken, one of the least polluted of the Yamuna tributaries, is the park's lifeline. Besides, the hydrology data to back the claim that the Ken has excess water has not been subject to public scrutiny.

The government's motivation in sanctioning this massive infrastructure project may be understandable. But the prospect of bringing prosperity to one of India's poorest and most drought-prone districts must be weighed against its ecological impact, which benefits no one in the long run. Recent amendments to environmental laws and rules such as decriminalising emission and pollution transgressions and exempting impact assessments and clearances on projects within 100 km of India's borders — most of it in ecologically fragile territory — point to the key purpose of improving ease of development metrics. But there are also numerous cost-effective ways of balancing development and environmental concerns. It is worth noting that only India and China have river-linking projects; most other countries have found the costs of such ventures outweigh the benefits.

In the Ken-Betwa project, for example, various expert committees, including the government's forest advisory committee, have pointed out alternative, decentralised, and cheaper ways of improving water availability, which have not been explored sufficiently. This would include rainwater harvesting, groundwater recharge through check dams, moisture conservation, reuse of water, treating polluted water, and demand-side measures. The government would do well to examine such solutions before splurging on high-visibility infrastructure projects that degrade India's richly diverse environment.



ILLUSTRATION: AJAYIA MOHANTY

A pivot to defence

Budget 2025 must mark a decisive shift in the allocation of resources to defence and internal security

Budget-as-usual is not an option for Narendra Modi and his finance minister this time. While normal obsessions about growth, jobs, infrastructure and fiscal balance will always remain important, Budget 2025-26 has to focus on something that has been screaming for attention for long: External and internal security.

Defence spending takes up one-eighth of the Budget, and possibly accounts for about 2-2.4 per cent of gross domestic product (GDP), the upper end figure being an estimate made by the Stockholm International Peace Research Institute for 2023. The small, single-digit increase budgeted for this fiscal (2024-25) is barely enough to cover for inflation. In short, even with an allocation of ₹6.21 trillion for defence, we are falling seriously short, given the growing security challenges in our neighbourhood.

Over the past few years, external security threats have escalated, even as our capabilities have stagnated or, in some cases, declined. Despite a tentative handshake across the Himalayas with China over patrolling rights in Ladakh, China remains a potent threat. It is rapidly investing in advanced fighter aircraft even as our effective air defence squadron strength is falling. Chinese warships will soon be roaming around in the Indian Ocean to our detriment.

Meanwhile, Pakistan has chosen to be a Chinese vassal state, but there is now a massive threat emerging on our eastern flanks, where a regime change operation in Bangladesh (possibly supported by the US) has made our entire Northeast vulnerable to infiltration and jihadist terrorism. What was once a "two-and-a-half front" scenario (Pakistan, China, and internal security threats) that the armed forces were preparing for now threatens to evolve into a "three-and-a-half

front" conflict that we must be prepared for.

All this is happening when global geopolitics has become more unpredictable and India's list of dependable friends is narrowing. The US under Joe Biden has been speaking with a forked tongue, with one section seeking better defence ties with India, while another segment has sought to undermine it. Consider these facts: Supplies of US engines for our Tejas fighter aircraft have been delayed for inexplicable reasons. The US has targeted sections within Indian intelligence for allegedly trying to bump off a Khalistani terrorist on American soil, and our National



BEYOND IDEOLOGY
R JAGANNATHAN

Security Adviser cannot land in the US without facing possible arrest in a civil case launched by the same terrorist. The US-led Five Eyes intelligence sharing arrangement is busy feeding information to the Canadian government on the possible involvement of Indian agencies in the killing of another terrorist, Hardeep Singh Nijjar. Information that implies deeply damaging penetration of Indian diplomatic correspondence.

An Indian businessman has been targeted by the US Securities and Exchange Commission for a "crime

where the victims, if any, have nothing to do with American interests. Thanks to the two ongoing wars in Ukraine and West Asia, the military industrial complexes in the US and Asia (Russia's primarily) are overloaded with orders, and cannot deliver promised supplies. Russian deliveries of the S-400 air defence systems have been badly delayed.

Internally, we have seen how weak our cyber capabilities are against two recent threats. Our airlines and schools in Delhi were economically impacted by hoax bomb threats that remain largely untraced. If non-state (and state) actors beyond the reach of Indian security agencies can damage us economically without incurring any major cost to themselves,

we are sitting ducks. The porous borders with Bangladesh and Myanmar, where the latter's government has lost control to various ethnic armies, poses another internal security threat, as drugs, arms and infiltrators penetrate weak fences. The whole of the Northeast is exposed to covert foreign intervention and internal subversion. Financial frauds can also undermine internal economic confidence as India has rapidly digitised its economy without a commensurate investment in cyber defences.

This is the backdrop against which the Budget for 2025-26 must reset its priorities. If there is any time when non-economic priorities must take centre stage, this year's and next year's Budgets must stand out. "Three areas — defence, internal policing, and cyber and hybrid defence (and warfare) capabilities — need massive resources, and this implies that the share of defence and internal security in GDP must rise for the next five to 10 years to address our current shortfalls. In the upcoming Budget, the finance minister must provide for a massive additional allocation of ₹1-1.5 trillion for defence and internal security, possibly by slimming down welfareist spending and accelerating privatisation processes. An annual increase of 0.2-0.25 per cent in defence spending as a share of GDP is vital to transition from security vulnerability to competence between now and the early 2030s.

Given the unreliability of defence supplies from both America and Russia, and also the possibility that unfriendly nations like China may be supplying components for these equipment (many Russian equipment now have Chinese or Ukrainian parts), the only real option is to rapidly improve our defence research and development (R&D) and develop internal supply for crucial defence projects. Developing our own fighter engines ought to be a top priority, just as expanding our naval fleet through enhanced domestic production is crucial for our defence of the Indian Ocean.

Our internal policing also needs a huge fillip in terms of budget allocations for crime detection, cyber threats, and terror prevention.

In an unsafe world, where alleged democratic "friends" impose their own agendas as the price for supporting us with vital equipment and components, and our enemies are dramatically improving their defence capabilities, strengthening ourselves is the only option. Threats from non-state actors, including tech companies that dance to the beats of foreign powers, also need to be managed better.

The first and most basic responsibility of any government is to protect its people from external threats and internal harm. Budget 2025-26 has to focus on meeting this responsibility. The political climate is just right for enabling this spending shift to defence. In 2025, there are only two major elections (Delhi and Bihar). The Bharatiya Janata Party (BJP) can afford to write off Delhi, and Bihar is months away. In 2026, five Assembly elections are due (Assam, Tamil Nadu, Puducherry, Kerala and West Bengal), but the BJP has a big stake only in Assam, so once more, the political pressure for freebies can be resisted and defence can get its due.

The spike in defence and security spending needs to occur more quickly in the next two budgets. After that, the window for fiscal manoeuvre will start narrowing as more critical elections fall due.

The writer is a senior journalist

New Year, new resolution: Fill vacancies

A column appearing on the first day of the New Year (based on the Gregorian Calendar) is a wonderful opportunity for any writer to focus on the big picture and the big issues of any subject they choose. I will, however, eschew that temptation and look at a smaller and simpler issue pertaining to the Indian economy and governance.

The issue is about this question: Could filling up just existing vacancies in various government and regulatory bodies help the Indian economy become more productive, while also benefitting businesses and citizens? I would like to think that governance would improve dramatically if the Union government, state governments, and various regulators concentrated on this.

