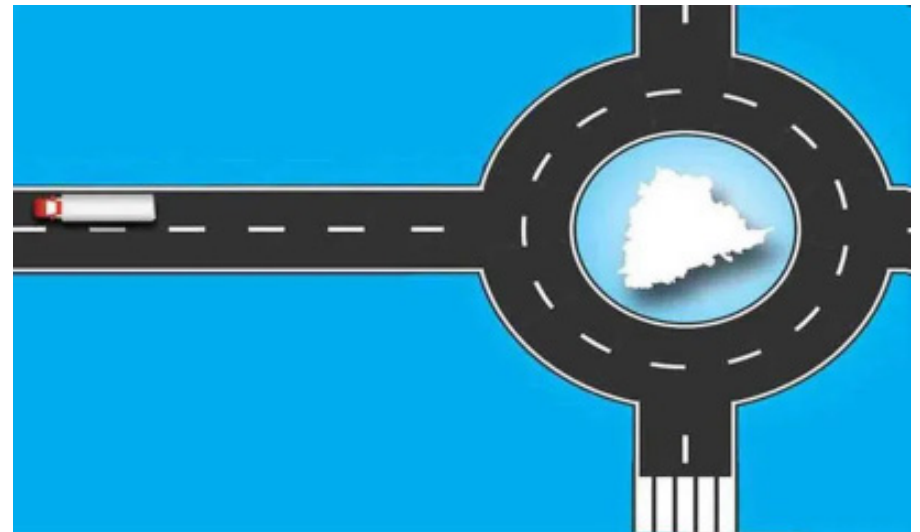


Regional Ring Road to change face of erstwhile Medak district

Sangareddy: The proposed Regional Ring Road (RRR), the brainchild of former Chief Minister K Chandrashekhar Rao, will provide a facelift to the erstwhile Medak district. Since the works of the 161 km long highway are all set to be grounded by the National Highways Authority of India (NHAI), the RRR will improve the connectivity to Sangareddy, Siddipet and Medak districts and towns such as Gajwel, Toopran, Narsapur, Jagadevpur, Kandi and other places in the district.

As many as 110 km of the RRR is passing through the erstwhile Medak. The RRR will start at Girmapur in Sangareddy close to NH-65 and end at Choutuppal in the Yadadri-Bhongir district close to the other side of NH-65. The government will acquire 4,500 acres of land for the project and spend

Rs.5,557 crore on the northern half of the RRR. However, the cost is expected to up when the project is grounded due to rising material costs. The citizens of Medak observed that it would lift the real estate sector between RRR and ORR where landholders would benefit the most. Since the connectivity roads between RRR and ORR would also be improved, a citizen, R Suresh said that the the entire area between RRR and ORR would transform. Of the eleven interchanges proposed on the northern half, seven would be in the erstwhile Medak district. The ORR will connect NH-65, NH-161, NH-765D, NH-44, NH-17, NH-01, and Rajiv Rahadhari. The RRR will ease out the traffic on the Rahadhari, as well as provide short and safe connectivity to many places across the State from Medak district.



Parents shun Telangana government schools and colleges, prefer private institutions: UDISE Report



Hyderabad: In a worrisome trend in public sector education system, the government schools and junior colleges in Telangana have seen a massive drop in admissions, marking a stark contrast to growing popularity of the private institutions. Admissions dropped from 33,03,699 in the academic year 2021-22 to 30,09,212 in 2022-23 to 27,79,713 in 2023-24, 5,23,986 less enrollments compared to 2021-22. This drop rang alarming bells in the government establishment about the quality of education being offered in the public schools and colleges. On the other hand, admissions have surged in the private institutions from 35,14,338 in 2021-22 to 39,27,042 in 2022-23 to 44,31,380 in 2023-24, making 9,17,042 more admissions compared to 2021-22. Ironically, the number of government institutions was 30,022 as

against 12,126 private institutions during the academic year 2023-24. This has been revealed in the Unified District Information System for Education (UDISE) plus report, which has recently been released by the Ministry of Education. Despite holding Badi Bata (admission drive), the government school recorded a drop in admissions. For the last several years, the government school teachers have been holding an admission drive by reaching out to every household and enrolling students into their respective schools. In addition, children from Anganwadi centres were being directly admitted to the government primary schools. In fact, 1.5 lakh students from the private sector shifted to government schools as parents could not afford to pay the school fee during the Covid-19 pandemic and subsequent lockdowns. Further, due to demand for En-

glish medium education, the government had introduced the same in all its schools across the State. To ensure smooth transition of students from Telugu into English medium education, bilingual textbooks were also provided to students. All these efforts appear to have failed to retain students, let alone increase in enrollments. "Due to lack of enough infrastructure students who joined during the Covid-19 pandemic period shifted to private

schools. Moreover, supervision of the schools is lacking. Also, it is a status symbol for parents to enroll their wards in private schools. At least now the government has to provide basic amenities, improve infrastructure and fill up supervising posts besides instilling confidence among parents in the public education system," said Chava Ravi, president United Teachers' Federation Telangana State.

235 private, corporate junior colleges yet to receive affiliation from TG BIE

Hyderabad: As the Intermediate Public Examinations (IPE) 2025 registrations with a late fee of Rs. 2,000 set to conclude on Thursday, over 35,000 students still have not paid the exam fee. The reason? The 235 private and corporate junior colleges are yet to receive affiliation from the Telangana Board of Intermediate Education (TG BIE) for the academic year 2024-25.

These colleges have been operating in the mixed occupancy buildings, housing both educational institutions and commercial establishments.

As per the GO 29 issued by the Home department in 2020, all the junior colleges which are 15 metres in height and exist in the mixed occupancy buildings must apply to the Telangana State Disaster Response and Fire Services department seeking fire NoC. However, these colleges failed to receive fire NoC as they did not meet required fire safety norms.

The State government in the past exempted these colleges from obtaining fire



NoC for the academic years 2022-23 and 2023-24. The colleges had been instructed to shift to a suitable building for the academic year 2024-25. However, colleges admitted students for the academic year 2024-25 and the Board refused to grant the affiliation. "The Chief Secretary recently convened a meeting on this issue. A nod for these colleges for this academic year is expected in a couple of days," said an official.

After approval from the government, the Board would extend the deadline for exam registrations, the official added.

Can a chemical made by your gut bacteria help you live longer?

