



SEPTEMBER 2024



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1st September 2024

[IACS scientists discover a new target for cancer treatment- TH Science](#)

Science

Easy Explanation:

A team of scientists at the Indian Association for the Cultivation of Science (IACS) in Kolkata has discovered a new way to kill cancer cells. They found that by targeting how cancer cells repair their DNA during cell division, it may be possible to develop more effective cancer treatments. Cancer cells often resist current treatments by fixing the damage done to their DNA. The scientists studied how these cells respond to a type of chemotherapy that targets an enzyme called Topoisomerase 1 (Top1), which is important for cell division. They discovered that cancer cells use another protein, TDP1, to repair the damage caused by this chemotherapy, making the treatment less effective. The researchers also identified another protein, CDK1, which can be targeted to disrupt this repair process. By combining drugs that block both Top1 and CDK1, they believe it could be possible to kill cancer cells more effectively by stopping them from repairing their DNA and dividing.

Key Takeaways:

- Scientists at IACS discovered a new target for killing cancer cells by focusing on DNA repair during cell division.
- This discovery could lead to the development of new, more effective cancer therapies.
- Current anti-cancer drugs target the Top1 enzyme, but cancer cells resist by using the TDP1 protein to repair DNA damage.
- Targeting the CDK1 protein along with Top1 could prevent cancer cells from repairing their DNA, leading to better treatment outcomes.
- Combining CDK1 inhibitors with Top1 inhibitors may make it harder for cancer cells to survive and help overcome resistance to treatment.
- Further studies are required to confirm the effectiveness of these combination therapies in clinical settings.

[Why did the Centre alter its pension plan?- TH FAQ](#)

Sociology

Easy Explanation:



| Clear your doubts now.



The Indian government has decided to launch a new pension scheme called the Unified Pension Scheme (UPS) starting April 1, 2025. This new scheme is meant to provide better financial security to Central government employees after they retire. About 23 lakh Central government employees will benefit from this scheme, and those who are currently part of the National Pension System (NPS) can choose to switch to the new scheme. State governments can also include their employees in this scheme, but they will have to figure out the funding on their own.

The UPS will guarantee that government employees receive a pension equal to half of their average basic salary from the last 12 months of their service, as long as they have worked for at least 25 years. If someone has worked for less than 25 years but more than 10 years, they will still get a pension, but it will be lower. The minimum pension will be ₹10,000 per month. If an employee passes away, their family will receive 60% of the employee's pension. To protect against inflation, the pension amount will be adjusted according to changes in consumer prices. There will also be a one-time payment at retirement, along with gratuity benefits.

The UPS is different from the current pension systems. The old pension scheme (OPS), which was replaced in 2004 by the NPS, offered a guaranteed pension directly paid by the government. The NPS, on the other hand, is a system where employees and the government both contribute to a retirement fund that is invested in the market. The amount of pension under NPS depends on how well these investments perform. The new UPS will combine features from both the old and new systems, offering a defined pension benefit like the OPS, while still requiring contributions like the NPS. The government will contribute more to the UPS (18.5% of salary) than it does to the NPS.

The change to the UPS comes after years of dissatisfaction with the NPS, as it did not guarantee a specific pension amount, leading to lower pensions for some employees who retired under this system. This issue became politically significant, with some states promising to return to the OPS. The government has now introduced the UPS to address these concerns and provide a more reliable pension system.

Government employees have generally welcomed the UPS, but there are still some concerns, especially about the contribution aspect and the lack of a lump-sum payout option that was available under the OPS. Economists are also looking forward to more details about how the UPS will work, especially how it will impact government finances.

Key Takeaways:

- The Indian government will launch the Unified Pension Scheme (UPS) on April 1, 2025, for Central government employees.
- Around 23 lakh Central government employees will benefit, and those in the National Pension System (NPS) can switch to UPS.
- The UPS guarantees a pension of 50% of the average basic salary of the last 12 months of service for employees with at least 25 years of service.
- The UPS combines features of both the old pension scheme (OPS) and the NPS, offering defined pension benefits with contributions from both employees and the government.
- The government will contribute 18.5% of salary under the UPS, higher than the 14% under the NPS.





- The shift to the UPS was driven by dissatisfaction with the NPS, which did not guarantee a specific pension amount, and became a political issue.
- Government employees have welcomed the UPS, but concerns remain about contributions and the lack of a lump-sum payout option.
- Economists are awaiting more details on the financial implications of the UPS for government spending.

[Will an extended space stay affect astronauts?- TH FAQ](#)

Science

Easy Explanation:

NASA recently announced that the Boeing Starliner crew capsule, which was supposed to bring astronauts Sunita Williams and Barry Wilmore back from the International Space Station (ISS), is not safe enough for their return journey. As a result, their stay on the ISS has been extended until February 2025, and they will return using a SpaceX crew capsule instead.

Space travel has various effects on the human body due to the microgravity environment. For example, bones can become weaker, digestion may slow down, and many astronauts experience changes in their eyesight due to fluid buildup in the head. The heart also doesn't have to work as hard in space, which can cause it to shrink, and muscles can lose strength. Additionally, the body loses red blood cells faster in space, so astronauts need to eat more to produce enough of these cells. The brain's ability to maintain balance and a sense of direction can also be affected in space.

The main causes of these symptoms are radiation exposure, living in confined environments, and the lack of gravity. The longer astronauts stay in space, the more severe these symptoms can become. To combat these issues, space agencies make astronauts follow strict exercise routines and maintain consistent schedules while in space.

Despite ongoing research, there is still much we don't know about how space affects the human body. Researchers are working to understand which effects are most important for health and how to interpret the limited data available. They are also exploring how nutrients and drugs are metabolized differently in space and looking into ways to prevent and treat space-related health issues.

"Space omics" is a field of study that focuses on understanding how the space environment affects the human body at a molecular level. One well-known study compared the bodies of twin astronauts Mark and Scott Kelly after Scott spent a year in space, revealing significant differences in gene expression between the two. Scientists worldwide are working together to establish research and ethical guidelines for space omics studies.

Key Takeaways:

- NASA deemed Boeing's Starliner capsule unsafe for returning astronauts from the ISS, extending their stay until February 2025.



| Clear your doubts now.



- Space travel affects the body in various ways, including weaker bones, slower digestion, vision changes, heart shrinkage, and muscle loss.
- The main causes of these symptoms are microgravity, radiation exposure, and confined living environments, with symptoms worsening over longer missions.
- Space agencies enforce strict exercise routines and consistent schedules to help astronauts stay healthy in space.
- Researchers are still uncovering many unknowns about how space affects the body, particularly in terms of health risks and how nutrients and drugs are processed.
- “Space omics” is the study of how space affects the body at a molecular level, with ongoing research to establish guidelines and understand the long-term impact of space travel.

[Why did the Centre alter its pension plan?- TH FAQ](#)

Easy Explanation:

The Indian government has decided to launch a new pension scheme called the Unified Pension Scheme (UPS) starting April 1, 2025. This new scheme is meant to provide better financial security to Central government employees after they retire. About 23 lakh Central government employees will benefit from this scheme, and those who are currently part of the National Pension System (NPS) can choose to switch to the new scheme. State governments can also include their employees in this scheme, but they will have to figure out the funding on their own.

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The UPS is different from the current pension systems. The old pension scheme (OPS), which was replaced in 2004 by the NPS, offered a guaranteed pension directly paid by the government. The NPS, on the other hand, is a system where employees and the government both contribute to a retirement fund that is invested in the market. The amount of pension under NPS depends on how well these investments perform. The new UPS will combine features from both the old and new systems, offering a defined pension benefit like the OPS, while still requiring contributions like the NPS. The government will contribute more to the UPS (18.5% of salary) than it does to the NPS.

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| Clear your doubts now.



Government employees have generally welcomed the UPS, but there are still some concerns, especially about the contribution aspect and the lack of a lump-sum payout option that was available under the OPS. Economists are also looking forward to more details about how the UPS will work, especially how it will impact government finances.

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- The UPS combines features of both the old pension scheme (OPS) and the NPS, offering defined pension benefits with contributions from both employees and the government.
- The government will contribute 18.5% of salary under the UPS, higher than the 14% under the NPS.
- The shift to the UPS was driven by dissatisfaction with the NPS, which did not guarantee a specific pension amount, and became a political issue.
- Government employees have welcomed the UPS, but concerns remain about contributions and the lack of a lump-sum payout option.
- Economists are awaiting more details on the financial implications of the UPS for government spending.

2nd September 2024

[How SC has centred rights of the accused in recent PMLA cases-Indian Express Explained](#)

Polity

Easy Explanation

The Supreme Court of India has recently emphasized the rights of those accused of money laundering under the Prevention of Money Laundering Act (PMLA), 2002. While previously upholding stringent provisions related to arrest and bail in *Vijay Madanlal Choudhary v. Union of India* (2022), the Court has since intervened to reinforce protections for the accused. Key decisions include the necessity of providing written grounds for arrest (*Pankaj Bansal v. Union of India*), the application of bail provisions under Section 436A to PMLA, and the relaxation of stringent bail conditions in specific cases, such as *Manish Sisodia* and *K. Kavitha*. The Court has also questioned the validity of arrests under PMLA when there is no evident necessity, referring this issue to a larger bench.

Key Takeaways

1. **Written Grounds for Arrest:** The Supreme Court ruled that accused individuals must be given written grounds for arrest under the PMLA.



| Clear your doubts now.



2. **Bail Rights:** The Court applied Section 436A of the CrPC to PMLA cases, mandating bail for undertrials detained beyond a certain period.
3. **Necessity of Arrest:** The Court questioned the necessity of arrests without compelling reasons, highlighting this issue in cases like Arvind Kejriwal's.
4. **Relaxation of Bail Conditions:** Stringent bail conditions under Section 45 of PMLA were relaxed in cases where the accused had undergone prolonged incarceration without trial.
5. **Protection for Women:** The Court upheld bail exceptions for women under the PMLA, rejecting arguments that denied this benefit based on education or perceived vulnerability.

[De-hyphenatingrice-wheat-Indian Express Explained](#)

Economy

Easy Explanation

India's wheat and rice sectors are facing divergent challenges, with wheat encountering production difficulties amid rising consumption, while rice is dealing with surplus issues. Wheat production is constrained by geographic and seasonal factors and is increasingly affected by climate change, leading to reduced yields. Conversely, rice is abundant, with exports reaching record levels, yet domestic consumption isn't keeping pace. Wheat's growing consumption is driven by an increase in processed food products, unlike rice, which has not seen a similar rise in processed consumption. Policymakers are urged to address these distinct issues separately, with potential for India to import wheat in the near future and the need to ease rice export restrictions to manage surplus stocks.