Take, for instance, our justice system with courts clogged by a backlog of cases running into millions. A recent report says that just in various high courts across the country, over 5.8 million cases — some 4.26 million civil matters and almost 1.6 million criminal cases — are pending. Of this, 63,000 cases have been pending for more than 30 years. In subordinate courts, over 45 million cases are pending. Experts suggest that even if no new cases were filed, it would still take several decades for the courts to clear them.

A good part of the problem stems from the acute shortage of judges at every level. Many high courts in the country are operating with less than 30 per cent of their sanctioned strength. In reply to a question in Parliament last year, Minister of State for Law and Justice (Independent Charge) Arjun Meghwal admitted that at the end of January 2024, 331 of the total sanctioned 1,114 vacancies for judges in various high courts were vacant. Similarly, there

were over 5,000 vacancies across various subordinate courts in the country.

It is not just about the courts — the various tribunals and other regulators are also facing similar shortages. As of November 2024, the National Company Law Tribunal had 43 members in service against the authorised strength of 63. The average time taken for the resolution process of an insolvency petition today has gone up to 716 days, far exceeding the stipulated maximum of 330 days, even for cases involving litigation. Another tribunal — the Debt Recovery Tribunal — is paralysed because many do not have a presiding officer.



PROSAIC VIEW
PROSAIN DATTA

It is a similar story for the Executive, which has been grappling with unfilled vacancies for years on end. Most state police departments have thousands of vacancies. The Bureau of Police Research and Development had some time ago estimated that the total police vacancies in the country account for 20 per cent of the sanctioned strength.

The vacancies, especially at the lower levels of bureaucracy, typically remain unfilled for years. The Indian Railways has unfilled posts running into hundreds of thousands, despite the Comptroller and Auditor General of India castigating it for not even filling up enough positions required for ensuring the safety function. In government hospitals and schools, whether run by the Centre or the states, staff shortages frequently make headlines. Across virtually every government department, the situation remains the same.

And these are sanctioned shortages — which may or may not reflect the ideal strength required today. These numbers were decided decades ago, though the population of the country has increased manifold since then. The Supreme Court, for instance, is likely

to be the only court that functions at its full sanctioned strength — yet it has its own backlog and pendency, primarily because the number of additional judges it requires is still being examined and debated.

This leads us to the paradoxical situation. India's enormous unemployment problem may well be reduced significantly if all vacancies were to be filled on a war footing. Sure, it would still be a drop in the ocean of total unemployment statistics, but every little bit helps. More importantly, filling up just the current vacancies in the sanctioned strength will help reduce pain at every level of a citizen's life. So why don't governments — and we are talking both the Union and state — take decisive action to address this?

Some of this can be attributed to inefficiency and bureaucratic hurdles. Newspapers frequently report an government recruitment examinations being scheduled only to be cancelled or postponed due to question paper leaks. In other cases, it may be budgetary worries — holding off on filling vacancies when revenues are lacklustre is a time-honoured practice for both the government and the private sector. There may also be worries about the pension liabilities in the future.

Concerns about automation, digitisation, and other technology advancements reducing manpower requirements may be at play too. All these are valid reasons but sitting on appointments is not the solution, except in a few areas where automation would genuinely reduce the need for filling all sanctioned vacancies.

In other areas, however — such as courts, hospitals, and police departments — unfilled vacancies lead to delayed services and productivity losses, resulting in potential gross domestic product loss. The governments need to understand this.

The author is a former editor of BusinessWorld and Business Today, and founder of Prosaić View, an editorial consultancy

A Muslim across the communal divide



BOOK REVIEW

ADITI PHADNIS

A Muslim woman in public service who rose to a career pinnacle in the Bharatiya Janata Party (BJP), Najma Heptulla's biography chronicles a fascinating journey that swept aside stereotypes and fashioned a career almost entirely on her own terms.

Almost entirely? Dr Heptulla's greatest ambition — to become chairman of the Rajya Sabha (and vice-president of India) — remains unfulfilled for reasons that will forever be a mystery. No one could have been more qualified for the position. But in her book, Dr Heptulla doesn't waste time over regret. Instead, she describes the opportunities she got and how she tried

to engineer change, sometimes tentatively, but mostly with bold resolve.

Dr Heptulla had an idyllic childhood in Bhopal. She was raised in a family of orchards and climbed trees but also learnt embroidery, knitting and cooking, skills that stayed with her. She once called this reporter with an unusual query: She wanted to make authentic aavakaya pickle, she said, but "do you have to beat the chana before you put it in the pot?" She was a homebody. She could have been a doctor but she was underage and her family balked at the thought. So, she enrolled for a BSc (she was the only girl in her class) followed by a Master's and a PhD in Zoology, winning the gold medal. As she was "the favourite" grandchild of Maulana Abul Kalam Azad, Union minister in Jawaharlal Nehru's government, she had access to Nehru and later to Indira, Rajiv and Sonia Gandhi. Of course, her relationship to each was different.

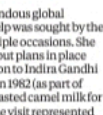
As she started public life in the Congress, her early mentors were naturally from that party. Though she

joined the BJP in 2004, there is no denigration in her book of those in opposing parties who influenced her political trajectory: Y B Chavan, the legendary Maratha strongman of Maharashtra, Indira Gandhi, Sharda Pawar, Rajiv and Sonia Gandhi and PV Narasimha Rao. She acknowledges Lulu Prasad as a helpful colleague whom she found extremely "bright". Her relationship with Sonia Gandhi was not smooth but when she left the Congress to join the BJP, it was at a transactional move; the year she moved, the Congress came to power.

Dr Heptulla could always see both sides in an argument. And this quality of bipartisanship helped her enormously as deputy chairman of the Rajya Sabha, the only one in Indian parliamentary history to have been elected to that position four times for a total term of 17 years. As Union minister for minority affairs in a BJP government, she framed initiatives for inclusivity that continue to be in place. It can't have been easy to survive in a ministry for which many in

the Sangh Parivar saw no justification. She flags issues around Waqf land and the role of land sharks fleetingly, though she does not dwell on the latter. She pressures led to her replacement. She was sent to Manipur as governor. She recalls her tenure, her interaction with Kuku and Meiteis and hopes fervently that peace will return to the state soon.

Dr Heptulla's contributions to diplomacy, especially in the Islamic world, make for interesting reading. The 1980s and 1990s saw tremendous global upheavals and her help was sought by the government on multiple occasions. She took the initiative to put plans in place that led to an invitation to Indira Gandhi to visit Saudi Arabia in 1982 (as part of that delegation, she tasted camel milk for the first time!). But the visit represented



significant movement in relations between the two countries. "Mrs Gandhi was able to assure the Saudis that minorities in India were safe, treated as equals, with respect." Dr Heptulla notes, adding Gandhi persuaded Riyadh to limit Saudi arms purchase aid to Pakistan and replace ad hoc export of crude oil to India with regular long-term supply.

In 1990, when the Gulf War was raging, the Chandra Shekhar government sent her to Jordan to meet King Hussein. Her Congress colleagues urged her not to pull the Chandra Shekhar government's chestnuts out of the fire. Dr Heptulla retorted that she was doing what she was not because of Chandra Shekhar.

Dr Heptulla's innate intelligence illuminated her political life. Colour television came to India with the Asian Games in 1982, but Indira Gandhi was not convinced India needed it. Dr Heptulla convinced her that Krishi Darshan, a

programme watched by farmers all across India to modernise agricultural practices, would be more effective in colour.

explained how, for instance, a black-and-white programme on leafrust — a fungal disease of the wheat — could hardly help the farmers. They could relate to it easily if shown in colour. And it could also draw in the younger audience.