For thousands of years, healers across cultures believed fasting and bile (the bitter fluid aiding in fat digestion) held special powers to restore health and vitality. Now, pioneering research published in *Nature* suggests they may have been right without knowing exactly why. Two new studies reveal how a compound produced by gut bacteria during digestion might mirror fasting benefits without drastically cutting calories. This finding could hold clues to slowing ageing and improving health.

Scientists have long known that eating about 40% less than normal, a practice called caloric restriction, can extend lifespan and improve health in creatures ranging from yeast to monkeys. By activating ancient survival mechanisms within our cells, caloric restriction promotes repair and renewal throughout the body. But the challenges are steep and include muscle loss, constant hunger, trouble staying warm, and the sheer difficulty of sustaining such a strict diet in today's food-filled world. Sheng-Cai Lin and his team at Xiamen University in China set out to find an alternative. Could the benefits of caloric restriction be captured in a single molecule? To find out, they sifted through hundreds of compounds in the blood of calorie-restricted mice. Among these, one molecule stood out, lithocholic acid, or LCA, a compound produced when gut bacteria break down bile.

To explore LCA's effects, the researchers turned to organisms commonly used to study ageing. They started with microscopic worms and fruit flies—creatures that share basic biological processes with humans but age much faster. LCA extended their lifespan and improved their stress resilience. Encouraged by these results, they tested LCA in mice, with remarkable outcomes. Older mice treated with LCA showed striking improvements in health. Their muscles grew stronger and repaired themselves better. They ran farther, gripped harder, and managed blood sugar more effectively, all without the muscle loss typically associated with calorie-restricted diets. These results suggest that LCA can deliver fasting-like benefits while avoiding its most punishing drawbacks. To understand how LCA works, the team mapped its journey inside cells. The molecule binds to a protein called TULP3, which initiates a chain reaction that enhances energy management and repair, mirroring the benefits of fasting without dietary restrictions. The study adds to growing evidence linking gut microbes to health. The research underscores how gut bacteria might influence healthy ageing. These microbes produce LCA by breaking down bile acids, suggesting a deeper connection between the microbiome and ageing. This might help explain why some people age more gracefully than others and why transplanting gut bacteria from younger to older animals can improve health.

Yet scientists are quick to caution against rushing to take LCA supplements. While the compound improved health markers in mice, it didn't significantly extend their lifespans as it did in simpler organisms. At high doses, LCA can harm the liver, with the line between helpful and harmful still unclear. Human biology adds another layer of complexity. Laboratory animals live in con-

trolled environments, eat standardised diets, and share similar genetic backgrounds. Humans, in contrast, have diverse diets, unique genetics, and longer lifespans, making treatments both harder to design and riskier to test. Additionally, gut bacteria vary dramatically between individuals, influenced by diet, medications, and health. Since LCA production depends on these microbes, responses could differ widely from person to person. To address these challenges, the researchers are now studying primates, whose biology and lifespans are closer to ours. They're also exploring whether dietary changes or microbiome-targeted therapies could naturally boost LCA production, avoiding the risks of supplementation. The journey from laboratory discovery to human treatment is long and unpredictable. Many promising compounds fail during clinical trials, either because they don't work in humans or because side effects emerge over time. Still, this research offers a window into the mechanisms of ageing and hints at ways to improve health in later life. What makes this discovery remarkable is how it validates age-old beliefs about fasting and bile while unravelling the



molecular processes behind their effects. As humans live longer than ever, understanding how our bodies' natural processes affect ageing could pave the way for new treatments for age-related diseases. While there's no miracle pill yet, these findings mark an

exciting step toward learning more about how we might age better. Anirban Mahapatra is a scientist and author, most recently of the popular science book, *When The Drugs Don't Work: The Hidden Pandemic That Could End Medicine*. The views expressed are personal.

How India is winning the war against malaria

.Project management is vital in a world of rapid innovation and digital transformation. Upskilling ensures professionals can lead efficiently and adapt to accelerating changes. The Certificate Programme in Project Management from IIT Delhi teaches key concepts and principles. You will learn to manage projects effectively, focusing on time, budget, and quality. The programme covers tools and techniques for all project stages. Enrolling will strengthen your planning skills and help you set and achieve clear goals. Industry data is a clear indicator of winds of change in the project management domain. A report in Deloitte1 titled: How Project Management Can Be an Organisation's Results Engine mentions how "project management is more than just tracking a project and reporting updates. When done correctly, project management becomes an organisation's results engine. It is a key connector between strategy and execution that ensures the right projects are affected in the right way, with the right people, at the right time". Let's deep dive into the various aspects of the project management programme from IIT Delhi. This programme offers an excellent chance to learn from industry experts, master modern methods, and establish yourself as a leader in project management. Presuming that the broad contours of project management are understood, it is important to know just how this course will benefit professionals. One of the first takeaways from this course is getting to know the complete project management trajectory from defining the project scope to closure. Programme highlights Professionals will learn how to effectively leverage project management skills. This knowledge will help increase profits and achieve a sustainable



competitive advantage in today's competitive market. Students will learn to apply globally recognised project management frameworks to tackle real-world challenges. These frameworks provide structured approaches that enhance efficiency and effectiveness in delivering successful projects across various industries. Participants will learn to apply risk analysis techniques effectively. Monitor projects to ensure they stay on schedule and within budget, enhancing overall project success and resource management. Understand Six Sigma, Quality Management, and Agile Project Management and learn to apply these methodologies effectively within an organisational context to enhance productivity and improve project outcomes. Programme modules A closer look at the electives that are part of the programme will further help you understand

how this comprehensive curriculum will help you prepare for future challenges. This programme comprises 30 modules, which are very elaborate and detailed in its scope. Look at some of the electives to have an idea of what all comes under its purview: Project Life Cycle and Initiation, Project Scope Management and Project Charter, Assumption and Constraint Log, Portfolio Approach to Project Management, Project Cost Management, Exposure to Software Applicable in Project Management, Critical Chain Project Management: Guiding Principles and Guru-mantras, Value Analysis & Value Engineering (VA/VE) and Value Delivery Systems in Project Management, Project Commissioning, Closure & Handover among others. The Indian Institute of Technology Delhi (IIT Delhi) is one of the 5 initial IITs established for training, research, and development in science, engineering,

Work with Renewed Enthusiasm in the New Year

Hyderabad :On the occasion of the New Year 2025, celebrations were held at the Rachakonda Commissionerate office in Neredmet under the leadership of Commissioner Sudheer Babu. The event was attended by Rachakonda DCPs, Additional DCPs, ACPs, Inspectors, ministerial staff, and other personnel. During the meeting, Commissioner Sudheer Babu stated that the police profession comes with numerous challenges. He noted that, despite working tirelessly to maintain law and order, recognition may not always come as expected. However, he emphasized the importance of fulfilling responsibilities with dedication. He advised the officials and staff to treat victims who approach the police station with empathy, patiently listen to their grievances, and act in a friendly manner.