Key Takeaways

1. **Wheat Production Challenges:** Wheat is facing declining yields due to climate change and is restricted by geography and seasonality, making it more volatile compared to rice.
2. **Rising Wheat Consumption:** Wheat consumption is increasing, especially in processed forms like maida, driven by urbanization and changing dietary patterns.
3. **Rice Surplus Issue:** Rice production is surpassing domestic consumption, leading to surplus stocks, despite record export levels.
4. **Policy Implications:** India may need to import wheat in the short term due to rising consumption and production challenges. Conversely, lifting export restrictions on rice is recommended to avoid surplus stock issues.
5. **Need for Differentiated Policy:** The distinct challenges faced by wheat and rice should be addressed separately, avoiding a one-size-fits-all approach.

[RULE 170 OF DRUGS ACT, OVER WHICH AYUSH MINISTRY WAS PULLED UP-Indian Express Explained](#)

Science

Easy Explanation



| Clear your doubts now.



The Supreme Court criticized the AYUSH Ministry for its July 1 notification instructing state licensing authorities to disregard Rule 170 of the Drugs and Cosmetics Act. Rule 170, introduced in 2018, was designed to prevent misleading advertisements of AYUSH (Ayurvedic, Siddha, and Unani) products by requiring manufacturers to obtain approval and a unique identification number before advertising. The rule mandates the submission of detailed information on the product's safety, effectiveness, and advertisement content. The AYUSH Ministry's directive to ignore this rule came after the Ayurvedic, Siddha, and Unani Drugs Technical Advisory Board (ASUDTAB) suggested its omission due to ongoing amendments to the Drugs and Magic Remedies Act, which also addresses misleading advertisements.

Key Takeaways

1. **Rule 170 Overview:** Introduced in 2018, Rule 170 aims to regulate the advertisement of AYUSH products by requiring prior approval from state licensing authorities.
2. **Supreme Court's Criticism:** The Supreme Court pulled up the AYUSH Ministry for instructing authorities to ignore Rule 170, highlighting concerns over misleading AYUSH product advertisements.
3. **Regulation Challenges:** Unlike allopathic medicines, most AYUSH drugs do not require clinical trials for approval, relying instead on authoritative texts for their rationale.
4. **AYUSH Ministry's Directive:** The ministry's recommendation to disregard Rule 170 followed ASUDTAB's suggestion, which was based on concurrent amendments to the Drugs and Magic Remedies Act that also address misleading ads.
5. **Policy Implications:** The case underscores the need for stricter regulation and oversight of AYUSH product advertisements to prevent misleading claims.

[Why Namibia plans to kill hundreds of its majestic wild animals for meat-Indian Express](#) [Explained](#)

Environment

Easy Explanation

Namibia plans to cull hundreds of wild animals, including elephants and hippos, to provide meat for its population amid a severe drought, the worst in a century. The drought, exacerbated by the El Niño weather pattern and climate change, has led to widespread food insecurity, with 1.2 million people facing acute food shortages. The culling aims not only to provide meat but also to prevent potential conflicts between wildlife and humans as animals migrate in search of food and water. The Namibian government believes this measure will help manage grazing pressures and water availability in affected areas.

Key Takeaways

Drought Crisis: Namibia is experiencing its worst drought in a century, worsened by El Niño and climate change, leading to severe food insecurity.



| Clear your doubts now.



Wildlife Culling: The government plans to cull 723 wild animals, including elephants and hippos, to provide meat for the population and manage wildlife resources.

Food Insecurity: The drought has devastated crops and livestock, leaving nearly half of Namibia's population in urgent need of food assistance.

Conflict Prevention: The culling is also intended to prevent potential conflicts as wildlife might migrate into human-populated areas in search of food and water.

Sustainable Harvesting: Experts suggest that as long as the culling is done sustainably and within legal frameworks, it should not be a cause for concern.

[Are lie-detector tests legally valid?-The Hindu Text and Context](#)

Polity

Easy Explanation

Lie-detector tests, including polygraph tests, have limited legal validity in India. The Supreme Court's 2010 ruling in *Selvi vs. State of Karnataka* established that such tests can only be administered with the consent of the accused, protecting their fundamental right against self-incrimination under Article 20(3) of the Constitution. Despite this, the Central Bureau of Investigation (CBI) recently obtained permission from a Kolkata court to conduct polygraph tests on individuals connected to a high-profile rape and murder case. These tests are part of a broader set of deception detection techniques, whose efficacy remains disputed due to their potential for false positives and ethical concerns. Judicial precedents have shifted from strong support of these tests to a more cautious approach, emphasizing voluntary participation and the protection of constitutional rights.

Key Takeaways

1. **Legal Validity:** Lie-detector tests are legally valid in India only if the accused consents, as ruled by the Supreme Court in 2010.
2. **CBI's Use of Polygraph Tests:** The CBI obtained court permission to conduct polygraph tests on suspects in a high-profile case in Kolkata, indicating continued use despite legal and ethical concerns.
3. **Efficacy and Criticism:** The effectiveness of polygraph tests is disputed, with experts highlighting their potential for false positives and questioning their scientific basis.
4. **Judicial Precedents:** Indian courts initially supported these tests but shifted to a more cautious approach post-2010, emphasizing the need for voluntary consent and adherence to constitutional protections.
5. **Ethical Concerns:** The invasive nature of such tests and their potential misuse in custody raise significant ethical issues, particularly regarding obtaining truly informed consent.

[A crisis in WANA that no one talks about-The Hindu Editorial](#)

International relations



| Clear your doubts now.



Easy Explanation

The ongoing conflict in Sudan, primarily between the Sudan Armed Forces (SAF) and the Rapid Support Force (RSF), has escalated into a humanitarian crisis, with an estimated 150,000 deaths and nearly 10 million people displaced. This conflict, rooted in decades of political instability and ethnic strife, has been exacerbated by foreign interests and the ambitions of local warlords. Despite international efforts to mediate, the violence persists, threatening regional stability. For India, the situation is particularly concerning due to its significant trade relations and investments in Sudan, as well as potential security risks from revived Islamic militancy.

Key Takeaways

1. **Humanitarian Crisis:** The conflict in Sudan has led to widespread devastation, with tens of thousands dead and millions displaced, making it one of the world's worst humanitarian crises.
2. **Roots of Conflict:** The crisis stems from long-standing political instability, ethnic conflicts, and the ambitions of rival military leaders, further destabilized by the ousting of dictator Omar al-Bashir in 2019.
3. **Foreign Interests:** Various foreign powers, including Egypt, Russia, and the UAE, have become involved, supporting different factions for strategic and economic reasons, complicating peace efforts.
4. **Failed Peace Efforts:** Despite numerous attempts by international actors to broker peace, including the UN and the U.S., a ceasefire remains elusive due to the intransigence of the warring parties.
5. **Indian Interests:** India has significant economic and strategic stakes in Sudan, with substantial trade, investment, and people-to-people ties. The ongoing conflict poses risks to these interests, including the potential rise of Islamic militancy.

[India's neighbourhood watch, past and present-The Hindu Editorial](#)

International relations

Easy Explanation

India's role in shaping events in its neighborhood has seen both successes and challenges over the past 16 years. During 2008-2010, India played a significant role in supporting democratic transitions in Bangladesh, Sri Lanka, the Maldives, and Myanmar. However, by 2024, the situation has dramatically changed, with many of these countries facing political instability and democratic backsliding. India's response to these developments has been mixed, with some misjudgments and successes. The current situation in Myanmar and Bangladesh poses serious challenges, requiring India to carefully navigate its diplomatic relationships while promoting democratic values and regional stability.

Key Takeaways

1. **Past Successes:** India played a key role in supporting democratic transitions in Bangladesh, Sri Lanka, the Maldives, and Myanmar between 2008-2010.
2. **Current Challenges:** By 2024, political instability has resurfaced in many of these countries, with democratic processes being undermined.



| Clear your doubts now.



3. **India's Responses:** India's response to these developments has been mixed, with successful interventions in Sri Lanka and the Maldives, but challenges in Myanmar and Bangladesh.
4. **Strategic Engagement:** India's strategic engagement with its neighbors is crucial, particularly in balancing its interests in Myanmar and supporting democratic forces in Bangladesh.
5. **Developmental Support:** India's developmental assistance continues to be a key tool in fostering closer relations with its neighbors, emphasizing the need for sustained and robust engagement.

[Cities in Asia are growing upwards more than outwards-The Hindu Science](#)

Sociology

Easy Explanation

A recent study published in *Nature Cities* reveals that cities worldwide, especially in Asia, are growing vertically rather than expanding outward. This trend, driven by rapid urbanization, accommodates more people but poses challenges to existing infrastructure, local environments, and even the climate. The study analyzed data from over 1,500 cities, using remote-sensing satellite data to examine both the outward spread and vertical growth of cities. While the study highlights significant vertical growth in East Asian cities like those in China, Indian cities show a mixed pattern due to stricter building regulations. The findings underscore the need for better urban planning and updated master plans to manage this growth sustainably, considering the impact on infrastructure, climate resilience, and livability.

Key Takeaways

1. **Vertical Growth of Cities:** Cities are increasingly growing upwards rather than outwards, particularly in Asia, to accommodate rapid urbanization.
2. **Data Analysis:** The study used satellite data to analyze the growth patterns of over 1,500 cities globally, finding that vertical growth is more prominent in cities with populations over 10 million.
3. **Challenges of Vertical Growth:** While vertical growth increases population density, it requires robust infrastructure, job creation, and public transport to ensure sustainability and livability.
4. **Indian Context:** Indian cities show less vertical growth compared to East Asia due to stricter regulations. However, outdated master plans and inadequate urban planning laws pose challenges to sustainable development.
5. **Need for Updated Urban Planning:** The study calls for a reevaluation of urban planning policies, incorporating sustainability and climate resilience to manage the challenges posed by vertical urbanization.

[Japan bets on heat-resistant rice against climate change-The Hindu Science](#)

Economy

Easy Explanation

Japan is facing a rice shortage due to extreme weather conditions that damaged last year's crop, leading to the lowest rice inventories in 25 years. In response, Japan is developing heat-resistant rice varieties, such as



| Clear your doubts now.