Dr Heptulla says, "Indira Gandhi just looked at me in disbelief with a slight smile and a twinkle in her eyes at my perseverance. Finally, she chuckled, 'You are so mischievous. You never give up, do you?' At the end of the day, she was nice — but also naughty. She notes that the practice of some south Indian MPs in the Rajya Sabha of holding up their vests at "half mast" especially during protests, was... disgusting. Those who know her can testify to her talent as a mimic. And her sense of humour managed to defuse many tense situations in the management of the Rajya Sabha. Dr Heptulla was born to privilege but strongly empathised with those who did not have as much as her. Her commitment to the empowerment of women has remained a constant, as this elegantly written story of her life tells us.

THE ASIAN AGE

1 JANUARY 2025

India, most of all, needs harmony in New Year

As the world leaves behind a perilous 2024 there is no end in sight yet of two major wars in Ukraine and around the Gaza Strip and civil wars are raging in Somalia, Haiti, Myanmar and many other countries, besides an uprising in Bangladesh, with no sign of the issues being resolved.

The eternal optimists can, however, hope that the chronological convenience of turning the Gregorian calendar to January 2025 will bring some sense to those involved that violence leads to nothing except that it only begets more violence. Making 2024 such a tumultuous year beyond the wars and conflicts was the fact that two billion people, around a quarter of the world's population, went to polling booths to register their choice. Their disenchantment with the status quo saw many ruling parties come tumbling down as in the UK and the United States and many other countries where the desire for change dominated.

Significantly, the BJP-led NDA alliance survived the global storm that felled political parties, but with reduced numbers and without a majority of its own for the BJP. That brought India back to a time of coalitions with a chastened Prime Minister having to bow to alliance dharma and make mellow his party's stance on many issues.

The year post-polls, however, saw more political wrangling with harmony distinctly lacking as the Winter Session of Parliament was ruled by a stalemate between a protesting Opposition and a government that saw an opportunity in recalling the past with its own narratives on historical figures as the debate on the Constitution in its platinum jubilee year became an exception to the regular bedlam in the House.

In these contentious times in which polarisation has become the leading characteristic of democracies, harmony is an elusive concept, but one that must be sought at least by the government and the Opposition if a major reform to the electoral process like the "One Nation One Election" must stand any chance of triggering an open debate and a broad consensus.

Considering the rulers and the Opposition could not be together even at the funeral of a two-term Prime Minister of this millennium in Manmohan Singh, harmony seems a concept too far for a fractured polity in a pluralist society. Apart from the renowned economist who became an accidental PM, the country saw many a luminary of the arts like Shyam Benegal and a gem of a progressive titan of industry in Ratan Tata depart.

The world of sport remained extremely competitive and there too it was individuals like the chess champions D. Gukesh and Koneru Humpy, the Olympic twin bronze medalist Manu Bhaker and the peerless fast bowler Jasprit Bumrah who, like far as team sports go, were the best of the best, even if Team India did break a long ICC trophy drought by winning the T20 World Cup.

The ineffectual performances in team sports may be taken to represent Indians' difficulties in staying together amicably. Togetherness has goodness in it, so goes the saying, and it might mean something as the world prepares for what could be a turbulent Trump year with his promised tariff was adding another dimension to the suffering caused by economic downturns and climate change catastrophes.

Talking of the economy, there is much to do as the rulers could not have missed the signs of a dip in the last couple of quarters in the world's fastest growing large one. Even bickering Indians must see a need for growth for which consumption must rise too. All is not well is the message that 2024 conveyed. Hopefully, the New Year will be better for all.

Talk to farmers, find solution

With the agitating farmers communicating to the Supreme Court that their leader Jagdish Singh Dalerwal will call off his indefinite hunger strike if the Union government invited them to a discussion on their long-pending agenda, it is now up to the government to take the initiative for talks and pave the way towards ending a year-long agitation.

The government should not ideally have a quarrel with the farmers' demands which include a legal guarantee for minimum support price for crops, debt relief and withdrawal of cases lodged against farmers during the earlier edition of the agitation. In December 2022, the then NDA government had actually assured them that steps would be taken towards their fulfilment after repealing the three controversial farm laws. From Prime Minister Narendra Modi who promised to double farm income to the finance minister who listed various measures for farmers in the annual Budget, the theme of farmer welfare has never gone missing from the government's agenda.

It is a shame, therefore, that the farmers have been agitating on the Punjab-Haryana border for almost a year now over these issues that are in fact critical to their survival. The government announces MSP ahead of every crop season but at present is not under an obligation to do so. The farmers argue that a legal framework on MSP would alleviate their fears and introduce a sense of surety. The demand for debt relief should cost the exchequer but history has shown that such pro-farmer measures will introduce more vibrancy in the rural economy which will have a cascading effect on other sectors.

It is a paradox that the major mediator in this agitation is the Supreme Court of India while the decision should ideally be the result of a direct conversation between the farmers and the government. The farmers' group has now offered the government an opportunity to play its legitimate role and it must honour this trust.

THE ASIAN AGE

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Dilip Cherian
Dilli Ka Babu



As unfilled posts add to suspense, decoding Delhi's latest babu jigsaw

The recent secretary-level reshuffle in New Delhi left some scratching their heads yet again. Like an unsolvable jigsaw puzzle, the logic behind these moves remains a closely guarded secret. But, for now, let's try to decode at least a few of these postings.

First up is the department of personnel and training (DoPT), which handles the government's personnel affairs. For the third time in a year, the DoPT has a new secretary, with Rachna Shah, a 1991 Kerala cadre officer stepping in after a prolonged vacancy. Notably, the baton remains with a woman officer, continuing a trend. Ms Shah replaces Radha S. Chaudhary, while Manisha Saxena recently took over as establishment officer, and Kavita Singh handles crucial ACC matters in the Cabinet secretariat. Coincidence? Hardly, say sources. The system seems designed to prevent leaks and surprises. It all goes smoothly, Ms Shah may stay till her retirement in November 2027, promising some much-needed stability at the DoPT.

Over at the department of revenue, the reshuffle sparked buzz with 1992 batch IAS officer Arunish Chawla's appointment. Taking over from Sanjay Malhotra, now RBI governor, Mr Chawla faces the arduous task of managing key portfolios like CBUDT, CBIC, and the Enforcement Directorate (ED). His stint in pharmaceuticals seems to have been a brief stopover, and he's now moved to the high-stakes North Block while still holding charge

of the ministry of culture. Speaking of culture, it's been on an upward trajectory, gaining significant prominence. How Mr Chawla balances these dual responsibilities will be worth watching.

As for the ministry of culture, the suspense over who will fill Mr Chawla's shoes adds an extra layer of intrigue. With the Prime Minister's Office playing its cards close to the chest, it's a game of wait-and-see.

In the end, these reshuffles are a masterclass in controlled chaos. For us, mere mortals, deciphering the method in this madness remains an engaging, if baffling, pastime.

WHY DID PROMISING DARBHANGA COP OFFER HER RESIGNATION?

Bureaucracy often thrives on opacity, but every so often, a story comes along that is intriguing enough to make us wonder what's happening behind the scenes. The case of Kanya Misra, a promising young IPS officer from the 2019 batch, is such a mystery.