The Commissioner stressed the need for senior officers and field-level staff to be well-versed with the latest criminal laws. He urged them to report any obstacles faced in implementing new laws to higher authorities promptly. He called on all departments and staff to work collectively while ensuring that individual job responsibilities and tasks assigned by higher authorities are executed with discipline. He advised senior officials to guide their subordinates regularly and resolve issues faced by field-level personnel, thereby



showcasing effective leadership.

Highlighting the achievements of the Rachakonda Commissionerate, he mentioned that it has consistently maintained a high conviction rate, thanks to the collective

efforts of officers and staff at all levels. He expressed pride that the Commissionerate continues to lead in crime conviction rates every year. In light of the upcoming local body and panchayat elections in the state, the Commissioner instructed the teams to imple-

ment preventive security measures and other precautions from now on to avoid any untoward incidents in their jurisdiction. The event was attended by Rachakonda DCPs, Additional DCPs, ACPs, Inspectors, ministerial staff, and other personnel.

BITS Pilani – Hyderabad Campus Unveils Groundbreaking Nalini Kurra Wind Tunnel Facility

Hyderabad: BITS Pilani – Hyderabad Campus proudly inaugurates the Nalini Kurra Wind Tunnel Facility, a cutting-edge research facility designed to propel advancements in aerospace, automotive, and structural engineering. This state-of-the-art facility has been made possible through the generosity of Mr. Goutham Kurra, an esteemed alumnus of BITS Pilani (Batch of 1993-98), co-founder of Wisq and Glint, and the event's Chief Guest. His contribution underscores his deep commitment to fostering innovation and excellence at his alma mater. The inauguration also saw the presence of Mr. Raju Reddy, co-founder of Kakatiya Sandbox, Sierra Atlantic, and a global technology leader.

The facility has been completely designed internally, and would help drive research and innovation in aerodynamics, renewable energy, and advanced engineering. It would also provide a platform for startups to test prototypes for drones, wind turbines, and electric vehicles, while strengthening hands-on learning and interdisciplinary projects for students. Through collaborations with industry leaders and agencies like DRDO and ISRO, the facility will enhance India's aerospace and defence capabilities, contributing to the nation's innovation ecosystem. Speaking on the occasion, Goutham said, "BITS Pilani has played a pivotal role in shaping my career.

It is an honor to give back to the institution that helped me grow. I hope this facility accelerates research and inspires new heights of innovation in the field of aerospace and quantum physics". Prof. V. Ramgopal Rao, Vice Chancellor, BITS Pilani, emphasized the significance of the facility, and said "The Nalini Kurra Wind Tunnel Facility is not



just a new addition to our campus, but a symbol of our relentless pursuit of research excellence. It's a testament to our commitment to creating infrastructure that fosters groundbreaking innovation." Professor Soumyo Mukherji, Director of BITS Pilani –

Hyderabad Campus, stated, "This facility will be pivotal in creation of innovative startups. It would empower students and faculty to address global challenges in aerospace, automotive, and renewable energy sectors." Prof. Arya Kumar, Dean of Alumni

Relations, said, "The facility is a powerful example of the continued support from alumni. Mr. Goutham Kurra's contribution is a step forward to encourage students and faculty to come out with deep technology start-ups through purposive research."

What is 'badge engineering' in cars, how it helps customers, automakers

Almost one in two cars sold by Toyota Kirloskar Motor over the past one year in India was a rebadged Maruti Suzuki product — which propelled Toyota to its best-ever wholesale figures and a more than 40% year-on-year growth in unit sales in FY24. "Badge engineering" is proving to be an effective sales strategy for carmakers, and it is likely to remain popular in the new year. What is it, and why is it working so well for manufacturers such as Toyota and Suzuki in India? Platform sharing, with tweaks

Badge engineering refers to the sharing of a platform or an entire vehicle by different car manufacturers, with at least one of them not needing to design or engineer a new model from scratch. Thus, two differently branded cars can share the same platform, broad design cues, and the engine or parts of it, with perhaps some of the aesthetics tweaked to align with the design characteristics of the individual brands. There are differences in aims and degrees — so, rebadging could produce completely different cars from the same platform, or maybe just swap badges with little else done to give each car a different or distinctive look. Different cars, same look. The Toyota and Maruti Suzuki twins on Indian roads are the most visible examples of this success. 'Badge engineering' goes back a century, but has not always worked out for manufacturers. For a century, from GM to Tata

One of the first documented cases of badge engineering dates back to 1909, when General Motors started sharing its chassis and platforms with all its different brands.

So GMC, which was traditionally identified as a truck builder, began to offer its products with Chevrolet bending on the hood — and vehicle platforms were progressively shared with the other GM brands including Oakland, Oldsmobile, Buick, and Cadillac. Exterior appearances were upgraded and interiors were spruced up for the premium brands such as Buick and Cadillac. In India, the Hindustan Motors Ambassador was probably the earliest successful badge-engineered product, with a production life from 1957 to 2014. At its core, the good old Ambassador was a rebadged Series III Morris Oxford. The Rover CityRover, marketed by the former British manufacturer MG Rover under the Rover marque from 2003-05, was a rebadged version of the Tata Indica. While the Indica was a success in India, the souped-up Rover version was pummeled in the United Kingdom as a crude attempt to keep MG Rover out of bankruptcy. badge engineering, Toyota Maruti Suzuki: Different cars, same look. The costs and the benefits

The auto industry is highly capital intensive, and economies of scale matter. By producing more of the same, companies can share costs and increase volumes, while keeping overheads low by spreading investments across models. While most consumers know the cars are similar, they can base their buying decision on factors such as familiarity with a particular brand, the warranty on offer, or convenience of reaching a dealership. And carmakers can position themselves as builders of a premium product that costs more than the models they are generally associated with. Companies also get the

opportunity to widen their customer base in both directions — thus, Maruti Suzuki can reach the upward end of consumer segments, and Toyota Kirloskar can tap consumers at the lower end.