"emihokoro" or "beaming smile," to combat future supply shocks caused by rising temperatures. The government is pushing for these resilient varieties as high heat disrupts starch accumulation in rice, affecting grain quality and farmers' income. With rice being a crucial staple and a symbol of Japan's agricultural pride, these efforts are essential to maintain self-sufficiency and protect against the projected 20% decline in paddy rice yields by 2100 due to climate change.

Key Takeaways

1. **Climate Impact on Rice:** Extreme weather, including high temperatures, has led to lower rice yields and quality in Japan, causing the lowest rice inventories in 25 years.
2. **Heat-Resistant Varieties:** Japan is developing and testing heat-resistant rice varieties, such as "emihokoro," to mitigate the effects of climate change on rice production.
3. **Economic Implications:** The decrease in rice quality due to heat stress impacts farmers' income and has driven up rice prices, with inflation data showing significant increases.
4. **National Importance:** Rice is a staple and a source of national pride for Japan, and maintaining self-sufficiency in rice production is crucial for the country, which imports over 60% of its food resources.
5. **Future Projections:** The Japanese government projects a 20% decline in paddy rice yields by 2100 due to climate change, highlighting the urgency of adopting heat-tolerant rice varieties to ensure food security.

3rd September 2024

[Plan for the farms-Indian Express Explained](#)

Economy

Easy Explanation

The Rs 2,800-crore Digital Agriculture Mission, approved by the Union Cabinet, aims to create robust Digital Public Infrastructure (DPI) in the agriculture sector. This mission will consolidate scattered farm-related data onto a single platform, enhancing accessibility and accuracy. The DPI will include three major components: AgriStack, Krishi Decision Support System (DSS), and Soil Profile Maps, providing farmers with digital identities, crop sown registries, and geo-referenced village maps. Additionally, the mission introduces the Digital General Crop Estimation Survey (DGCES) to produce more accurate agricultural production estimates. Funded primarily by the Central Government, this mission is set to roll out nationwide by 2025-26. It seeks to improve crop yield estimation, making services like crop insurance and loans more efficient.

Key Takeaways

1. **Digital Public Infrastructure (DPI) Creation:** The mission aims to consolidate scattered agricultural data into a unified platform, improving accessibility and efficiency for farmers.
2. **AgriStack Introduction:** AgriStack will provide digital identities (Farmer IDs) linked to land, crops, and demographic details, simplifying access to government schemes and services.



| Clear your doubts now.



3. **Krishi Decision Support System (DSS):** The DSS will integrate geospatial and remote sensing data to support better crop mapping, drought/flood monitoring, and crop yield assessments.
4. **Soil Profile Maps:** Detailed soil profile maps will be created for about 142 million hectares of agricultural land, aiding in better soil management and crop planning.
5. **Digital General Crop Estimation Survey (DGCES):** The mission will enhance the accuracy of crop production estimates, addressing concerns over current data reliability.
6. **Nationwide Rollout by 2025-26:** The mission will be implemented across India over the next two years, with substantial funding from the Central Government to ensure comprehensive coverage.

[TO DO JUSTICE-Indian Express Editorial](#)

Polity

Easy Explanation

India's judicial system faces significant challenges, exemplified by the prolonged delays in delivering justice, often leading to what President Droupadi Murmu referred to as the "Black Coat Syndrome." This term highlights the reluctance of citizens, especially the poor, to engage with the courts due to the financial and mental strain caused by lengthy legal processes. With over five crore cases pending, the system is severely stretched, hindered by inadequate manpower, insufficient judges, and systemic inefficiencies. Recent calls for reform emphasize the need for a balanced approach that accelerates case resolution while maintaining judicial integrity and due process. Comprehensive reforms, as suggested by the Chief Justice of India, are urgently needed to restore public faith in the judiciary.

Key Takeaways:

1. **"Black Coat Syndrome":** This term, highlighted by President Murmu, refers to the public's fear of engaging with the judicial system due to the financial and emotional burden of prolonged court cases.
2. **Judicial Delays:** The Indian judiciary is overwhelmed, with over five crore cases pending, largely due to insufficient judges and support staff, leading to significant delays in case resolutions.
3. **Need for Reform:** Comprehensive judicial reforms are needed to address the systemic issues causing delays, including increasing the number of judges and improving court infrastructure.
4. **Balancing Speed and Justice:** Any reform must carefully balance the need for faster case resolution with the preservation of due process and judicial integrity.
5. **Public Faith in Judiciary:** Restoring citizens' trust in the judicial system requires urgent attention to the issues causing delays, ensuring that justice is not only swift but also fair.
6. **Government and Judicial Response:** High-level attention, including from the Chief Justice of India and the Prime Minister, emphasizes the critical need for reforms, especially in cases involving violence against women.

[Do AI agents foretell the next wave of autonomy or liability?-The Hindu Text and Context](#)

Science and technology



| Clear your doubts now.



Easy Explanation

AI agents (AIAs) represent the next generation of AI assistants, surpassing their predecessors in efficiency and capability. These cognitive AIAs can autonomously perform tasks, learn from their environment, and adapt to user needs without human intervention. While AIAs offer significant benefits, such as integration with IoT devices and personalized services, they also raise concerns about accountability, liability, and privacy. As AIAs become more autonomous and integrated into daily life, unresolved legal and ethical issues emerge, particularly around who is responsible for their actions—users, developers, or the companies that deploy them. The regulation of AIAs, therefore, must address these complexities to ensure safety and accountability.

Key Takeaways:

1. **Advanced AI Agents (AIAs):** AI agents are a step beyond traditional AI assistants, capable of autonomous decision-making, learning, and adapting to user preferences without direct human input.
2. **Cognitive Capabilities:** AIAs utilize advanced techniques like natural language processing, deep learning, and integration with IoT devices to perform complex tasks and provide personalized services.
3. **Privacy and Security Concerns:** As AIAs handle sensitive user data and make autonomous decisions, they raise significant concerns about privacy, security, and the potential for misuse.
4. **Liability and Accountability:** The increasing autonomy of AIAs brings legal and ethical challenges, particularly in determining who is responsible for the AIAs' actions—users, developers, or service providers.
5. **Legal and Ethical Challenges:** Current laws do not recognize AI agents as having legal agency, complicating issues of accountability and liability, especially in cases where AIAs cause harm or make decisions independently.
6. **Regulation and Oversight:** There is a growing need for comprehensive regulations that address the unique challenges posed by AIAs, including the need for safety measures, privacy protections, and clear guidelines on liability.

[What is the Unified Lending Interface by the RBI?-The Hindu Text and Context](#)

Economy

Easy Explanation

The Reserve Bank of India (RBI) has introduced the Unified Lending Interface (ULI), a digital platform developed by the Reserve Bank Innovation Hub in Bengaluru. ULI aims to provide seamless, frictionless credit access to farmers and MSME borrowers by facilitating the flow of digitized financial and non-financial data from various sources to lenders. This platform uses standardized APIs for easy integration, allowing lenders to quickly access customer data, including land records and financial activities, enabling faster credit appraisal and loan disbursement. ULI is particularly beneficial for first-time loan seekers and tenant farmers who lack traditional documentation or land titles, offering them easier access to credit.

Key Takeaways:



| Clear your doubts now.



1. **Unified Lending Interface (ULI):** ULI is a digital platform that streamlines the flow of financial and non-financial data from multiple sources to lenders, enabling faster and more efficient credit underwriting.
2. **Frictionless Credit Access:** ULI facilitates quick and easy access to credit for farmers and MSMEs by reducing the need for extensive documentation and manual credit appraisal processes.
3. **Standardized APIs:** The platform uses standardized Application Programming Interfaces (APIs) that allow lenders and financial service providers to connect seamlessly, reducing technical complexity and integration time.
4. **Support for First-Time Loan Seekers:** ULI helps first-time borrowers without credit history or traditional documentation to access loans by providing digital access to necessary data from various sources.
5. **Assistance for Tenant Farmers:** Tenant farmers, who often struggle to secure loans due to lack of land titles, can now access credit through ULI, which verifies their eligibility based on economic activities rather than land ownership.
6. **Pilot Project Success:** The ULI platform builds on the success of the RBI's pilot project for digitalizing Kisan Credit Card (KCC) loans, which demonstrated the effectiveness of digital credit delivery with minimal paperwork.

[Dealings at a China-Africa forum that India must track-The Hindu Editorial](#)

International relations

Easy Explanation

The ninth Forum on China-Africa Cooperation (FOCAC) is taking place from September 4-6, 2024, in Beijing, amidst a challenging period for African nations. The forum highlights Africa's struggle with high inflation, debt burdens, and geopolitical challenges, while African leaders face summit fatigue. FOCAC's success depends increasingly on Africa's ability to set its agenda and negotiate strategically with China. The forum also underscores China's complex role in Africa's debt sustainability and the need for Africa to focus on trade facilitation and value addition. The way African leaders negotiate with China during FOCAC offers crucial lessons for India, especially in strengthening its own partnership with Africa, enhancing private sector participation, and leveraging digital technology.

Key Takeaways:

1. **FOCAC's Strategic Importance:** The forum is critical for Africa to assert its agenda and improve its strategic negotiations with China, especially in areas like trade facilitation and value addition.
2. **China's Debt Influence:** While China is not the main creditor in Africa, its lending practices require scrutiny, particularly regarding debt sustainability and transparency.
3. **Lessons for India:** India can learn from FOCAC by emphasizing continuity in its engagement with Africa, supporting industrialization, and integrating African economies into global value chains.
4. **Private Sector and Financing:** India should encourage greater private sector participation in Africa and explore innovative financing solutions like public-private partnerships to support development projects.



| Clear your doubts now.



5. **Digital Connectivity:** India's digital infrastructure, including the Unified Payment Interface (UPI), could strengthen digital and financial connectivity with African nations, reducing dependency on dollar-based transactions.
6. **Strengthening Ties:** To capitalize on recent momentum, India should hold the next India-Africa Forum Summit (IAFS-IV) and establish regular dialogues with African regional economic communities to enhance its partnership with the continent.

[Gene of thrones: rulers' genomes reveal how empires rose and fell-The Hindu Science](#)

Science

Easy Explanation

Palaeogenomics, the study of ancient DNA, has revolutionized our understanding of ancient human societies and the rise and fall of empires. By analyzing genetic material from archaeological sites, researchers have uncovered crucial details about the origins, migrations, and social structures of various historical groups, including the Avars, Xiongnu, and Longobards. These studies have revealed the origins and movement patterns of these empires' elites and non-elites, providing insights into their rise to power and eventual integration with local populations. This research is reshaping our understanding of human history, offering new perspectives on the development of ancient civilizations.