Ms Misra, who recently resigned from her post as the rural superintendent of police (SP) in Darbhanga, citing personal reasons, found her resignation unceremoniously rejected by the Bihar government. Instead, she's been granted 180 days of leave starting November 2024, is currently cooling her heels at the Bihar police headquarters, awaiting a fresh posting. Reshuffles are routine in police services, but her case feels any-

thing but ordinary. Her husband, Advith Saroj Dixit, also from the 2019 batch, is currently the SP of Gopalganj, having previously served as the city SP in Muzaffarpur. The duo, who married in 2021, is highly regarded in bureaucratic circles. So why would an officer like Ms Misra, respected and reportedly effective, tender her resignation? And why would the government so pointedly refuse to let her go?

The timing adds an extra layer of intrigue. Could this be linked to Bihar's political climate, with state elections potentially on the horizon? Ms Misra's tenure in Darbhanga was marked by a step away that could have raised eyebrows, but the government's move to sideline her while keeping her within the system only raises more questions. Is there a larger BJP-NDA Bihar political calculus at play here? Or does this point to internal administrative dynamics that we can only guess at? Whatever the reason, one thing is clear — as the political temperature in the state rises, stories like this remind us of the fine balance between governance and politics in India's bureaucracy. For now, though, Kanya Misra's 180-day hiatus leaves us wondering: What's next in this unfolding drama?

CUT THE CLUTTER: CABINET SECTARY PUSHES FOR FAST GOVERNANCE

Continuing from where he left off last month,

Cabinet Secretary T.V. Somanathan has called out ministries for ignoring a two-year-old directive to limit decision-making to four layers. In a no-nonsense letter, he pointed out that this non-compliance is causing unnecessary delays, undermining the government's push for reforms. He is clearly a man on a mission.

The directive aims to streamline processes by creating a leaner, flatter structure. Mr Somanathan wants special, additional, and joint secretaries to operate as independent bureau heads, cutting out extra layers that slow things down. His message was clear: "De-layering" isn't just a buzzword; it's about speeding up decisions and improving efficiency.

He also reminded secretaries to personally ensure these changes are implemented, stressing that responsive, transparent governance depends on it. Adding to this, the Cabinet secretary chimed in with a reminder to keep communication short and sweet. He asked secretaries to send concise monthly updates — just one or two pages — highlighting key issues and delays. The message? Less bureaucracy, more action.

Love them, hate them, ignore them at national peril, is the babu guarantee and Dilip's belief. Share significant babu escapades dilipcherian@hotmail.com.

Subhani



Will a year of global wars set off more 2025 churn?



Sunanda K. Datta-Ray
Reflections

The world was at war. The world was on the move. With crooks and crooked everywhere, Indians never knew when the telephone rang whether it was a genuine caller or a trickster threatening to disconnect the line or freeze your bank account unless paid off.

Committed to "Make America Great Again", the country's comeback kid was on the prowl. US President-elect Donald Trump threatened India with a trade war, and Panama with seizure of the Canal. Controlling Greenland was an "absolute necessity", he declared.

Canada and Mexico should become US states if they want to continue enjoying lavish subsidies. Mr Trump advised Ukrainian President Volodymyr Zelenskyy to make a deal with Russia's President Vladimir Putin and promised to pardon Republican rioters who stormed the US Capitol on January 6, 2021, in an attempt to prevent US President Joe Biden being sworn in. He warned of sweeping changes in immigration rules, massive deportations and the end of the constitutionally guaranteed birthright citizenship in America.

Prime Minister Narendra Modi reiterated that he had told Mr Putin both "directly and publicly" that "this is not an era of war". Mr Putin attacked fresh targets in Ukraine. Having pulverised Syria, Israel began bombing Gaza. The Houthis rebelled, targeting Tel Aviv didn't get Mr Modi's message either. Fighting continued in Sudan, Yemen and Myanmar. Dhaka demanded that India hand over former Prime Minister Sheikh Hasina Wajed to Bangladesh justice. The International Criminal Court sought the arrest of Israeli Prime Minister Benjamin Netanyahu as well as some Hamas leaders.

Amidst trade and tribal wars, civil and uncivil wars, cyber wars, wars to unite and to secede, India often seemed to be at war with Indians. Hostilities erupted in Parliament, the Jawahar Nehru University campus and Chhattisgarh's jungles. Jammu and Kashmir was split and demoted. Manipur ran with blood. Ominous rumbles from distant Australia, the United States, and, most persistently, Canada, suggested that India was waging its domestic wars on foreign soil.

Britain's National Investigation Agency arrested Indrajit Singh Gaba, claiming the Sikh had vandalised India's flag. In contrast to the stalemate in investigating the murder of Hardeep Singh Nijjar, allegedly a Khalistan Tiger Force militant, the UK NIA offered to share the Gaba case file with India.

Hindus challenged the Writ of Writ (Special Provisions) Act, 1991, right, left and centre. Muslims would soon be the majority, predicted Kolkata's mayor, Firhad Hakim. Mohan Bhagwat, the Rashtriya Swayamsevak Sangh chief, urged Hindus to be more inclusive. Mr Modi upheld his "One Nation, One Election" law as the formula for unity.

The rupee fell to its lowest ever against the mighty dollar. The United States narrowly escaped a total government shutdown. Rich Indians didn't stop getting richer. As wealth inequality widened with one per cent of Indians owning 50 per cent of the nation's wealth, while the richest 10 per cent owned 80 per cent, the former Reserve Bank governor, Raghuram Rajan, dismissed as a "pie in the sky" a proposal by Thomas Piketty, the French author of *Capital in the Twenty-first Century*, to levy an annual two per cent wealth tax on individuals with assets exceeding \$1.18 million (Rs 10 million) and a 35 per cent inheritance tax on properties of similar

Donald Trump isn't the only world leader anxious to pull up the drawbridge against the influx of (mainly Asian) immigrants. Anti-foreigner sentiment is hardening in Germany, where elections are due in February...

value. The "wealthy always have a way around it (taxes)", he said. Moreover, taxing penalties success: India needs to optimise resource allocation.

India protested when a now-deleted Facebook post by a key aide of Nobel laureate Muhammad Yunus, chief adviser to the Bangladesh government, demanded that it should recognise the uprising that forced Sheikh Hasina to flee to India. She and Bashar al-Assad, Syria's accidental ruler who was hailed as "the hope of the masses", when his older brother died in a car crash, are in similar boats. Lurking in the Kremlin, Mr Assad must be as much of an embarrassment for Mr Putin as Sheikh Hasina probably is for Mr Modi. A triumphant homecoming is unlikely for either. Even if Bangladesh holds elections, her Awami League may not be allowed to participate.

Mr Assad's alleged misadventure — repression, prison brutality, chemical warfare — were trumpeted worldwide by US publicists but the crimes that Sheikh Hasina apparently committed or condoned during two stints in office were unknown until the five-member commission of inquiry under a retired Supreme Court judge, which Mr Yunus had appointed released its interim report. "Unfolding the Truth", it reported, more than 3,500 enforced disappearances, it hinted at some Indian collusion.

The report charged several high-ranking former police and police officers in Sheikh Hasina's entourage with authoritarianism, human rights abuses, rampant corruption, mass murder and crimes against humanity. The ousted regime denied all allegations. So did Sheikh Hasina's niece, Tulsi Siddika, a Labour member of

Britain's Parliament and economic secretary to the Treasury, whose ministerial duties include tackling financial corruption. Backing her rejection of the charge of embezzling billions of dollars during Bangladesh's 2013 purchase of a Russian nuclear power plant, Britain's Prime Minister, Sir Keir Starmer, expressed his full confidence in Ms Siddika who continues to handle anti-corruption issues.