Maruti Suzuki can offer a Grand Vitara owner an upgrade to an Invicto premium utility vehicle — a rebadged Toyota Innova Hycross — which allows it to retain customers even as they move up the price bracket. For Toyota, there is the option of offering customers multiple options in the lower-end segment, where it has traditionally struggled in India. With the Taisor and Glanza in Toyota showrooms, a Fortuner owner now has the option to buy a smaller second car. The partnership also enables Toyota to offer cars kitted with the CNG option, a big draw in the utility vehicle segment. While the Toyota-Maruti Suzuki twins are practically the same cars, the Toyota versions tend to be slightly more expensive. For instance, the Taisor is about Rs 22,000-25,000 costlier than the Fronx variants with the 1.2-litre petrol engine. The trims with the more premium 1.0-litre turbocharged engine are almost identically priced, however. In the case of the Grand Vitara, Maruti sells more of the lower-priced mild hybrid variants, while Toyota sells higher volumes of the strong hybrids. Executives in both companies say this is not the result of a deliberate strategy, but is related more to the consumer-pull effect. Collaborating, not twinning. The other type of cross-brand partnership involves collaboration at the platform level, when the cars are being developed. In the Indian market, the Hyundai Creta and Kia Seltos have pretty close underpinnings, although they're not as alike as the Hryyder



and Grand Vitara. The other example is the Hyundai Venue and Kia Sonnet. The Hyundai-Kia cars have some similarities in their basic platforms and share some engines and gearbox options, but much of this collaboration is seeded at, and limited to, the early development stages. Thereafter, the two South Korean companies — Kia is a subsidiary of Hyundai — fiercely compete in the markets they are sold in.

Germany's Volkswagen and its Czech group subsidiary Skoda have had a similar partnership, visible in case of the VW Taigun and Skoda Kushaq, or VW Virtus and Skoda Slavia. In these models, while the basic platform may be shared or broadly similar, there are marked differences in parameters such as appearance, ground clearance, or the engines and gearbox options. Limits and some lessons. While Toyota and Maruti Suzuki's brand engineering partnership has been a winner, others have struggled with it. Renault and Nissan tried it, with the Terrano being offered as a badge-engineered Duster,

and the Japanese company offering its Sunny as the Renault Scala. Both the Nissan Terrano and the Renault Scala flopped. Some flagship models have been kept out of bounds — for instance, Suzuki has not shared the Swift or Jimny with Toyota, and the latter has not offered the Innova Crysta or Fortuner to its partner. Badge engineering has been tried out across price segments as well. The iconic British sports car maker Aston Martin put Toyota's city car iQ on the road in 2011. The Aston Martin Cygnet was a Toyota iQ with more bells and whistles, some cosmetic restyling, and a big jump in the price tag. Autocar UK recorded that the car sold very poorly, and Aston Martin has not attempted anything similar since. The Audi 50 — the smallest Audi ever — was actually the first-generation VW Polo, which was interestingly launched even before the Polo's production had commenced. The Polo went on to win over customers across markets, while the Audi 50 was soon discontinued.

A 2025 wishlist for farms and farmers

What could I wish for Indian agriculture, a subject that has been my lifelong passion and commitment? My dream would be to see vibrant and sustainable agriculture, which is climate resilient, increases productivity, brings prosperity to farmers, and most of all, improves the real wages of farm workers, who are at the bottom of the economic pyramid. It is only by raising productivity that India can rein in food inflation, which has been playing spoilsport of late. The Reserve Bank of India (RBI) has been literally humbled by veggies inflation at 29 per cent (and potato inflation at 67 per cent) in November 2024. They have not allowed the Bank to reduce the repo rate. That is simply tragic.

The India Meteorological Department (IMD) has made it clear that 2024 was the warmest year since 1901, and that temperatures have been 0.9 degrees Celsius higher in 2024 compared to the Long Period Average. Earlier, studies by scientists of the Indian Council of Agricultural Research had predicted that an increase in temperature by one degree Celsius runs the risk of reducing wheat output by five per cent. Wheat is likely

to be most impacted by heat spikes in February when grain formation happens.

Although Prime Minister Narendra Modi has released 109 varieties of various crops (including wheat) that are supposed to be climate resilient, the challenge of taking them from labs to farmers' lands remains daunting. This is so because the government's agri-extension network is the weakest link in the system.

Agri-R&D as well as agri-extension need a major boost in the coming budget if Indian agriculture has to be climate resilient. In this context, it may be noted that in the last three years or so, there has been a wide gap between the government's estimates of wheat production and that of the private trader. No wonder wheat prices have been under pressure and government stocks are meagre. The government is trying to suppress wheat prices by releasing wheat at about Rs 2,300/quintal in the open market while the minimum support price (MSP) for the forthcoming season is Rs 2,450/quintal and the economic cost to FCI is about Rs 2,800/quintal. This is simply dumping and

anti-farmer. PM Modi wants to make India viksit by 2047. But this goal cannot be achieved unless farmers' and farm workers' incomes improve appreciably. The Periodic Labour Force Survey (PLFS) shows that real wages in rural areas (including farm wages) have stagnated and even marginally declined in the last five years. This should have been the primary topic for constructive discussion in Parliament and the mainstream media, as it impacts the lives of millions. Unfortunately, in the last session of Parliament, the issue scarcely received attention.

If India has to realise the dream of Viksit Bharat, we need to find business models that make development processes more inclusive. So far, we have not been very successful in that. And when we fail to do it, we lean towards the revdi culture of freebies. This culture runs through all political parties, be it in the name of Ladli Behna Yojana in Madhya Pradesh or Ladki Bahin Yojana in Maharashtra's recent assembly elections or now Aam Aadmi Party's (AAP) promise to give Rs 18,000/ month to pujaris and granthis, if it is voted back to office in Delhi.

What do the State of Forest Report 2023 findings mean? | Explained

The story so far: The State of Forest Report (SFR) 2023 was released by Union Environment Minister Bhupender Yadav at the Forest Research Institute, Dehradun, on December 21, 2024. The SFR is a biennial exercise the Government of India undertakes to track tree and forest cover, carbon stock, forest fires, and other parameters related to the country's green cover.