Key Takeaways:

1. **Palaeogenomics and History:** The study of ancient DNA has become a powerful tool for understanding the origins and movements of ancient civilizations, offering new insights into historiography, anthropology, and sociology.
2. **Avar Origins and Migration:** The Avars, originally from Mongolia, migrated over 7,000 km to Europe, where they established a powerful empire, as revealed by genetic analyses of elite burials.
3. **Xiongnu Empire Diversity:** The Xiongnu empire, one of the first nomadic steppe kingdoms, showed high genetic diversity among its lower classes and Eurasian ancestry among its aristocracy, highlighting the complex social structure.
4. **Longobards' Elite Structure:** Genetic studies of the Longobards, who established a kingdom in Italy after the fall of the Roman Empire, indicate that close-knit relationships among elite families were crucial for maintaining their power.
5. **Integration and Power Shifts:** Over time, elite groups in these empires began integrating with local populations, a strategy that helped retain power but also led to the eventual blending of their genetic legacy.
6. **Advancement in Palaeogenomics:** Since its inception, palaeogenomics has greatly advanced, now enabling population-scale studies that significantly enhance our understanding of human evolution, migration, and the formation of ancient societies.



| Clear your doubts now.



[Scientists are researching ways to grow cocoa indoors-The Hindu Science](#)

Environment

Easy Explanation

As climate change threatens traditional cocoa-growing regions, scientists and entrepreneurs are exploring innovative ways to grow cocoa indoors and develop substitutes. Companies like California Cultured are cultivating cocoa from cell cultures, which mature much faster and require fewer resources than traditional farming. This shift is driven by the increasing demand for chocolate, particularly in the U.S. and Europe, where the market is booming despite concerns over cocoa supply instability due to climate change and crop diseases. Entrepreneurs are also experimenting with alternatives to cocoa, such as oat-based or carob-based products, to meet the growing demand while addressing environmental challenges.

Key Takeaways:

1. **Indoor Cocoa Cultivation:** Companies like California Cultured are growing cocoa from cell cultures indoors, significantly reducing growth time and resource use.
2. **Climate Change Impact:** Traditional cocoa-growing regions, mainly in West Africa and South America, are increasingly stressed by climate change, threatening future cocoa supplies.
3. **High Demand for Chocolate:** The U.S. chocolate market alone surpassed \$25 billion in sales in 2023, driving innovation in cocoa production and substitutes.
4. **Cocoa Supply Instability:** Rising cocoa prices, due to climate-induced crop challenges, are motivating the development of lab-grown and alternative cocoa products.
5. **Alternative Cocoa Products:** Entrepreneurs are also working on cocoa substitutes, using ingredients like oats and carob, to cater to the growing demand for chocolate-like products.
6. **Global Market Dynamics:** While most cocoa is grown in West and Central Africa, the primary consumers are in the U.S. and Europe, fueling the push for innovative production methods.

4th September 2024

[Harnessing Biotechnology For Economic Development-Indian Express Explained](#)

Science and technology

Easy Explanation

India's new BioE3 (Biotechnology for Economy, Environment, and Employment) policy aims to revolutionize industrial processes by making them more sustainable, efficient, and environment-friendly through the application of biotechnology. The policy supports the development of innovative bio-based manufacturing methods, including animal-free products, bioplastics, carbon capture through microorganisms, and organ engineering. While biotechnology has traditionally been used in agriculture and medicine, advancements in gene editing, synthetic biology, and AI are unlocking new potential in various sectors. BioE3 will establish biomanufacturing hubs across India, focusing on specialized bio-products and futuristic research. Though



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immediate economic gains are unlikely, the policy prepares India for future biotechnological advancements with the goal of integrating biology into the economy and addressing critical issues like climate change and resource sustainability.

Key Takeaways:

1. **BioE3 Policy Focus:** Aims to transform industrial processes using biotechnology for sustainability, job creation, and economic growth.
2. **Biotechnology Applications:** Includes bio-based chemicals, smart proteins, bioplastics, and carbon capture technologies.
3. **Economic Impact:** Biomanufacturing alone could contribute trillions to the economy over the next decade.
4. **Government's Vision:** Prepares India for future technologies like AI, quantum computing, and biomanufacturing.
5. **Collaborative Effort:** The policy involves 15+ government departments for implementation and support of biotechnological advancements.

[Attacks and deaths in Bahraich: Why and when wolves turn on humans-Indian Express](#) [Explained](#)

Environment

Easy Explanation

Since March, a series of wolf attacks in Uttar Pradesh's Bahraich district has resulted in seven deaths and over 34 injuries, leading to efforts to capture and eliminate the responsible wolves. Wolf attacks on humans, while rare, typically occur under exceptional circumstances, such as competition for resources or old and injured wolves turning to easier prey. Historical records show that wolves were significant killers in India during the British Raj. Similar attacks in the past, including notable cases in Madhya Pradesh and Bihar, have often been linked to habitat loss, scarcity of prey, and mass hysteria. Experts stress the importance of proper identification, DNA testing, and targeted removal of wolves to prevent further attacks, but also emphasize the need for long-term coexistence through habitat preservation.

Key Takeaways

1. **Recent Wolf Attacks in Bahraich:** Seven deaths and over 34 injuries have been attributed to wolf attacks in Uttar Pradesh since March, with ongoing efforts to capture remaining wolves.
2. **Human-Wolf Conflict Causes:** Attacks on humans usually occur due to competition for resources, habitat loss, and scarcity of natural prey, forcing wolves to turn to easier prey.
3. **Historical Wolf Attacks:** Wolves were significant killers in India during the British Raj, particularly in North India, with records of hundreds of deaths annually in the 19th century.
4. **Past Cases of Mass Hysteria:** Wolf attacks in Madhya Pradesh (1985-86) and Bihar (1993-95) led to widespread fear and hysteria, fueled by myths and misconceptions.



| Clear your doubts now.



5. **Need for Strategic Mitigation:** Experts stress the importance of targeted identification and removal of problematic wolves through DNA testing and proper analysis, alongside long-term habitat preservation to prevent future conflicts.

[OpenAI's Project Strawberry and the promise of AI's next big breakthrough-Indian Express](#) [Explained](#)

Science and technology

Easy Explanation

OpenAI's Project Strawberry, initially codenamed Project Q*, represents the latest advancement in AI development, aiming to integrate advanced autonomous internet research and significantly enhanced AI reasoning capabilities into ChatGPT-5. Slated for release this fall, this project is anticipated to push the boundaries toward creating Artificial General Intelligence (AGI). Project Strawberry has demonstrated its prowess in mathematical and programming tasks and is designed to improve on areas where previous models like ChatGPT have shown weaknesses. Additionally, it aims to generate high-quality synthetic training data, potentially reducing biases and inaccuracies inherent in real-world data, thereby increasing the fairness and efficiency of AI training processes.

Key Takeaways:

1. **Enhanced Capabilities:** Project Strawberry is designed to be superior in mathematics and programming, addressing previous shortcomings of AI models in complex problem-solving.
2. **Autonomous Research:** The new model could autonomously conduct experiments and research, positioning it closer to the concept of AGI.
3. **Integration with ChatGPT-5:** The integration of Project Strawberry's advancements into ChatGPT-5 aims to make it the most powerful AI chatbot available.
4. **Synthetic Data Generation:** Project Strawberry focuses on creating synthetic data that mirrors real-world data to provide more balanced and inclusive training sets for AI models.
5. **Potential Applications:** The advancements could lead to major scientific breakthroughs, personalized education, and more effective data analysis and hypothesis generation.

[FOUR MAJOR U.S. CLIMATE POLICIES TRUMP WOULD REVERSE IF ELECTED-Indian Express](#) [Explained](#)

International relations

Easy Explanation

Donald Trump has announced his intentions to reverse several major climate policies implemented by the Biden administration if he wins the upcoming U.S. presidential election. Key policies targeted for reversal include:



| Clear your doubts now.



1. **Power Plant Rule:** Trump plans to overturn EPA regulations that require coal and natural gas-fired power plants to deploy technology to capture emissions or shut down, aiming instead to revive the coal industry and facilitate rapid approvals for new energy projects.
2. **Automobile Emissions Rule:** He intends to scrap limits on automobile tailpipe emissions imposed by Biden, which were designed to reduce greenhouse gases by promoting electric and hybrid vehicles. Trump argues that these regulations would harm the U.S. economy and the auto industry.
3. **Inflation Reduction Act:** Trump has criticized the tax credits for electric vehicles provided under this act, labeling them as one of the "dumbest" decisions, and expressed intentions to repeal these subsidies. However, altering this act would require Congressional approval.
4. **Paris Agreement:** Trump plans to withdraw the U.S. from the Paris Agreement once again, arguing that it puts the U.S. at a competitive disadvantage, particularly against China. Biden had re-entered the agreement on his first day in office.

Key Takeaways:

1. **Reversal of Clean Energy Rules:** Trump aims to dismantle regulations that mandate emissions reductions from power plants.
2. **End to Automobile Emissions Standards:** Plans to eliminate standards that require lower emissions from vehicles to prevent what he views as economic damage.
3. **Opposition to Electric Vehicle Subsidies:** Trump is against subsidies for electric vehicles included in the Inflation Reduction Act and seeks to repeal them.
4. **Withdrawal from International Climate Agreements:** Trump intends to pull the U.S. out of the Paris Agreement again, emphasizing economic and competitive concerns.
5. **Impact on U.S. Climate Policy:** These reversals would represent a significant shift in U.S. climate policy, potentially slowing or reversing progress toward reducing greenhouse gas emissions.

[FRIENDS WITH BENEFITS-Indian Express Editorial](#)

International relations

Easy Explanation

The upcoming visit of India's Prime Minister to Singapore underscores the robust and evolving bilateral relations between India and Singapore. This relationship, characterized by frequent high-level governmental contacts, explores new frontiers like digitalization, healthcare, and advanced manufacturing. Singapore is not only India's largest trading partner among ASEAN countries but also a major source of foreign direct investment. The significant Indian diaspora in Singapore, including a large number of IIT and IIM alumni, further strengthens cultural and people-to-people ties. Historical links date back to the time of the Indian National Army, and the contributions of the Indian diaspora have been pivotal in shaping Singapore's multicultural and high-achievement society.

Key Takeaways:

1. **Robust Bilateral Relations:** The relationship between India and Singapore is marked by vibrant exchanges and collaborations in various sectors, indicating a dynamic partnership.



| Clear your doubts now.