Donald Trump isn't the only world leader anxious to pull up the drawbridge against the influx of (mainly Asian) immigrants. Anti-foreigner sentiment is hardening in Germany, where elections are due in February, after the Magdeburg tragedy when a Saudi-born psychiatrist has lived in Germany for nearly two decades moved down Christmas market shoppers, killing five persons, including a toddler and injuring over 200 others. Denmark, Finland, Iceland, Norway and Sweden agreed to strengthen cooperation in deporting illegal migrants.

Although the Starmer government cancelled its predecessor's plot to send immigrants to Rwanda for vetting, British public opinion was far from happy. A Facebook post complained that over 12 million immigrants have entered Britain since 1987, 80 per cent of whom are totally dependent on welfare. Their upkeep adds up to nearly "a staggering" \$50 billion.

Britain's Prince Andrew hurtled from one scandal to another when MIS identified a friend of his as a Chinese spy and banished him from the UK. It was reported the prince might move to an opulent palace in West Asia.

As Britain's former trade envoy and patron of the Middle East Association, he knows the region well.

As Mr Biden commuted the sentences of 37 out of 40 prisoners on death row, Mr Trump vowed to execute "rapists, murderers, and monsters". The world is waiting now to see where he will strike next in the holy jubilee year that Pope Francis launched on Christmas Eve while Hindu sadhus squabbled over who owns India.

The writer is a senior journalist, columnist and author

LETTERS NO MEMORIAL

The news of post-cremation politics has wasted enough space of the newspapers of the nation. Whatever be the logic put forward by both the parties, the point to be taken home for future is that there should be no change from the precedent set based on approval of the Union Cabinet on May 16, 2013, for construction of Rashtriya Smriti Sthal, a common memorial site near Ekta Sthal in New Delhi. In fact, why not dispense with this practice altogether? It will put every citizen at par with each other and also save land and environment for humanity.

Col R.S. Narula (ret'd)
Patiala, Punjab

MANMOHAN BHAKTS

THERE is no way one can respect or disrespect a person once he or she has passed away. The BJP have unnecessarily waded into the question of Rahul Gandhi's impropriety of flying to Vietnam for whatever reason. Life is fast and the mourning period for any loved ones is observed in only a few countries. In India it is a custom to stop one's routine and only receive condolences from visitors. Some make a big show of their affection even if they have not been kind to the departed soul during the individual's life time. Better to take care of the ill person when the individual is living rather than weep torrents once he is no more.

Anthony Henriques
Mumbai

DESI POWER

FIVE MILLION Indian Americans have become one of the most influential communities in US society. While they may be just 1.5 per cent of the US population, they contribute \$300 billion in tax revenues annually and roughly \$450 billion in annual spending and they have been co-founders of 10 per cent of the unicorns there. Sixteen out of 500 Fortune 500 companies are currently led by people of Indian origin. Needless to mention that they are top participants in politics, economic growth and technology. It has been a two-way street where both parties have benefited. Mr Donald Trump must clearly stand on this to clear all the air as the US can only ignore Indians at their own peril.

Bal Govind
Noida, UP

FIRST COLUMN OVERCOMING THE GRIP OF FEARFUL THOUGHTS

Fearful thoughts often take hold of our minds, leading to obsession with worst-case scenarios



AJIT KUMAR BISHNOI

We routinely become obsessed with fearful thoughts. The word obsession is defined as a persistent disturbing pre-occupation with an often unreasonable idea or feeling. We don't stop there; we think of the worst. What is the probability of that happening? But that does not prevent us from this common flaw; we do it willingly. There are several reasons for succumbing to this. We have many attachments. We are desperate for something like a good result, and a few like we shouldn't get sick. Unfortunately, these are decided by the Divine Authority based on our past 'Karmas' (deeds). We have no say in it, and they manifest at their designated times. Fortunately, they are very rarely the worst we think of. If so, life would be hellish, which it is not. This earth's planet is a place of misery (The Bhagavad Gita 8.15) alright, but is not a concentration camp by any standard. But our imagination has no bounds.

The next big offender is a refusal to be prepared to tolerate. We want zero tolerance. Is it possible? Everything is changing like the weather. Bad 'Karmaphalas' (results of bad deeds) will manifest for sure because this is no Vaikuntha; we have most certainly a past with many bad karmas. How else are we here, not even in Heaven? We feel that we are intelligent, but hardly anyone escapes making this mistake. Yes, we are supposed to get fearful, because that protects us from acting foolishly, but excessive fear is due to faulty assessment. Due diligence is required.

The fourth offender is greed. Our desires are open-ended. Is it wise? The evidence shows that downfalls occur due to being too greedy.



But to become greedy and then fear the consequences makes zero sense. Over-stress also causes fearful thoughts, especially about health. It is better to avoid to lessen this possibility. We want to control and are unable to. We act stupidly and then fear the worst. The same problem exists in acting big, which no one can ever become; we are intrinsically small and will remain eternally so. Acting as the sole doer also evolves fearful thoughts. Giving control of our minds to fearful thoughts is making ourselves our enemies. Lord Krishna has warned about it (4.6). Similarly, intelligence is supposed to curb this tendency but, again, we find some justification in harming ourselves. This is also a sad commentary on our knowledge, about which we are so proud. A soul has severe limitations, as we realize; he must remain in the shelter of God. This is the only worthwhile solution. I am sorry to be so stern, but the proliferation of mental diseases points to it only.

God controls the Creation (9.10) and He, therefore, has to guide and help to deal with it. By ourselves, we are quite helpless really. How it works? It is quite simple, but a very long drawn exercise, because this problem involves our 'svabhava' (nature). This is what I do. The moment a fearful thought crosses my mind, I pray sincerely for guidance and help, because I need to know a way out. I need exact guidance for my actions.

God signals to me what I should do; He uses many ways to communicate. He helps where I fall short. Blissfully, my painful habit of fearing excessively is coming under some control. Thank God for this 'Kripa' (mercy).

(The writer is a spiritual teacher; views are personal)

Assessing efficacy and challenges of compensatory afforestation

With ecosystem at stake, the nation's approach to monetising and restoring nature demands careful evaluation and sustainable strategies write **BKP SINHA** and **ARVIND KUMAR JHA**

Compensatory Afforestation (CA) relates to the mitigation of environmental damage caused by the diversion of forest land for non-forestry purposes and is a mandatory requirement for obtaining clearances under the Forest Conservation Act, 1980; now Van (Sanrakshanev Samvadhan) Adhiniyam (VSSA) 1980 and Rules. The Government of India guidelines state that normally CA must be carried out on a suitable non-forest land equal to the forest area proposed for diversion and for minimizing the adverse impact on the micro-ecology, such land should be located as near as possible to the diverted area. If suitable non-forest land is unavailable, CA may be carried out on degraded forest land equal to twice the area of the diverted forest land. The unavailability of non-forest land in a district is certified by the District Collector and in the exceptional case of its unavailability in the whole state/union territory (UT), the chief secretary has to certify accordingly and CA land may be identified preferably in a neighbouring state/UT. As regards CA, the Government of India guidelines of 2017 and 2019 emphasised compensation for loss of land by land and that of trees by trees. They indicate that at least 1000 plants are to be planted in one hectare and in case 1000 plants are not possible to be accommodated, the balance may be planted in some other government forest identified by the state government. The states having more than 75% forest cover, however, are exempted from the task of procuring non-forest land for CA. Their CA can be taken up in states with deficient forest land/cover. As regards size, lands smaller than 5 hectares can also be accepted for CA if it is contiguous to a wildlife conservation area like National Parks and Wildlife Sanctuaries. Area equivalence criterion often leads to an understanding that any forest can be equated with tree plantations of any kind but the concept of Net Present Value (NPV) is additionally used to calculate the worth of diverted forests by attaching a monetary value to a whole range of goods and services provided by them. This amount is recovered from the project proponent.