What did SFR 2023 find?

According to SFR 2023, 25.17% of India's area is under forest and tree cover. Of this, forests cover 21.76% of land and trees 3.41%. These figures represent marginal increases from 21.71% and 2.91%, respectively, as reported in SFR 2021. In absolute terms, the increase is 1,445 sq. km. The National Forest Policy 1988, which governs green cover in India, requires 33% of the country's geographical area to be under tree or forest cover. Chhattisgarh, Uttar Pradesh, and Odisha led the list of States that increased forest and tree cover while Madhya Pradesh, Karnataka, Ladakh (UT), and Nagaland were the top four States where forest and tree cover has dropped.

What is green cover?

Forest cover in India means an area of a hectare or more, "with a tree canopy of more than or equal to 10%, irrespective of ownership and legal status," per the report. Likewise, tree cover refers to all tree patches that exist outside of forest area and which occupy "less than one hectare in extent, including all the scattered trees found in the rural and urban settings, and [are] not captured under the forest cover assessment". The SFR uses a mix of satellite data and details from the National Forest Inventory, plus ground-truthing to verify the information. Forest cover estimates come from satellite data and growing and carbon stock estimates from the Inventory. The 2023 report uses satellite data from October to December 2021 and NFI data from 2017 to 2022.

How have sensitive areas fared?

In 2014, the national government first notified the Western Ghats Eco-Sensitive Area (WGESA) along the country's west coast under the Environment Protection Act 1986 for special protection. According to SFR 2023, the Area has lost 58.22 sq. km of forests in the last decade. While the cover of "very dense" forests increased, those of "moderately dense" and "open" forests fell. "Very dense" forests have a canopy density of at least 70%, "moderately dense" forests of 40-70%, and "open" forests of 10-40%. The Nilgiris forests are part of the WGESA and a UNESCO biosphere. Between 2013 and 2023, they lost 123.44 sq. km of forest cover. The Nilgiris district also reported a fourfold increase in the number of forest fires from 2022-2023 to 2023-2024. Mangroves — tropical trees in the intertidal zones of coastal areas — are withdrawing as well. The report has estimated 0.15% of India's total geographical area is under mangrove cover following an overall decrease of 7.43 sq. km from 2021 alone. Andhra Pradesh and Maharashtra increased their State-wise share but Gujarat's Kutch area reported a significant decrease. These trees stabilise coastlines, mitigate erosion, encourage biodiversity, shield coastal communities from sea-level rise, and temper the



fury of cyclones. The Northeast occupies less than 8% of India's total land area but more than 21% of its tree and forest cover. Per SFR 2023, tree and forest cover in the region shrunk by 327.3 sq. km. There have been reports in the press that at least part of the decline is due to conversion of forests for agricultural use.

What is the SFR's applicability?

While the definitions of green cover are straightforward, what they include or exclude has prompted concerns. For example, as trees became popular as a 'solution' for climate mitigation because of their ability to sequester carbon, many lawmakers as well as researchers began to tout tree-planting as a blanket fix. In due course, some important problems emerged with this idea. For one, not all ecosystems are suited for trees, and damaging them by planting trees could have repercussions that negate the original purpose of the exercise. For another, only native and mature species in the right environments can sequester carbon efficiently. Young trees or those unsuitable for their environs either wouldn't help as much or not at all. One direct analogue in the SFRs is that the definition of forests includes "orchards, bamboo, and palm". Divya Gupta, assistant professor of environmental studies and sustainable communities at the State University of New York, thus called the report's marquee finding a "celebratory statistic".

"By including plantations, orchards, palms, and non-native ecosystems, it erases the distinction between natural forests and monocultures," she added. "This aggregation misrepresents forest health, obscures deforestation and degradation, and offers a distorted view of what we should truly prioritise." "The share of actual increase in forest cover appears to be very minimal ... compared to the 1,445 sq. km of forest and green cover increase claimed in the document," Sudeep Budhaditya Deb, deputy conservator of forests at the Office of the Additional Principal Chief Conservator of Forests

(North Bengal), said.

How is India tracking forest fires?

During the 2023-2024 fire season, the Forest Survey of India dispatched more than 112.67 lakh SMS alerts to subscribers, SFR 2023 said. This alert system uses meteorological data from the Institute of Tropical Meteorology, Pune. "India's forest fire alert system is a commendable mechanism developed by the Indian Remote Sensing Agency," Deb said. (The Indian Remote Sensing Agency is now part of the National Remote Sensing Centre.) Of the alerts the Survey provides, the near-real-time ones are based on data recorded by the Moderate Resolution Imaging Spectro-radiometer sensor onboard NASA's Aqua and Terra satel-

lites and the Visible Infrared Imaging Radiometer Suite (VIIRS) onboard NOAA's Suomi-NPP satellite. Data from the Aqua and the Suomi-NPP satellites were recently implicated in an Indian controversy. As The Hindu reported, government officials had instructed rice farmers around the National Capital Region to postpone their stubble-burning activities to later in the day, once Aqua and Suomi-NPP had completed their overpass, so official records could inflate the effects of States' efforts to phase out the burning. According to SFR 2023, VIIRS detected 2.03 lakh fire hotspots, down from 2.23 lakh in 2021-2022 seasons and 2.12 lakh in 2022-2023. However, the SFR doesn't distinguish between 'good fires' that rejuvenate forests and fires that degrade them.

JSW MG Motor India to showcase 'Drive.Future' at the Bharat Mobility Global Expo 2025

Hyderabad: JSW MG Motor India has announced participation in the Bharat Mobility Global Expo 2025, accelerating into 'Drive.Future' as the theme. After making strides in the electric vehicle market, the brand is set to bolster its foothold with new-age products that offer new-age mobility solutions. With innovation in its DNA, MG is all set to showcase the future of mobility through an immersive line-up of product experiences, design language, technology & innovation and will also unveil the next level of immersive customer experience.