2. **Economic and Trade Ties:** Singapore stands as India's sixth-largest global trading partner and the largest source of FDI, illustrating the economic depth of the relationship.
3. **Cultural and Historical Connections:** The presence of a significant Indian diaspora in Singapore, including many alumni from India's premier institutions, underscores the deep cultural ties.
4. **Strategic and Defense Collaboration:** The partnership includes critical defense and maritime dimensions, adapting to the changing geopolitical landscape of the Indo-Pacific region.
5. **Future Opportunities:** The visit is a platform to discuss not only bilateral issues but also broader regional and global challenges, including potential shifts like Chinese FDI into India.

[Reclaim the farm-Indian Express Editorial](#)

Economy

Easy Explanation

Gita Gopinath, IMF's Deputy Managing Director, recently highlighted the need for India to create 60-148 million additional jobs by 2030, emphasizing the transition of workers from agriculture to other sectors. However, this perspective underestimates agriculture's potential as a growth driver. Modern agriculture, unlike its 1954 depiction by Arthur Lewis as low-tech and subsistence-oriented, can now be high-tech and highly productive. Indian agriculture, while contributing significantly to GDP and employment, faces ecological, technological, and institutional challenges that, if addressed, could transform it into a sector attractive to the youth and capable of substantial growth.

Key Takeaways:

1. **Potential of Modern Agriculture:** Agriculture can be a significant growth sector with the right technological and ecological innovations, contrary to traditional economic theories that favor industrial and service sectors for economic development.
2. **Challenges and Solutions:** Addressing key challenges like water management, soil degradation, and technological advancement can significantly increase productivity. For instance, adopting micro-irrigation has shown to improve yields and farmer incomes substantially.
3. **Institutional Innovations:** Small farm sizes and lack of cooperative farming models have traditionally hindered growth. Successful examples from Kerala and other states show that group farming can significantly increase output and returns, providing a viable model for smallholders.
4. **Integration with Allied Sectors:** Connecting agriculture with related sectors like agro-processing, eco-tourism, and machine tools can spur rural development, creating jobs and raising incomes.
5. **Future Vision for Agriculture:** With targeted interventions and policy support, agriculture can be transformed into a technologically advanced, environmentally sustainable, and economically viable sector that attracts the younger generation and serves as a robust engine of growth.

[Did corporate tax cuts increase wages?-The Hindu Text and Context](#)

Economy



| Clear your doubts now.



Easy Explanation

The Tax Cuts and Jobs Act in the U.S. and similar tax cuts in India were aimed at stimulating economic growth by reducing corporate tax rates. These changes were expected to boost investment, employment, and wages. However, the actual outcomes have been less impactful than anticipated. In the U.S., while there was a slight increase in investment, the overall increase in GDP and wages was modest and fell short of initial predictions. The reduction in tax rates also led to significant losses in tax revenue, affecting the fiscal health of the economy. In India, despite a reduction in corporate tax rates, there has been little to no effect on employment or wages, with much of the employment growth coming in insecure forms and real wage growth remaining stagnant.

Key Takeaways:

1. **Marginal Increase in Investment:** Both in the U.S. and India, tax cuts led to some increase in investment, but the overall impact on economic growth and wages was limited.
2. **Disproportionate Benefit to Capital:** The reduction in corporate taxes primarily boosted profits for already invested capital, with minimal benefits to wage-earners or broader economic indices such as employment.
3. **Shift in Tax Burden:** Both countries experienced a shift in tax burden from corporates to individuals, exacerbating fiscal challenges and affecting income distribution.
4. **Unmet Expectations:** The claims of significant wage increases and economic boosts from these tax cuts were not met, with actual outcomes being much more modest.
5. **Policy Implications:** The experience suggests that merely cutting taxes on profits may not sufficiently motivate companies to invest more in ways that significantly benefit the broader economy or the workforce. More targeted incentives for future investments might be necessary.

[Why is Google accused of being an illegal monopoly?](#)

International relations

Easy Explanation

Google was accused by the U.S. Department of Justice (DOJ) of being an illegal monopoly, resulting in a court ruling against the company for misusing its dominant market position. The case focused on Google's practices of securing its position as the default search engine on various devices through financial agreements with manufacturers like Apple and Samsung. Google pays billions annually to ensure it is the pre-set search engine, which the DOJ argued unfairly limits competition by discouraging users from exploring other search engines. Despite its market dominance, with a share of over 90%, the court and some observers note that having a large market share alone does not constitute an illegal monopoly. They argue that market entry is still legally possible for competitors, and there is no permanent guarantee of dominance, as seen in the historical shift from Microsoft to Google.

Key Takeaways:



| Clear your doubts now.



1. **Allegations of Monopoly:** Google's dominant position and its practices of paying manufacturers to set it as the default search engine led to accusations of monopolistic behavior.
2. **Court Ruling:** A U.S. District judge ruled that Google had misused its dominant position to stifle competition, which could lead to further legal actions that might restrict its business practices.
3. **Defense Arguments:** Supporters and some legal perspectives argue that Google's market leadership is due to the superior quality of its service and that paying for default status is akin to buying prime advertising space, which is a common business practice.
4. **Potential Court Actions:** Future court actions could include prohibiting Google from making these payments, mandating more choice for users in setting default applications, or even breaking up the company to dilute its market power.
5. **Google's Market Influence:** Despite potential legal challenges, Google remains a pivotal player in the tech industry, with its business strategies and the outcome of this legal battle likely to influence broader market dynamics and regulatory approaches in the technology sector.

[Could quakes explain why gold nuggets are found in quartz veins?-The Hindu science](#)

Geography

Easy Explanation

A recent study suggests that the reason most gold nuggets are found in quartz veins, particularly in mountainous orogenic areas, may be due to the piezoelectric properties of quartz. When quartz is subjected to mechanical stress, such as from seismic waves, it generates an electric field. This field can drive piezocatalytic chemical reactions that deposit gold from surrounding mineral solutions onto the quartz. This mechanism is thought to occur repeatedly over geological timescales, leading to the accumulation of gold in quartz veins. The study's experiments simulated seismic stress on quartz in a solution with dissolved gold, leading to the formation of gold deposits on the quartz, supporting the theory.

Key Takeaways:

1. **Piezoelectric Properties of Quartz:** Quartz is a piezoelectric material that can generate an electric field when mechanically stressed, such as during an earthquake.
2. **Mechanism for Gold Deposit Formation:** The electric field from stressed quartz can catalyze chemical reactions that precipitate gold from surrounding fluid solutions onto the quartz, contributing to the formation of gold nuggets.
3. **Scientific Validation:** Experiments conducted by the researchers showed that straining quartz in a gold-bearing solution led to the formation of gold deposits, validating the piezocatalytic reaction theory.
4. **Geological and Economic Significance:** Most of the world's gold mined from orogenic systems, which form a significant part of the global gold supply, are believed to have formed through this process.
5. **Continuous Process Over Time:** The deposition of gold onto quartz is believed to occur repeatedly through continuous geological activity, leading to significant accumulations and the formation of large gold nuggets.



| Clear your doubts now.



This theory and its experimental backing provide a plausible explanation for the frequent association of gold nuggets with quartz veins, especially in areas with historic or ongoing seismic activity.

5th September 2024

[State changes in rape law-Indian Express Explained](#)

Polity

Easy Explanation

The West Bengal Assembly has passed the "Aparajita" Bill, imposing the death penalty for rape cases where the victim dies or is left in a vegetative state. This bill not only prescribes death as the maximum punishment for all rape cases but also changes the investigative and judicial processes, involving Special Task Forces and Courts.

Comparatively, the Andhra Pradesh Assembly passed the "Disha" Bill following a similar incident, which also introduced the death penalty for rapes, including those involving minors, and established special police teams and courts for expedited handling of such cases.

The Maharashtra Assembly's "Shakti" Bill, too, enforces the death penalty in certain heinous cases of rape and acid attacks, and mandates faster investigation and trial timelines. Like the others, it requires the sharing of information by web platforms in cases of crimes against women.

All three bills amend existing criminal laws and POCSO Act provisions and introduce stricter penalties and procedural reforms for faster resolution of cases. However, since criminal law is a concurrent subject under the Indian Constitution, any state legislation that is inconsistent with central laws requires Presidential assent to become effective. Thus, all three bills are pending Presidential approval due to potential legal inconsistencies with national laws.

Key Takeaways

Here are the key takeaways from the legislative changes in rape laws by the West Bengal, Andhra Pradesh, and Maharashtra Assemblies:

1. **Introduction of Death Penalty:** All three states have introduced or proposed the death penalty as a punishment in rape cases, especially in instances resulting in the victim's death or permanent vegetative state.
2. **Special Legal Mechanisms:** Each bill mandates the creation of special institutions like task forces and special courts dedicated to the expedited investigation and trial of rape cases.
3. **Amendment of Existing Laws:** These bills amend various existing laws and statutes to incorporate stricter penalties and procedural reforms for rape cases.
4. **Presidential Assent Required:** Since criminal law falls under the Concurrent List of the Constitution, any state law inconsistent with the central laws requires Presidential assent to be enforced. All three bills are currently pending such approval due to potential inconsistencies with national legislation.



| Clear your doubts now.



5. **Public and Political Response:** The enactment of these bills has been in direct response to public outrage following high-profile rape cases, indicating a legislative push towards harsher penalties and more efficient legal processes in crimes against women.

[SATELLITE-BASED HIGHWAY TOLL COLLECTION:HOW WILL IT WORK?-Indian Express](#) [Explained](#)

Science and technology

Easy Explanation

The Ministry of Road Transport & Highways (MoRTH) is rolling out a satellite-based highway toll collection system utilizing the Global Navigation Satellite System (GNSS) to enhance toll plaza efficiency and reduce congestion. This new system, aimed at replacing the existing FASTag system, leverages Geographic Information System (GIS)-based software for real-time monitoring of traffic conditions at toll plazas, providing detailed data on queue lengths, wait times, and vehicle speeds. Key features include distance-based tolling, allowing motorists to pay only for the specific segments of the highway they travel, which aligns charges more closely with actual usage. The system will initially be tested at 100 identified congested toll plazas, operating alongside the current FASTag technology to ensure a seamless transition. This integration promises to expedite the toll collection process, eliminate physical barriers, and significantly reduce delays and vehicle queues at toll points, potentially transforming the commuting experience on National Highways by making it faster and more efficient.