The World Bank's 2002 strategy elaborates the NPV to include goods and services like wood and non-wood items, ecosystem services, support to water, climate regulation, soil & water conservation and flood prevention, carbon sequestration, nutrient cycling, health support systems and non-material benefits which may be spiritual, inspirational, recreational, aesthetic, educational etc. Its value thus extends far beyond economics and considering the interest of different stakeholders, the values of different components may also vary, such as the cultural significance of a tree species versus its commercial value as timber. The January 2022 guidelines of the Ministry of Environment, Forest and Climate Change (MoEFCC) have clubbed the forests of India into six Eco-classes to realize NPV instead of diverted forest land. Out of them, class I includes Tropical Wet Evergreen Forests, Tropical Semi Evergreen Forests, and Tropical Moist Deciduous Forests, while class II contains Littoral and Swamp Forests.



HOLISTIC DEVELOPMENT OF GREAT NICOBAR ISLAND PROJECT IS WORTH A LOOK. THE RS 72,000 CRORE INVESTMENT WILL DIVERT 130.75 SQ. KM. OF FOREST LAND FOR INFRASTRUCTURE DEVELOPMENT THAT INCLUDES A TRANS-SHIPMENT PORT, AN AIRPORT, A POWER PLANT, A DEFENCE BASE, AN INDUSTRIAL PARK AND A TOWNSHIP

Interestingly, the per hectare value of NPV for both these classes has been kept the same, an equality that appears surprising. It is crucial to arrive at a monetized figure for a unit of Nature/biodiversity and ensure that investing in it will offset the loss caused by diversion. Simultaneous sustainable development of biodiversity is of course a formidable challenge. Accordingly, any oversimplification of biodiversity assessment can lead to inaccuracies and undermine genuine conservation efforts.

The limitations faced in offsetting losses just through CA are amply covered by CAG reports. Unfortunately, the resource position at the world level also, despite the wrath of climate change being faced globally, shows an annual funding gap of about USD 700 billion in nature conservation. Against the above background, the proposed CA and NPV to mitigate the diversion of forest land in the 'Holistic Development of Great Nicobar Island' (GINI) project is worth a look. The Rs72,000 crore investment will divert 130.75 sq. km. of forest land for infrastructure development that includes a trans-shipment port, an airport, a power plant, a defence base, an industrial park, and a township.

The project involves the felling of an estimated one million trees with habitat destruction that would also impact the life, livelihood, and forest rights of the Shompens, a particularly vulnerable hunter-and-gatherer tribal group. The MoEFCC claims to have incorporated into the project some exemplary mitigation measures, including compensatory afforestation, into the project in compliance with the provisions of the VSSA 1980 while securing India's strategic national and defence interests. Out of the total CA area of 26,000 hectares, locating 24,354 hectares in Haryana is justified by highlighting

that planting native species in arid landscapes and near urban areas is of greater ecological value. Talks are said to be on with the Madhya Pradesh government for situating the balanced CA area. The CA in Aravalli's arid/semi-arid region, approximately 2,400 kilometres away, to compensate for the loss of pristine rainforests of Great Nicobar is a significant departure from the guideline regarding the positioning of CA land. Reportedly, the CA with 33000 crore's investment is expected to be mostly a revival plan to improve the soil texture and fertility and to make stone boundary walls since the proposed area already has root stock requiring just protection and supplemental planting wherever required.

Indicative of the natural limits imposed by edaphic, geographical, and climatic factors, the Forest Survey of India (FSI) 2021 report on forest status shows that the carbon stock per hectare in A&N forests is fourth highest in the country; next only to Himachal, Sikkim, and J&K while Haryana has the second lowest; next only to Delhi.

This fact does raise questions regarding the possibility and efficacy of compensating adequately Nicobar's loss of carbon stock and biomass by investing CA money in Haryana. Considering the aspect of NPV, it is worth noting that Nicobar island forests are more like that of Malaysia and Indonesia while the Andaman Islands' flora is more akin to the species found in Myanmar, Thailand, and Northeast India. FSI's rapid biodiversity assessment in A&N islands in 2018-19 found that shrubs and herbs together were more than double the number of trees. Many species found there do not occur in mainland India. The understory and emergent layers with profuse regeneration, herbs, and

shrubs indicate a vibrant ecosystem wherein approximately half of the mammals, a third of the birds, a quarter of the reptiles, and over a tenth of flowering plants are endemic. A crucible for the habitat rights of the Shompen tribe notwithstanding, it is home to the endangered Nicobar Megapode and Leatherback Turtle, and has over twenty thousand coral reefs in its vicinity. In 1989, the UNESCO declared a significant portion of the island as a biosphere reserve. Despite such uniqueness, distinctive parameters, and ecological significance; its NPV per hectare is exactly equal to the forests in Eco-classes I and II. GIN is just one project.

An in-depth analysis of forest land diversion cases can provide, in addition to actionable issues related to limitations and risks in setting just through the prevalent CA and NPV model, important insights into ways to minimize harm to Nature, redemptive ability of loss to forest ecosystems, correct determination of NPV, efficient investments in Nature recovery and restoration initiatives, handling of habitat rights of the primitive tribes and pre-agricultural communities, and regulations needed to ensure accountability.

Nature's monetization and biodiversity markets are fast emerging as potential funding sources for conservation. Their effectiveness demands an honest valuation of diverted forests and a strict implementation of conservation strategies. The outcomes depend on those having the power to decide. Only time will tell, but the decisions made today will echo through the annals of history shaping the destiny of our country and of humanity itself. (The writers are former PCFCEs of U.P. and Maharashtra; views are personal)

Indian agriculture and climate change: Challenges and strategies

India is forging a path toward climate-resilient agriculture, leveraging innovative strategies, integrated farming practices and government-led initiatives

The agriculture and allied sectors play a central role in the sustainable growth and development of India's economy. These sectors not only ensure food and nutritional security for the country's 1.4 billion people but also contribute significantly to production, employment, and demand generation through various backward and forward linkages. While agriculture constitutes about 16% of India's GDP, it supports nearly 49% of the workforce (Economic Survey, 2018). However, with over 50% of India's cultivated land dependent on rainfall irrigation, the sector is highly vulnerable to climate variability. The ongoing challenges to sustain the natural resource base further



PRAVESH SHARMA

amplify the adverse impacts of climate change, which disproportionately affect the poor. Challenges Posed by Climate Change on Agriculture

1. **Rainfall Variability:** The increasing intra-seasonal variability of rainfall has emerged as a major concern. Rainfall patterns are becoming increasingly skewed, characterized by fewer rainy days with higher intensity. This results in sig-

nificant soil erosion and exacerbates the length of dry spells. Deviations in the hydrological cycle are contributing to extreme events, such as floods caused by intense rainfall or droughts triggered by prolonged dry spells, impacting different parts of the country.

2. **Temperature Rise:** Rising temperatures pose a greater threat to tropical countries like India, which already operate near the higher end of the temperature spectrum. Elevated temperatures influence various climatic factors, adversely impacting crop production. For instance, extreme heat reduces fruit setting in citrus crops and increases transpiration losses in vegetables.

3. **Livestock and Poultry Impact:** Climate variability also affects animal production

and reproduction. Increased temperatures and higher temperature-humidity index levels lead to reduced feed intake, lower milk yields, and decreased meat and egg quality. Poultry, in particular, suffers from heat stress, resulting in thinner eggshells and increased egg breakage.