Unveiled earlier this year, Drive.Future is the brand's vision of an innovative, sustainability-led future, driven by its intuitive technology. On the product front, JSW MG Motor India will be showcasing three all-new models across three all-new categories, each one catering to a completely different set of customers. The MG Cyberster, the world's fastest MG Roadster, will headline

India's newly launched luxury brand channel, MG Select. Drive.Future is the brand's vision to build a new ecosystem for mobility altogether and pans across product experiences, technology use-cases and a new customer-centric approach/offering of 'accessible luxury' to engage with the new-age customer. The theme and set-up of the pavilion echo the Expo's theme of 'Beyond Boundaries: Co-creating Future Automotive Value Chain'. Visitors will also be able to spot showstoppers from MG's global portfolio, along with flagship Indian models that have been redefining the industry with their best-in-segment features. The pavilion will also house a host of unique experience zones that will demonstrate its holistic EV ecosystem along with infrastructure, and multiple use-cases of battery technology and second life. Visit the JSW MG Motor India pavilion from January 17-22, 2024: Hall 10, Bharat Mandapam, New Delhi

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, were 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 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 replay 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 unsung maestro of Parliament

Dr Manmohan Singh's journey from a modest childhood in Gah (now in Pakistan) to one of India's most respected public figures is well-documented. He has held significant roles, including chief economic adviser, finance minister, leader of Opposition in Rajya Sabha, and prime minister, among others. Yet, what often goes unnoticed is his unparalleled contribution as a parliamentarian. Dr Singh's parliamentary career began under extraordinary circumstances. Appointed finance minister on June 21, 1991 — during India's economic crisis — he wasn't yet a Member of Parliament. He took his oath as a Rajya Sabha member on November 20, 1991. Interestingly, neither then Prime Minister PV Narasimha Rao nor Dr Singh were Members of Parliament when the revolutionary budget of July 24, 1991, was presented. This budget, credited with launching India's economic liberalisation, reflected Dr Singh's deep understanding of economic realities and his resolve to lead India out of financial chaos. His role was not just in drafting policies but also in defending them in Parliament with clarity, facts, and reasoned arguments. Dr Singh's first intervention in Parliament occurred on July 12, 1991, in the Lok Sabha, when he addressed supplementary questions posed by KP Unnikrishnan about the government's decision to sell gold. It was a glimpse of the intellectual rigour and forthrightness he would bring to debates. His maiden budget speech remains one of the most significant in Indian history. It not only proposed sweeping economic reforms but also set the tone for how

Dr Singh would approach his parliamentary responsibilities — with humility, precision, and a focus on results. In March 1998, Dr. Singh became Leader of the Opposition in the Rajya Sabha after the United Front government fell. In this role, he was a critical voice, ensuring the government was held accountable while maintaining parliamentary decorum. His interventions were constructive, often guiding debates with logic and data rather than rhetoric or disruption.

As Prime Minister in 2004, Dr Singh faced significant Opposition hostility. On the day he introduced his Council of Ministers, he was forced to lay his statement on the table due to heckling by the Opposition benches. However, over the course of his decade-long tenure, he won respect for his active participation in parliamentary proceedings. Dr Singh was known for frequently responding to debates under Rule 193 of the Lok Sabha, showcasing his respect for parliamentary processes. During his second term, he answered 21 questions in Question Hour — an unmatched record by his successor. Dr Singh's parliamentary contributions were marked by depth, clarity, and a focus on national and international issues. His statements in the Rajya Sabha demonstrated his commitment to addressing India's challenges and fostering transparent governance. As an economist, Dr. Singh addressed economic issues with analytical rigour, advocating for sustainable growth, fiscal discipline, and equitable development. His intervention during the Performance Audit Report on Coal Block Allocations

emphasised his commitment to accountability. Despite disruptions, he read key portions of the report and laid the remaining part on the floor, ensuring his government remained answerable to Parliament. Dr. Singh also engaged with social and political issues constructively. During the Anna Hazare movement, he emphasised resolving grievances through dialogue while upholding the rule of law. This led to the passage of the Lokpal and Lokayuktas Bill, 2011. Dr Singh consistently emphasised the importance of institutional integrity and transparency in governance. Whether defending the government's process in the controversial appointment of the Central Vigilance Commissioner or calling for an inquiry into the "cash-for-votes" scandal to uphold parliamentary ethics, he was committed to ensuring his government remained accountable to Parliament. His statesmanship extended beyond domestic issues, as he expressed solidarity during crises like the 2011 Japan earthquake and tsunami and addressed sensitive diplomatic matters, such as Italy's refusal to return marines accused of killing Indian fishermen. Dr Singh also kept Parliament informed on critical foreign policy matters, including his foreign visits to states such as Italy, France, Egypt, and the United States, among others, the India-US Nuclear Agreement and India's stance in the International Atomic Energy Agency (IAEA) vote on Iran's nuclear programme. Through these actions, he ensured that his government adhered to the highest standards of accountability, transparency, and governance.

Stories of 2024 that put a smile on your face

The year 2024 had events that put a smile on your face and rekindled your hope in humanity, positivity and goodwill. Despite many setbacks and obnoxious moments, the year also composed stories that made the saplings of joy and hope sprout. Unswevering minds and hands that tirelessly coordinated to unendingly run the rehabilitation of the landslide-affected Wayanad of Kerala was one of the many examples of this positivity that prevailed amidst turmoil. Some days ago we witnessed the rise of a new talent, Nitish Kumar Reddy and the story of the toil he and his family went through to clinch moments of happiness amidst the undesirable failure of India in front of the Australian firestorm in the matches of Border Gavaskar Trophy. 2024 was a year that gave you a handful of moments to cherish. Here are some of The Hindu stories that put a small smile on your faces. Reunited elephant calf's nap with mother wins hearts The rescued elephant calf was spotted taking a nap with its mother in the middle of a tea plantation in Valparai