Key Takeaways

1. **Satellite Integration:** Utilizes the Global Navigation Satellite System (GNSS) for toll collection, ensuring accuracy in distance and time measurements for tolling.
2. **Real-Time Traffic Monitoring:** Incorporates Geographic Information System (GIS)-based software to monitor traffic conditions in real-time, providing data on queue lengths, wait times, and vehicle speeds at toll plazas.
3. **Distance-Based Tolling:** Charges motorists based on the actual distance traveled on the highway, rather than a flat rate, making tolls fairer and more reflective of usage.
4. **Enhanced Efficiency:** Aims to reduce congestion and streamline toll plaza operations by eliminating physical toll booths and barriers, facilitating a smoother flow of traffic.
5. **Dual System Operation:** The GNSS-based tolling will initially operate alongside the existing FASTag system, allowing for a transitional period to adjust and refine the new technology without disrupting current operations.
6. **Pilot Testing and Implementation:** Set to be first tested at 100 congested toll plazas based on feedback, which will help in fine-tuning the system before a broader rollout across the network.

[WHY INDIA CELEBRATES TEACHERS' DAY ON SEPTEMBER 5-Indian Express Explained](#)

History

Easy Explanation



| Clear your doubts now.



Dr. Sarvepalli Radhakrishnan was a respected philosopher and teacher, known for his significant contributions to the interpretation of Hindu philosophy, particularly Advaita Vedanta, and for bridging the understanding between the East and the West. He served in various prestigious academic positions and was highly revered as an educator. His philosophy highlighted the role of teachers as crucial to society, famously stating that "teachers should be the best minds in the country." Upon becoming President of India, he requested that his birthday be celebrated as a day honoring teachers across India, leading to the establishment of Teachers' Day.

Key Takeaways:

1. **Celebration of Philosophy and Education:** Teachers' Day marks the celebration of Radhakrishnan's contributions to philosophy and education, emphasizing the role of teachers in nurturing society.
2. **Recognition of Teachers' Importance:** The day underscores the value of teachers and education, aligning with Radhakrishnan's belief in the pivotal role of teachers as builders of society.
3. **Cultural and Philosophical Bridge:** Radhakrishnan's work in philosophy also served as a cultural and intellectual bridge, enhancing the Western understanding of Hindu philosophy.
4. **Legacy of Academic Excellence:** His tenure in various educational institutions highlights the importance of academic leadership in shaping educational standards and philosophies.
5. **National Celebration of Educators:** Teachers' Day focuses on nationwide gratitude towards educators, encouraging respect and appreciation for their significant contributions.

This day serves not only to remember Radhakrishnan's legacy but also to celebrate the critical role that educators play in shaping the future of the nation.

[Genome mapping of Chandipura virus: findings-Indian Express Explained](#)

Science

Easy Explanation

The Gujarat Biotechnology Research Centre (GBRC) mapped the genome of the Chandipura vesiculovirus (CHPV), which has been responsible for causing severe encephalitis outbreaks in India, particularly affecting children under 15. Their research found that the virus has remained genetically stable with minimal mutations over the years, suggesting it has not been under significant evolutionary pressure to adapt. The genome mapping revealed only a few significant mutations since the major outbreaks in 2003 and 2012, notably in the glycoprotein gene responsible for the virus's ability to bind to human cells.

Key findings also indicate that despite the low viral load in patients, as evidenced by high Cycle Threshold (Ct) values in diagnostic tests, the virus can still cause severe symptoms. Genetic analysis confirmed that the strain of CHPV causing the recent outbreak is local to India and has not been imported from outside the country. This research is critical as it aids in understanding the virus's behavior, spread, and potential for future outbreaks, which is essential for developing targeted diagnostics, treatments, and preventive measures against CHPV.

Key Takeaways



| Clear your doubts now.



1. **Genetic Stability:** CHPV has shown minimal evolution over the years, indicating genetic stability with few significant mutations observed in recent strains compared to those from past outbreaks.
2. **Importance of Genome Mapping:** Understanding the genetic makeup of CHPV is crucial for developing diagnostic tools, potential treatments, and vaccines, as it provides insights into how the virus infects and impacts the human body.
3. **Low Viral Load but Severe Impact:** Despite the low viral load in patients (indicated by high Ct values in tests), CHPV can still cause severe symptoms like encephalitis, highlighting its potency.
4. **Local Circulation:** The virus strain from the recent outbreak is indigenous to India, suggesting that the virus has not been imported from other regions, which is important for focusing public health measures locally.
5. **Public Health Implications:** The stable genome and the virus's severe impact on children underscore the need for continued surveillance, research, and possibly the development of a vaccine to prevent future outbreaks.

[AN UPWARD TICK-Indian Express Editorial](#)

Economy

Easy Explanation

The World Bank has revised its growth forecast for India's economy to 7% for this year, up from an earlier estimate of 6.6%. This update is in line with similar adjustments by the International Monetary Fund (IMF) and the Asian Development Bank (ADB), both of which also forecast a 7% growth rate, slightly under the Reserve Bank of India's (RBI) projection of 7.2%. The report expects an uplift in private consumption driven by improved rural incomes following a good monsoon, which contrasts with a slight deceleration in investment growth due to reduced government capital expenditure.

However, the World Bank's report also identifies significant challenges in India's export sector. It notes that India has failed to capitalize on the declining global market share of China in low-skill manufacturing, with countries like Bangladesh and Vietnam taking the lead. The report criticizes high tariff and non-tariff barriers that hinder India's competitive edge and suggests that increased skill intensity in manufacturing has led to reduced export-related employment. It recommends reversing protectionist policies, lowering trade barriers, and pursuing more free trade agreements to enhance integration with global markets.

Key Takeaways

1. **Increased Growth Forecast:** The World Bank has raised India's economic growth forecast to 7% for the current year, up from an earlier projection of 6.6%. This aligns with similar forecasts by other major financial institutions like the IMF and ADB.
2. **Rural Income and Consumption:** Improved rural incomes due to a favorable monsoon season are expected to boost private consumption, which had a significant uptick in the first quarter.
3. **Investment Growth Concerns:** There is an anticipated slowdown in investment growth, attributed mainly to reduced government capital expenditures.
4. **Medium-Term Growth Outlook:** The World Bank expects India's growth to average 6.7% between 2025 and 2027, indicating a stable but slightly slower growth phase ahead.



| Clear your doubts now.



5. **Export Sector Challenges:** India has not effectively seized opportunities in the low-skill manufacturing export market, losing ground to countries like Bangladesh and Vietnam. High tariffs and regulatory barriers further restrict India's competitive edge in exports.
6. **Recommendations for Policy Reforms:** The report suggests reversing protectionist measures and reducing tariff and non-tariff barriers to bolster India's participation in global trade. It also recommends pursuing more free trade agreements and deeper integration with global value chains to improve export performance and employment opportunities in this sector.

[Did animals develop complex brains to deal with challenging habitats?-The Hindu science](#)

Science

Easy Explanation

Dr. Levi Storks, an evolutionary biologist, has explored how complex brains in lizards correlate with the demands of their environment. His study, focusing on anoles in Puerto Rico, indicates that lizards living in more intricate habitats—like tree canopies versus simpler ground levels—tend to have more complex brains. This complexity is particularly notable in the telencephalon, a brain region involved in sensory integration and higher cognition, suggesting that navigating more challenging environments may drive brain development in these reptiles.

Key Takeaways:

1. **Habitat Complexity Linked to Brain Complexity:** Lizards living in more complex environments have developed brains with a higher density of neurons, especially in areas responsible for higher cognitive functions.
2. **Neuroanatomical Evidence:** The study provides neuroanatomical evidence supporting the idea that environmental demands influence brain structure, with significant variations in neuron density correlating with habitat complexity.
3. **Evolutionary Insights:** These findings contribute to our understanding of evolutionary biology by suggesting that physical and cognitive traits may adapt in response to environmental challenges.
4. **Comparative Approach:** By comparing closely related lizard species within the same ecological class, the study ensures that differences in brain structure are more likely due to habitat rather than genetic divergence.
5. **Broader Implications for Other Species:** Similar patterns observed in other vertebrates suggest that this phenomenon may be widespread, offering potential insights into the evolutionary pressures shaping brain development across different species.

This research underscores the adaptive nature of brain evolution, driven by the demands of surviving and thriving in complex environments.



| Clear your doubts now.



Climate change threatens South Korea's beloved kimchi-The Hindu Science

Environment

Easy Explanation

Napa cabbage is traditionally grown in South Korea's mountainous regions during the summer, where temperatures used to stay below 25°C. However, studies and experts predict worsening conditions due to climate change, with increasing temperatures and unpredictable weather patterns. These changes are affecting the crop's quality and quantity, making it mushy and prone to diseases such as fungal infections that are difficult to manage and become apparent close to harvest time.

The industry is already observing significant declines in cabbage farming areas, with projections showing a potential cessation of cabbage growth in highland areas by 2090. Concurrently, South Korea faces economic pressures from cheaper kimchi imports from China, further complicating the domestic market.

Key Takeaways:

1. **Impact on Crop Production:** Climate change is directly affecting the growth of napa cabbage in South Korea, threatening the traditional kimchi industry.
2. **Economic Challenges:** The domestic kimchi industry is also challenged by cheaper imports, predominantly from China, affecting local producers and the economy.
3. **Adaptation Efforts:** Efforts are underway to adapt to these changes, including developing new cabbage varieties that can tolerate warmer temperatures and varying rainfall patterns, and implementing climate-controlled storage solutions to stabilize supply and prices.
4. **Cultural Significance:** The potential decline in napa cabbage production not only impacts food security but also cultural heritage, as kimchi is a staple in South Korean cuisine.
5. **Research and Development:** Increased focus on agricultural research and development is critical to developing resilient crop varieties and managing the impacts of climate change on agriculture.

These challenges highlight the broader implications of climate change on food security, culture, and economy, necessitating comprehensive strategies for adaptation and mitigation.

What do we know about ANIIDCO?-The Hindu Text and Context

Economy

Easy Explanation

The Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO) has been tasked with managing a ₹72,000 crore infrastructure project in Great Nicobar, raising concerns about its qualifications and environmental governance capabilities. ANIIDCO, established in 1988, primarily engages in trading petroleum products, liquor, managing tourism resorts, and fisheries infrastructure, which are significantly different from the demands of a large-scale infrastructure project. Initially, the organization lacked an environmental policy, an environment cell, and adequate human resources, only starting to



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recruit relevant experts two years after being appointed as the project proponent.