4. **Pests and Diseases:** Climate change influences the population, survival, and geographic distribution of pests and diseases. Rising temperatures and humidity levels create favorable conditions for pest proliferation, making control measures more challenging and unpredictable.

Mitigation and Adaptation Strategies

Adaptation to climate change involves anticipating adverse impacts and taking proactive



measures to minimize damage or leverage emerging opportunities. Given that most Indian farmers are smallholders with limited coping capacity, building resilience is key.

1. **Water Resource Management:** Enhancing rainwater productivity through scientific rainwater harvesting, recycling, and precision water use is essential. Improved irrigation techniques and water budgeting can mitigate the impact of erratic rainfall.

2. **Integrated Farming Systems:** Combining crop cultivation with livestock, fisheries, and plantations offers diverse income streams and reduces climate vulnerability. Contingency planning for alternate crops and activities based on agro-climatic conditions further strengthens resilience.

3. **Technology and Innovation:** Developing stress-tolerant crop varieties, conserving agro-biodiversity, and promoting resource-efficient technologies are critical. Pest forecasting models, weather-based advisories, and agricultural risk management systems should be expanded to aid farmers in decision-making.

4. **Community Involvement and Education:** Engaging

local communities in production system management and raising awareness about climate-resilient practices is vital. Farmers, consumers, and markets must be educated to embrace sustainable agricultural practices that align with cultural and social contexts.

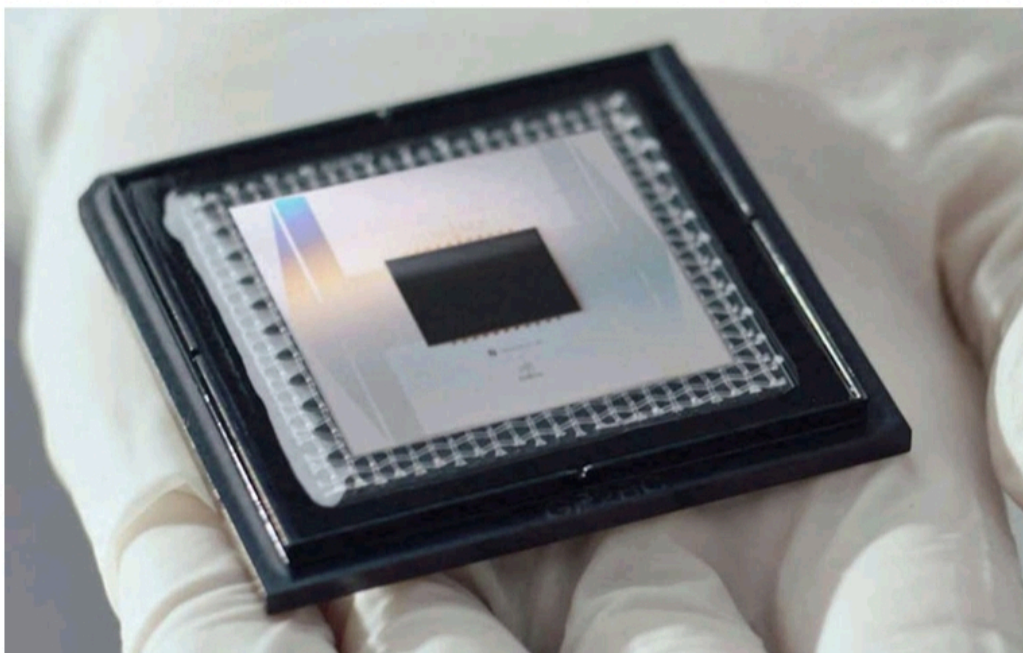
Government Initiatives to Address Climate Change

The Government of India has taken several steps to combat climate change.

National Action Plan on Climate Change (NAPCC): Guided by the Prime Minister's Council on Climate Change, the NAPCC includes the National Mission for Sustainable Agriculture (NMSA), focusing on resource conservation, soil health, integrated farming, and water-use efficiency.

National Innovations on Climate Resilient Agriculture (NICRA): This initiative provides scientific and technical guidance for sustainable agricultural development. Key Program Interventions: Policies like the Pradhan Mantri Krishi Sinchayee Yojana, National Food Security Mission, and Soil Health Card Scheme aim to enhance soil health, water efficiency, and farm productivity.

District Agricultural Contingency Plans: These plans provide integrated solutions for crop, livestock, and fishery challenges arising from weather anomalies, supporting farmers during extreme conditions. (The writer is a retired IAS officer; the views expressed are personal)



Google Quantum AI's Willow chip. GOOGLE/REUTERS

Willow is a small chip for Google but a quantum leap for computing

A major impediment to realising quantum computers is the fragility of quantum states. Qubits collapse at the slightest disturbance. This limits the amount of time for which qubits can hold information, how error-free a quantum computer can keep its calculations, and how well it can be scaled

S. Srinivasan

Google recently unveiled its latest quantum processor, named 'Willow'. The research team that built it also tested it, and the results were published in *Nature*. They created a great level of buzz about the realisability of quantum computers that could tackle many practical problems.

The results also kicked up intriguing debates about explaining the power of quantum information processing and how they could solve problems that even the most powerful classical computers struggle with.

Bit versus qubit

Computers process information stored in an array of 0s and 1s. In classical computers, some physical system with two possible states is used to represent these 0s and 1s. These physical systems are called bits. A common example is an electric circuit that allows two levels of voltage, one called 0 and the other called 1. A classical computer is a collection of bits together, and the information flowing in and out of bits is controlled and manipulated by physical operations called gate operations. For example, an 'AND' gate accepts two inputs, each either 0 or 1, and outputs 1 if both inputs are 1 and 0 for any other combination of inputs.

A quantum bit, or qubit, has two distinct states representing 0 and 1. More importantly, a qubit can be in states that are also combinations of 0 and 1. This feature is called quantum superposition. Classical bits can't do this. Because of this ability, each qubit needs two distinct numbers to represent the contributions of 0 and 1 respectively, in the qubit's state. If we have two bits, we need two numbers, one for each bit, to represent the state of the collection. With two quantum bits, we need four numbers to represent the state. For 10 bits, we need 10 numbers to represent the state of the collection. For ten qubits, we need 2^{10} (1,024) numbers.

This exponential growth in the information required to represent qubits' states and the superposition of states are the major reasons why quantum computers could be more efficient and powerful than classical computers. Like a classical computer, a quantum computer is also a collection of qubits and a host of physical operations called quantum gates that change the states of qubits to perform calculations.

Difficult to isolate

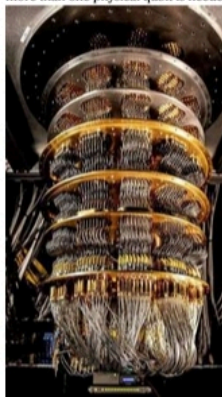
A major impediment to realising quantum computers is the fragile nature of quantum states. Specifically, while classical bits are robust and long-lasting, qubits are fragile and collapse quickly at the slightest disturbance. This in turn limits the amount of time for which qubits can hold information, how error-free the quantum computer can keep its calculations, and how well a quantum

computer can be scaled.

It is difficult to isolate a physical gadget to avoid perturbations due to external noise. Therefore, computations are prone to errors. For example, when a bit is expected to represent 0, there is a small chance it may be in the state representing 1. This is called the bit flip error. Methods to identify and fix these errors are called error-correction protocols.