An elephant calf was separated from its mother at Tamil Nadu Anamalai Tiger Reserve. On December 29, 2023, the staff of the Manambolly forest range of ATR found the elephant calf separated from its herd at Pannimedu estate. After some days, the search team rescued the calf, with the help of drones, and took it to the heard which was 3 km away. Following the order of ATR authorities, one of the assigned teams came across the sleeping mother-and-calf-duo. This moment of the calf with its mother conquered people's hearts after Supriya Sahu, Additional Chief Secretary, Environment, Climate Change and Forest, Tamil Nadu, shared it on X on January 2, 2024. Chinese Bharatnayam dancer performs 'Arangetram' in China A 13-year-old Chinese school student's love towards the Indian traditional dance art Bharatnayam scripted a fascinating history as Lei Muzi performed Bharatanatyam "Arangetram" in her country. She made her solo dance debut on August 11, 2024, in front of the celebrated Bharatanatyam dancer Leela Samson, Indian diplomats and a large audience of Chinese fans. For ardent Chinese fans of Indian classical art and dance forms who devoted their lives to learning and performing them for decades, her debut was a moment of history and a milestone as it was the first-ever "Arangetram" - Bharatnatyam's graduation ceremony - in China. Real Manjummel Boys hero in 2006: I could not think of going back without my childhood friend The Malayalam film Manjummel Boys, based on the only successful rescue of a youth from the deep, dark caves in Kodaikkanal in 2006, crossed the countries of languages telling an interesting story of a group of friends and evoking the feeling of unconditional companionship. On September 3, 2006, Subhash, hailing from Manjummel in Ernakulam district of Kerala, who had gone to the Guna Caves with his band of nine friends, had fallen into the deep cave while crossing a crevice. What followed was a nail-biting, gut-wrenching rescue by his friend Siju David, away from the glare of television and still cameras. More than a month later, when news of his heroic rescue reached home, the real-life hero Siju David had told journalists, "He was my friend since childhood. I could not think of going back without him." SBI staff saves senior citizen from losing money from scammers as he visits SBI to transfer

30 lakhs for his 'wife's treatment' The senior citizen, whose wife is also a doctor, visited the branch and met the Branch Manager Naveen Kumar with a request to close his Senior Citizen Savings Scheme (SCSS) account and transfer ₹30 lakh in it to the savings bank account, showing the reason that his wife was admitted in a private hospital and they needed money to treat her brain haemorrhage. Out of suspicion, the Bank Manager called the police and after their arrival, it was found out that the doctor was made to transfer money to an account by making him believe that he was involved in ₹88 crore money laundering fraud without his knowledge. The bank manager helped the senior citizen from throwing away his fortune into a cyber fraud. 100 years and voting Manni, 100, speaking during an inter-action at her residence in Nuh

Manni, a resident of Kabeer Mohalla in Nuh's Ward No. 8, has watched the last 10 decades of India's journey unfold before her eyes. Being born on January 1, 1923, Ms. Manni is 101 years old. She recollected how she reached the booths to vote, the times when there were no roads, telephones, or vehicles. She votes as zealously back then as she does now when all these facilities are very much available. The story is also about Kela Devi of Nuh, Haryana and Huri Devi from Rajasthan's Sikar who are 101 and 102 years of age, respectively. All of them have been showing their tryst with ballots irrespective of age or any other factors for decades. Women in West Bengal's Jhargram demolish weed and patriarchy with organic pesticides Women farmers in Nayagram block of West Bengal have started an all-women farmers producer organisation Amon, cultivating indigenous and organic varieties of paddy. Women farmers in Nayagram block of West Bengal have started an all-women farmers producer organisation Amon, cultivating indigenous and organic varieties of paddy. | Photo Credit: Shiv Sahay Singh Thousands of women in a West Bengal's Jhargram district have set up a farmer-producer company, Aamon, cultivating indigenous varieties of paddy without using lab-made fertilisers and pesticides. Aamon has helped them to be economically stable and has given them the power to make decisions on agriculture and on matters at home. The initiative started with 350 women now has about 8,000 farmers across 106 villages in Nayagram block, which is located in the State's south-western part that is arid. In the financial year 2023-24, they produced about 800 tonnes of six indigenous varieties of paddy which gave them a turnover of about ₹2.2 crore. Each woman is a shareholder in the company that retails under the brand name Ecomust locally and under Aamon online. The Hindu's report shows how the enterprise has helped the women to be economically stable and has given them the power to make decisions on agriculture and on matters at home. Gulf migrant worker returns home from Saudi Arabia's desert Namdev Rathod | Photo Credit: Special arrangements Namdev Rathod, 51, of Nirmal district of Telangana had been forced to work as a camel herder in a desert in Saudi Arabia by his employer. He could come back home as a result of coordinated efforts by the Indian Embassy officials and social workers based in Kuwait and Riyadh. On his migration to Kuwait, he was promised a housekeeping job but was forced to work as a camel herder in the



desert amid extreme temperatures by his employer. In a selfie video sent to his wife Laxmi of Ruvvi village in Nirmal district, in August this year, Mr. Rathod narrated his plight in the harsh desert climate in Saudi Arabia. He made a fervent appeal to Telangana Chief Minister A Revanth Reddy to help him return home. The heart-warming encounter of A. Sujata with a small herd of elephants after her escape from the disaster that struck Chooralmala and Mundakkai in the early hours of July 30 has triggered many a debate. According to her, she spent all night at the feet of the tusker that protected her till the morning. "The tusker not only did not attack us, but also protected us. I saw tears flowing from its eyes. The elephant realised how cruel nature was to us," she said. The heartwarming story helped in the sprouting of hope and resistance in at least some of those who underwent through or heard about the catastrophic and heartwrenching natural disaster that happened in Kerala's Wayanad.

Old is the new young: Senior citizens rediscover purpose at job fair in Bengaluru Senior citizens take part in a job fair for senior citizens organized by Nightingales Medical Trust in association with St. Joseph's University and Rotary Bangalore West at St. Joseph's University in Bengaluru on August 25, 2024. Senior citizens take part in a job fair for senior citizens organized by Nightingales Medical Trust in association with St. Joseph's University and Rotary Bangalore West at St. Joseph's University in Bengaluru on August 25, 2024. | Photo Credit: Sudhakara Jain A job fair in Bengaluru buzzed with an energy that belied the age of its participants. Seniors from across the city

gathered for the Nightingales Job 60+ fair, an event that showcased a growing trend among India's ageing population: the desire to stay active, purposeful, and financially independent long after the traditional retirement age. Organised in partnership with Rotary Bangalore West at St. Joseph's University in Shanthinagar, the fair drew over 500 attendees and featured more than 30 companies offering roles ranging from engineers and technicians to administrators, instructors, and retail professionals. Several employers conducted on-the-spot interviews. Many of the seniors who attended the interviews walked away with job offers in hand. Temple committee organises Iftar event in Alappuzha People attending the Iftar organised by Lekshmi Narayana Temple at Pappaly near Mannancherry in Alappuzha. People attending the Iftar organised by Lekshmi Narayana Temple at Pappaly near Mannancherry in Alappuzha. | Photo Credit: Special arrangement In a shining example of fostering and reinforcing the spirit of communal harmony, a Hindu temple in Alappuzha organised a mass Iftar dinner. The Iftar gathering that took place at the madrasa hall of the Rifaee Sunni Juma Masjid at Pappaly near Mannancherry in Alappuzha was attended by more than 200 people including the authorities of the Lekshmi Narayana Temple, Valavanadu who sponsored it. Members of the Muslim community welcomed the office-bearers of the temple who came for the Iftar. At the event members representing Muslim and Hindu communities exchanged pleasantries. Chicken biriyani, fruits, snacks, and juices among other non-vegetarian and vegetarian items were served at the Iftar.