Critics and past administrators have voiced concerns about ANIIDCO's capacity to manage such a vast project, highlighting the need for a complete organizational overhaul and external expertise. The overlapping roles of ANIIDCO's managing director with the Commissioner cum Secretary of Environment and Forests, and other similar conflicts of interest, further complicate the governance structure, suggesting potential self-certification issues. These issues, combined with the project's location in a biodiversity hotspot and indigenous territory, accentuate the risks and underscore the importance of transparent and competent project management.

Key Takeaways

Here are the key takeaways regarding ANIIDCO's involvement in the ₹72,000 crore infrastructure project in Great Nicobar:

1. **Inadequate Preparation:** ANIIDCO was initially unprepared for the project, lacking an environmental policy, environment cell, and the necessary human resources to manage a project of such magnitude.
2. **Experience Mismatch:** The corporation's primary experience in trading and managing small-scale tourism and fisheries infrastructure does not align with the demands of overseeing a massive infrastructure project, raising questions about its suitability and capacity.
3. **Environmental and Social Concerns:** The project is located in a biodiversity hotspot and an area inhabited by indigenous communities, which necessitates careful management to prevent ecological damage and respect tribal rights.
4. **Governance and Conflict of Interest:** There have been instances of potential conflicts of interest, such as overlapping roles within ANIIDCO and the Andaman and Nicobar administration, which could affect the impartiality and integrity of the project's management.
5. **Calls for Organizational Overhaul:** Past administrators and observers suggest that ANIIDCO would require significant upgrades and external expertise to effectively manage the project, implying that it currently lacks the sophisticated mechanisms needed for such an endeavor.
6. **Public Trust and Transparency:** The situation underscores the need for greater transparency in project management and approvals to ensure public trust, especially given the ecological sensitivity and the scale of the project.

[Why has H.P. raised the marriageable age for women?-The Hindu Text and Context](#)

Sociology

Easy Explanation

The Himachal Pradesh Assembly recently passed the Prohibition of Child Marriage (Himachal Pradesh Amendment) Bill, 2024, which aims to raise the minimum marriageable age for women from 18 to 21 years, aligning it with that for men. This move is intended to promote gender equality and address social issues like early pregnancy and educational disruptions due to early marriage. The bill modifies the legal definition of a "child" in the 2006 Act, standardizing the marriageable age at 21 for both genders, and extends the timeframe for annulment of marriages entered into as minors from two to five years after reaching majority.



| Clear your doubts now.



The bill requires the President's assent to become law due to its deviation from the central Prohibition of Child Marriage Act, 2006, highlighting the procedural complexities when state legislation conflicts with federal laws. Critics argue that while the bill aims to protect young women, it could inadvertently increase parental control over their choices, particularly in cases of elopement. This legislation underscores the balance between legislative intentions and potential societal impacts.

Key Takeaways

1. **Alignment of Marriage Ages:** The new bill sets the minimum marriageable age for both men and women at 21, standardizing the age across genders to promote gender equality.
2. **Legislative Changes:** The bill amends the Prohibition of Child Marriage Act, 2006, redefining a "child" as anyone under 21 years of age and extending the timeframe to annul a marriage from two to five years after reaching majority age.
3. **Presidential Assent Requirement:** Due to the alteration of a central law, the bill requires the President's assent to override the existing Prohibition of Child Marriage Act, 2006, as per the provisions of the Constitution that manage conflicts between state and central legislation.
4. **Societal Impact Concerns:** Critics of the bill caution that it may lead to increased criminal prosecutions against young couples who elope, potentially enhancing parental control over young adults rather than just protecting them.
5. **Purpose of the Legislation:** The bill aims to delay marriage and motherhood to improve health, educational opportunities, and overall life prospects for young women, reflecting a broader strategy to enhance women's welfare through legislative means.

6th September 2024

[Law Commission:its role,members,& recommendations-Indian Express Explained](#)

Polity

Easy Explanation

The Union government has notified the 23rd Law Commission of India, which will serve for a three-year term from September 1, 2023. The Law Commission is a non-statutory body that advises the government on legal reforms, including reviewing outdated laws and recommending new legislation. It plays a crucial role in shaping legal policy, with previous commissions leading to significant laws like the Code of Criminal Procedure and the Right to Education Act. The 23rd Commission is expected to review laws related to the Uniform Civil Code, socioeconomic legislation, and more.

Key Takeaways:

1. The 23rd Law Commission was constituted on September 2, 2023, with a term until August 31, 2027.
2. The Commission advises on legal reforms, but the government is not obligated to accept its recommendations.



| Clear your doubts now.



3. It is expected to review key laws, including the Uniform Civil Code and obsolete laws.
4. Members and chairperson for the 23rd Commission are yet to be named.
5. The 22nd Law Commission made several key recommendations, including retaining the sedition law with amendments and proposing new laws for trade secrets.

Singapore & semiconductors-Indian Express Explained

International relations

Easy Explanation

During PM Modi's visit to Singapore, a key focus was on semiconductor collaboration, a critical area for India's tech ambitions. Singapore, an early mover in the semiconductor industry, plays a significant role in global chip manufacturing, contributing to 10% of the world's output. India aims to strengthen its own semiconductor ecosystem through collaboration, focusing on talent development, knowledge-sharing, and expanding semiconductor manufacturing. India's partnership with Singapore can help address global chip supply challenges amid geopolitical tensions, while Singapore can leverage India's abundant land and competitive labor for expansion.

Key Takeaways:

1. **India-Singapore Semiconductor Partnership:** The MoU for collaboration on semiconductors is of great geo-strategic and geo-economic importance.
2. **Singapore's Semiconductor Leadership:** Singapore contributes 10% of global semiconductor output and has players in all segments of the semiconductor value chain.
3. **India's Semiconductor Push:** India launched the India Semiconductor Mission in 2021, aiming to build a domestic ecosystem, with several projects approved under its incentive scheme.
4. **Opportunities for India:** India's lower labor costs and abundant land present opportunities for semiconductor companies to expand operations.
5. **Challenges for Singapore:** High production costs and limited resources may pressure Singapore's semiconductor industry, particularly in attracting new investments.

What is the significance of first global 'legally binding' pact on use of AI-Indian Express Explained

Science and technology

Easy Explanation

The United States, European Union, and United Kingdom have signed the Council of Europe's Framework Convention on Artificial Intelligence, marking the first global legally binding treaty on AI. This treaty, which took two years to draft, regulates the design, development, and use of AI systems with a focus on human rights, democracy, and the rule of law. It holds signatories accountable for harmful AI outcomes, requiring them to ensure that AI systems respect equality, privacy, and democratic processes. The treaty covers both public and private sectors, aiming to create a unified regulatory framework amid concerns over disparate



| Clear your doubts now.



national regulations. While it is a significant step towards global AI governance, there are concerns about the treaty's lack of punitive sanctions for non-compliance, relying instead on monitoring for enforcement. The treaty is seen as a major international agreement among key AI players and aims to address growing fears over AI's impact on society. Despite its binding nature, issues around enforcement and penalties remain a challenge.

Key Takeaways:

1. **First Global AI Treaty:** The treaty is the first legally binding international agreement on AI, focused on human rights, democracy, and rule of law.
2. **Accountability:** Signatories are responsible for preventing harmful and discriminatory AI outcomes, ensuring AI systems respect privacy and equality.
3. **Risk-Based Regulation:** The treaty adopts a risk-based approach to AI governance, covering both public and private sectors across geographies.
4. **Lack of Punitive Sanctions:** While legally binding, the treaty lacks provisions for fines or penalties, relying on monitoring for enforcement.
5. **Global Scope:** Signed by major players like the US, EU, UK, and other countries beyond Europe, reflecting broad international support.
6. **Regulatory Unity:** Aims to harmonize AI regulations globally, countering fragmented national approaches that could hinder AI's development.
7. **Significant Step Amid AI Concerns:** Comes amid growing global worries about AI's societal impacts, but enforcement mechanisms remain a challenge.

[WHY SATURN'S MAJESTIC RINGS WILL BRIEFLY 'DISAPPEAR' IN MARCH 2025-Indian Express Explained](#)

Science

Easy Explanation

Saturn's iconic rings will appear to "disappear" briefly in March 2025 due to an optical illusion caused by the planet's tilt. As Saturn orbits the Sun, its rings periodically align edge-on with Earth, making them difficult to see because they are so thin. This phenomenon, which last occurred in 2009, will make the rings nearly invisible from Earth. However, NASA has confirmed that Saturn will lose its rings permanently within 300 million years due to the planet's gravity pulling the material into Saturn. The rings, made of ice and rock, likely formed from the debris of colliding icy moons around 100 million years ago.

Key Takeaways:

1. **Optical Illusion:** In March 2025, Saturn's rings will briefly "disappear" when they align edge-on with Earth, reflecting little light due to their thinness.
2. **Saturn's Tilt:** The planet's tilt of 26.73 degrees causes this alignment every 13-15 years, with the last occurrence in 2009.
3. **Rings' Future:** Saturn is gradually losing its rings to "ring rain" caused by gravity, and they will vanish completely in about 300 million years.



| Clear your doubts now.



4. **Ring Composition:** The rings are made of ice and rock, likely formed from the collision of icy moons.
5. **Unique Rings:** Saturn's rings are more prominent compared to other gas giants like Jupiter, Uranus, and Neptune, which have only thin ringlets today.

[West Bengal has passed an anti-rape bill laying down harsher punishments, including death penalty. But do stringent laws act as a deterrent to sexual violence? - Hard and hollow - Indian Express Editorial](#)

Sociology

Easy Explanation

West Bengal has passed the Aparajita Woman and Child (West Bengal Criminal Laws Amendment) Bill, 2024, which introduces harsher punishments, including the death penalty, for sexual violence. This action comes in response to public outrage over recent incidents of rape and murder. However, experts argue that stricter laws, including the death penalty, do not effectively deter sexual violence. Instead, the problem lies in societal factors such as entrenched gender, caste, and religious hierarchies that perpetuate violence. The criminal justice system's inefficiencies—low conviction rates, delayed trials, and lack of victim support—are seen as more pressing issues. Harsher laws are often a political response to public outcry but fail to address the root causes of sexual violence.

Key Takeaways:

1. **Harsher Punishments:** The new bill mandates the death penalty for rape leading to death or vegetative state, though experts question its deterrent effect.
2. **Low Conviction Rates:** Conviction rates for rape cases in India are under 30%, undermining the impact of harsher penalties.
3. **Societal Factors:** Sexual violence is linked to deep-rooted social hierarchies, not just individual deviant behavior.
4. **Political Response:** Harsher laws are often used to quell public outrage but don't address systemic issues in preventing sexual violence.
5. **Needed Reforms:** Effective prevention requires broader social reforms, improvements in the criminal justice system, and sustained governance efforts.