A single 0 is represented by three bits in the state 000 (corresponding to each bit in the state 0). If there is a bit flip error, the resulting state could be 100, 010, or 001 (depending on whether the first, second, or third bit is flipped). Similarly, 1 is represented as 111. If we need to encode 01 as the basic information, its true representation is 000111. Looking at the concatenated sequence in groups of three bits, the occurrence of 100, 010, 001, 011, 101, or 110, will mean an error has crept in. When three physical bits represent one logical digit, it is easy to figure out which bit has flipped and correct it suitably before the next step in the computation.

Similarly, one way to mitigate the effect of errors in a quantum computer is to correct them using additional qubits that keep track of errors creeping in during computations. This is a logical answer to the error problem; it is, however, unsuitable for qubits in superposed states. Creating exact copies of unknown superposed states is prohibited by the no-cloning theorem of quantum physics. On the other hand, error correction often requires redundancy, i.e., providing more qubits than what is needed to encode information. This makes it clear that more than one physical qubit is needed



A cryostat refrigerator for cooling quantum computing chips at Google's Quantum AI lab in Santa Barbara, California. VIA REUTERS

to represent a single logical qubit. (Qubits also have another type of error called phase flip error, which presents similar challenges to error correction.)

One effective method to detect and correct errors in a quantum computer without also violating the no-cloning theorem is called surface code. Here, engineers arrange an array of qubits on a grid. The qubits are grouped into two categories, namely data qubits and measurement qubits. While the error in data qubits is what we wish to identify and correct, any attempt to measure them will force them out of superposition, and whatever information they encode will be lost.

To avoid this, the surface code method provides the set of measurement qubits. These qubits are entangled with data qubits through suitable gate operations. (If two qubits are entangled, any measurement of one particle will instantaneously cause the other particle to lose its superposition state.) In this setup, the presence of errors in the data qubits is inferred by making suitable measurements of the measurement qubits while using the gates to prevent the data qubits from being affected, and thus correcting inconsistencies in data qubits.

The error rate

According to Google, its new quantum processor, Willow, has significantly better error correction and is thus significantly faster than other quantum computers, not to mention classical computers as well. The researchers who developed it tested it by using it to solve a computationally hard problem.

Willow houses 105 physical qubits and operates at temperatures close to the theoretically possible lowest temperature (0 K, -273.15°C). Nearly half of these are data qubits, and the remaining are measurement qubits. The superconducting qubits are not strictly two-state systems. When performing gate operations, the physical system can get excited or 'leak' to states other than 0 and 1. These excited states can subsequently interfere with the computations and introduce errors. So a few qubits – i.e. the measurement qubits – are reserved to correct such leakage errors.

Coherence time is the duration over which an intended state (typically, superpositions) of a qubit can survive without being changed due to interactions with the environment or with other parts of the computer. The coherence time of data qubits on Willow is about 100 microseconds, which is more than the coherence time of the physical qubits. This is a consequence of the error correction protocols used. This in itself is an interesting result because it means the information-holding time can be improved by external manoeuvring.

The next milestone for researchers to achieve is to lower the error rate – calculated as the ratio of the number of qubit errors to the number of gate

Willow houses 105 physical qubits and operates at temperatures close to the theoretically possible lowest temperature. Nearly half of these are data qubits, and the remaining are measurement qubits

operations – as they build ever-larger quantum computers with more physical qubits and more error correction operations. Google alone has progressed from 3-by-3 to 5-by-5 to 7-by-7 arrays of data qubits, and the error rate has decreased by more than half in each step.

What one expects for a collection of qubits on a circuit is that the error rate either remains the same or increases as the number of qubits is increased. That the error rate becomes smaller as more qubits are added is the below-the-threshold capability of Willow's architecture and operation. This is vital to achieving quantum processors with enough qubits that perform almost error-free computations of problems of practical relevance – the ultimate goal.

No dead ends

The particular computationally difficult task with which Google tested Willow is called random circuit sampling (RCS). In the RCS task, Willow has to calculate the probability of occurrence of possible strings of 0s and 1s in the output when the quantum gates that act on the qubits are chosen randomly. If there is no noise, RCS is a computationally hard task, meaning that the number of calculations required to make the prediction increases exponentially with the input size.

Willow completed the RCS task for random gate operations realisable on Willow in a few minutes. The researchers estimated that the same task on the most powerful classical computer available today would take 10 septillion years (i.e., 1 followed by 24 zeroes). To compare, the universe's age in years is approximately 1 followed by 10 zeroes. It is plausible that classical computers running better algorithms may eventually match Willow's feat, although researchers are not aware of such improvements today.

Researchers are still a long way away from realising quantum processors of reasonable size to be useful in practical contexts. This said, it's only natural that Willow created the sort of buzz that it did: it has shown that the major issues in realising a reliable quantum computer can be addressed and surmounted, that they are not dead ends. The work of the Google team provides hope that quantum computers may soon help us unravel nature's mysteries and also solve computationally difficult problems in drug design, materials science, climate modelling, and optimisation, among others – all with deep societal impact.

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A Brazilian security officer during an operation to combat illegal mining in the Amazon. REUTERS

Amazon caps brutal year of fires, drought

Associated Press

2024 was a brutal year for the Amazon rainforest, with rampant wildfires and extreme drought ravaging large parts of a biome that's a critical counterweight to climate change.

A warming climate fed drought that in turn fed the worst year for fires since 2005. And those fires contributed to deforestation, with authorities suspecting some fires were set to more easily clear land to run cattle.

The Amazon is twice the size of India and sprawls across eight countries and one territory, storing vast amounts of carbon dioxide that would otherwise warm the planet.

It has about 20% of the world's freshwater and astounding biodiversity, including 16,000 known tree species. But governments have historically viewed it as an area to be exploited, with little regard for sustainability or the rights of its Indigenous peoples.

"The fires and drought experienced in 2024 across the Amazon rainforest could be ominous indicators that we are reaching the long-feared ecological tipping point," said Andrew Miller, advocacy director at Amazon Watch, an organisation that works to protect the rainforest.

There were some bright spots. Forest loss in Brazil's Amazon, home to the largest swath of this rainforest, dropped 30.6% compared to the previous year, the lowest level of destruction in nine years.

The improvement under leftist President Luiz Inácio Lula da Silva contrasted with deforestation that hit a 15-year high under Lula's predecessor, far-right leader Jair Bolsonaro, who prioritised agribusiness expansion and weakened environmental agencies.

In July, Colombia reported historic lows in deforestation in 2023. The country's environment minister warned that 2024's figures may not be as promising as a significant rise in

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deforestation had already been recorded by July due to dry weather caused by El Niño, a weather phenomenon that warms the central Pacific. Illegal economies continue to drive deforestation in the Andean nation.

"It's impossible to overlook the threat posed by organised crime and the economies they control to Amazon conservation," said Bram Ebus, a consultant for Crisis Group in Latin America. "Illegal gold mining is expanding rapidly, driven by soaring global prices, and the revenues of illicit economies often surpass state budgets allocated to combat them."

In Brazil, swaths of the rainforest were draped in smoke in August from fires raging across the Amazon, Cerrado savannah, Pantanal wetland, and the state of São Paulo. Fires are traditionally used for deforestation and to manage pastures, and those human-made blazes were largely responsible for igniting the wildfires.

For a second year, the Amazon River fell to desperate lows, leading some countries to declare a state of emergency. In Brazil, one of the Amazon River's main tributaries dropped to its lowest level ever recorded.

It was the worst year for Amazon fires since 2005, according to nonprofit Rainforest Foundation U.S. Between January and October, 15.1 million hectares of Brazil's Amazon burned. Bolivia had a record number of fires in the first 10 months of the year.

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