Sircilla Police bust fake certificate manufacturing gang

Rajanna-Sircilla: Sircilla Police busted a fake certificates manufacturing gang and arrested five of its members. Fake documents, stamps and mobile phones were recovered from them. Producing the accused before the media in Sircilla town police station on Tuesday, the Superintendent of Police explained the modus operandi of the gang. Siripuram Chandramouli, Polu Prakash, Boddu Shivaji, Chiluka Babu and Bitla Vishnu were arrested. Another accused Sheelam Rajesh is absconding. The issue came to light when a remanded prisoner obtained bail by producing a fake surety cer-

tificate. When an enquiry was started by Sircilla Police and taskforce police, they came to know about the fake certificates manufacturing gang. A retired teacher Chandramouli manufactured fake stamps of Boinpalli Tahsildar, civil assistant surgeon, gram panchayat secretary and a few VIPs. Fake certificates of various government departments, property valuation certificates for court bails, age certificates, date of birth certificates to be issued by government schools, medical certificates, Kalyanalaxmi eligibility certificates, VIPs letter pads and others were manufactured by using fake stamps.

Machine learning can help blood tests have a separate ‘normal’ for each patient

If you've ever had a doctor order a blood test for you, chances are that they ran a complete blood count, or CBC. One of the most common blood tests in the world, CBC tests are run billions of times each year to diagnose conditions and monitor patients' health. But despite the test's ubiquity, the way clinicians interpret and use it in the clinic is often less precise than ideal. Currently, blood test readings are based on one-size-fits-all reference intervals that don't account for individual differences. I am a mathematician at the University of Washington School of Medicine, and my team studies ways to use computational tools to improve clinical blood testing. To develop better ways to capture individual patient definitions of "normal" lab values, my colleagues and I in the Higgins Lab at Harvard Medical School examined 20 years of blood count tests from tens of thousands of patients from both the East and West coasts. In our newly published research, we used machine learning to identify healthy blood count ranges for individual patients and predict their risk of future disease. Clinical tests and complete blood counts many people commonly think of clinical tests as purely diagnostic. For example, a COVID-19 or a pregnancy test comes back as either positive or negative, telling you whether you have a particular condition. However, most tests don't work this way. Instead, they measure a biological trait that your body continuously regulates up and down to stay within certain bounds. Your complete blood count is also a continuum. The CBC test creates a detailed profile of your blood cells – such as how many red blood cells, platelets and white blood cells are in your blood. These markers are used every day in nearly all areas of medicine.

For example, hemoglobin is an iron-containing protein that allows your red blood cells to carry oxygen. If your hemoglobin levels are low, it might mean you are iron deficient. Platelets are cells that help form blood clots and stop bleeding. If your platelet count is low, it may mean you have some internal bleeding and your body is using platelets to help form blood clots to plug the wound. White blood cells are part of your immune system. If your white cell count is high, it might mean you have an infection and your body is producing more of these cells to fight it off. Normal ranges and reference intervals but this all raises the question: What actually counts as too high or too low on a blood test?

Traditionally, clinicians determine what are called reference intervals by measuring a blood test in a range of healthy people. They usually take the middle 95% of these healthy values and call that "normal," with anything above or below being too low or high. These normal ranges are used nearly everywhere in medicine. But reference intervals face a big challenge: What's normal for you may not be normal for someone else. Nearly all blood count markers are heritable, meaning your genetics and environment determine much of what the healthy value for each marker would be for you. At the population level, for example, a normal platelet count is approximately between 150 and 400 billion cells per liter of blood. But your body may want to maintain a platelet count of 200 – a value called your set point. This means your normal range might only be 150

to 250. Differences between a patient's true normal range and the population-based reference interval can create problems for doctors. They may be less likely to diagnose a disease if your set point is far from a cutoff. Conversely, they may run unnecessary tests if your set point is too close to a cutoff. Defining what's normal for you. Luckily, many patients get blood counts each year as part of routine checkups. Using machine learning models, my team and I were able to estimate blood count set points for over 50,000 patients based on their history of visits to the clinic. This allowed us to study how the body regulates these set points and to test whether we can build better ways of personalizing lab test readings. Over multiple decades, we found that individual normal ranges were about three times smaller than at the population level. For example, while the "normal" range for the white blood cell count is around 4.0 to 11.0 billion cells per liter of blood, we found that most people's individual ranges were much narrower, more like 4.5 to 7, or 7.5 to 10. When we used these set points to interpret new test results, they helped improve diagnosis of diseases such as iron deficiency, chronic kidney disease and hypothyroidism. We could note when someone's result was out-



side their smaller personal range, potentially indicating an issue, even if the result was within the normal range for the population overall. The set points themselves were strong indicators for future risk of developing a disease. For example, patients with high white blood cell set points were more likely to develop Type 2 diabetes in the future. They were also nearly twice as likely to die of any cause compared with similar patients with

low white cell counts. Other blood count markers were also strong predictors of future disease and mortality risk. In the future, doctors could potentially use set points to improve disease screening and how they interpret new test results.

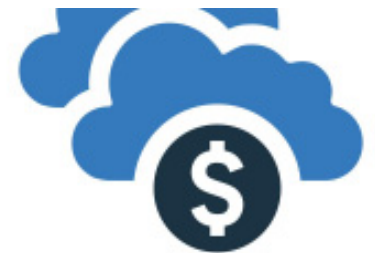
This is an exciting avenue for personalized medicine: to use your own medical history to define what exactly healthy means for you.

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 retains, in Article 9(1), 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 2011-20. 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 Col-

lective Quantified Goal on Climate Finance (NCQG), replacing a \$100 billion floor and laying a new floor taking into account the needs and the 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.