[West Bengal has passed an anti-rape bill laying down harsher punishments, including death penalty. But do stringent laws act as a deterrent to sexual violence? - Stricter rape laws are needed - Indian Express Editorial](#)

Sociology

Easy Explanation



| Clear your doubts now.

India faces persistent issues with sexual violence, with a rape occurring every four hours, according to statistics. Despite legal reforms and the introduction of stricter laws, such as the Bharatiya Nyaya Sanhita (BNS) 2023 and the recent Aparajita Woman and Child Bill 2024 in West Bengal, challenges remain. Stricter laws are seen as necessary to create deterrence, with provisions for swift reporting, severe penalties, and fast-tracked trials. Advocates argue that swift and harsh punishments significantly reduce rape cases globally. However, societal stigmas, gaps in victim support, and a lack of consistent law enforcement hinder true deterrence. Critics suggest that stronger laws alone are insufficient, as societal reforms and effective legal processes are equally vital.

Key Takeaways:

1. **High Incidence of Rape:** A rape occurs every four hours in India, with many incidents going unreported due to societal stigma.
2. **Stricter Laws Proposed:** The BNS 2023 and the Aparajita Woman and Child Bill 2024 introduce harsher punishments, including capital punishment and fast-tracked trials.
3. **Need for Deterrence:** Advocates argue that swift and severe punishment lowers rape incidents.
4. **Challenges in Law Enforcement:** Issues like victim support, police insensitivity, and legal loopholes continue to undermine justice.
5. **Societal Stigma:** Cultural pressures often prevent victims from seeking justice, exacerbating the problem.

[Breast feeding cuts chances of the child developing allergic disorders-The Hindu Science](#)

Science

Easy Explanation

During India's Nutrition Week, experts highlighted the rising incidence of food-related allergies in children, particularly linked to the "westernization" of diets. Common food allergies include reactions to eggs, nuts, and seafood. Specialists note that breastfed babies have a lower chance of developing allergies, as breast milk has a lower protein content than cow's milk, reducing allergy potential. Diagnosis through skin tests is considered the gold standard, while food allergies can range from mild to life-threatening, including anaphylaxis. The key treatment for food allergies is avoidance, and the number of cases is rising in India as dietary patterns shift toward more processed foods.

Key Takeaways:

1. **Breastfeeding Benefits:** Breastfeeding reduces the risk of allergic disorders in children compared to formula feeding with cow's milk.
2. **Rising Allergies:** Food allergies, particularly to eggs, nuts, and seafood, are increasing due to the adoption of Western diets.
3. **Genetic Factors:** Allergies often run in families, with food allergies potentially emerging earlier in younger generations.
4. **Diagnosis:** Skin tests are the preferred method for diagnosing allergies, though blood tests are also available.



| Clear your doubts now.



5. **Treatment:** Avoidance of the allergen is the main treatment for food allergies; severe cases can lead to life-threatening reactions like anaphylaxis.

[Can Kerala access funds from the Loss and Damage Fund?-The Hindu Text and Context](#)

Disaster management

Easy Explanation

The Loss and Damage Fund (LDF) was established at COP27 in 2022 to provide financial support to regions suffering from climate change-related damages. While sub-national entities like Kerala, which recently faced devastating landslides, could benefit from this fund, accessing these funds remains complex. India, which has suffered over \$56 billion in damages from weather-related disasters between 2019 and 2023, has prioritized mitigation over adaptation, leading to subdued participation in Loss and Damage dialogues. State governments often bear the brunt of disaster recovery costs, as seen with Kerala's Rebuild Kerala Development Programme. To effectively access the LDF, India needs clearer legal and policy frameworks, particularly for locally led adaptation and loss assessments.

Key Takeaways:

1. **Loss and Damage Fund (LDF):** Established at COP27 to provide financial support for regions affected by climate-related damages.
2. **Challenges for Kerala:** Sub-national entities like Kerala face difficulties in accessing international climate funds due to slow disbursement and complex procedures.
3. **India's Approach:** India has focused more on mitigation than adaptation, limiting engagement in Loss and Damage dialogues.
4. **State Burden:** State governments, like Kerala, often bear the financial burden for disaster recovery, as seen with the Rebuild Kerala initiative.
5. **Need for Policy Framework:** India requires clear domestic policies to streamline access to LDF and focus on locally led adaptation strategies.

[What is vertical Fiscal imbalance?-The Hindu Text and Context](#)

Economy

Easy Explanation

India's fiscal federalism faces a significant challenge in Vertical Fiscal Imbalance (VFI), where states are responsible for 61% of revenue expenditure but collect only 38% of revenue receipts, relying heavily on transfers from the Union government. The Finance Commission plays a key role in addressing this imbalance by determining how taxes collected by the Union are distributed to the states. Currently, the devolution of taxes is less than required to eliminate VFI. States are demanding that the share of tax devolution be



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increased to 50% to provide them with more untied resources, enabling them to better meet expenditure needs and enhance efficiency in public spending.

Key Takeaways:

1. **Vertical Fiscal Imbalance (VFI):** States face a gap between revenue collection and expenditure, leading to dependence on Union government transfers.
2. **Role of Finance Commission:** The Finance Commission determines the share of Union taxes devolved to states, with past recommendations at 41-42%.
3. **State Demands:** States are advocating for a 50% share of tax devolution to address VFI and ensure adequate resources for expenditure.
4. **Importance of Untied Transfers:** Raising tax devolution would provide states with more flexibility in spending and better address local priorities.
5. **Empirical Support:** Analysis suggests tax devolution should rise to 49% to eliminate VFI and promote cooperative fiscal federalism.

7th September 2024

[Stick to Fiscal Deficit as the norm for Fiscal Prudence- IE Editorial](#)

Economy

Easy Explanation

The article explains that when a government's spending exceeds its income, it can lead to financial difficulties. In the 1980s, India faced such a situation with a high fiscal deficit and rising debt, forcing the government to borrow more to cover its expenses. Currently, the Indian government is planning to reduce its fiscal deficit to 4.5% of GDP by 2025-26, but this will still leave a high debt-to-GDP ratio. While the government aims to show a decreasing debt-to-GDP ratio, it is not committing to strict targets like the Fiscal Responsibility and Budget Management (FRBM) Act had set.

If both the central and state governments maintain high fiscal deficits, the combined deficit could reach 7.5% of GDP, which would limit the private sector's ability to borrow and invest. Household savings, which have been decreasing, are a key factor in this equation. If household savings don't increase, it will be hard to support both government borrowing and private investment.

The article stresses that a sustainable debt level requires controlling the fiscal deficit. A high debt-GDP ratio also means the government will spend a large part of its income just on paying interest, leaving less for other spending. Compared to countries like Japan and the U.S., India spends a much higher proportion of its revenue on interest payments, which is a problem. The article concludes by urging the government to stick to a 3% fiscal deficit target to avoid financial instability.

Key Takeaways



| Clear your doubts now.



Government Debt and Fiscal Deficit:

- **Fiscal Deficit:** When the government's spending exceeds its revenue, it creates a fiscal deficit.
- **Debt-GDP Ratio:** The government's debt as a percentage of GDP is a critical measure of economic health. India's debt-GDP ratio is projected to be 54% by 2025-26, but the government isn't committing to strict targets like the 40% goal set in the Fiscal Responsibility and Budget Management (FRBM) Act.

Impact on Private Investment:

- **Limited Borrowing Space for Private Sector:** High government borrowing can reduce the available funds for private companies, limiting their ability to invest.
- **Household Savings Decline:** Household savings, which finance government and private borrowing, have decreased significantly, from 7.6% to 5.3% of GDP in recent years. This makes it harder to support both government spending and private investment.

Interest Payments and Revenue:

- **High Interest Burden:** A large part of the government's revenue is used to pay interest on its debt. In India, this ratio is much higher (around 38-51%) than in countries like Japan (5.5%) or the U.S. (8.5%).
- **Impact on Spending:** Higher interest payments reduce the government's ability to spend on other essential services and development.

Policy Recommendation:

- **3% Fiscal Deficit Target:** The article suggests that the government should aim for a fiscal deficit of 3% of GDP to avoid long-term financial instability. Relaxing this target would lead to imprudent fiscal policies.

International Comparison:

- **Higher Debt in Other Countries:** Although countries like Japan, the U.S., and the U.K. have higher debt-GDP ratios, they pay a smaller percentage of their revenue on interest compared to India.

Challenges in Reducing Debt:

- **Asymmetry in Debt Adjustment:** While the debt-GDP ratio can quickly increase during economic shocks (e.g., COVID-19), reducing it takes much longer. This delay in adjusting downward makes it harder to manage long-term financial health.

[Fresh openings- IE Editorial](#)

Polity

Easy Explanation



| Clear your doubts now.

The first Assembly election in Jammu and Kashmir in over a decade has brought hope for a fresh start in the region. Since losing its statehood and special status under Article 370 in 2019, the restoration of these rights has become a central issue for political parties. Regional parties are promising to fight for Article 370's return, while the BJP opposes this, accusing them of supporting separatism. The Congress is focusing on restoring statehood but is avoiding discussions on Article 370. A total of 529 candidates are contesting for 50 seats, with a range of parties and even some separatists participating, which could lead to new stability and peace in the region.

Major political players like the National Conference (NC) and the Peoples Democratic Party are focusing on undoing changes made after 2019, including the controversial Public Safety Act (PSA). The BJP, meanwhile, is expanding its support among tribes and backward classes, particularly from the Pahari community, and has fielded several Muslim candidates. The election is expected to reshape the political landscape in Jammu and Kashmir.

Key Takeaways

Election Context:

- **First Election After a Decade:** This is the first Assembly election in Jammu and Kashmir since 2019 when it lost its statehood and Article 370 was revoked.
- **Key Issue – Article 370:** Regional parties are promising to restore Article 370, while the BJP is firmly against this, accusing them of supporting separatism.
- **Congress' Position:** The Congress is promising to restore statehood but is avoiding direct discussions on Article 370.

Candidate Participation:

- **Record Nominations:** A total of 529 candidates have filed for 50 Assembly seats.
- **Unprecedented Participation:** Even separatist figures and the Jamaat-e-Islami, which previously boycotted elections, are fielding independent candidates, signaling a potential shift towards peace.

Party Strategies and Concerns:

- **Regional Parties' Promises:** National Conference (NC) and other regional parties are focusing on reversing post-2019 measures, including the Public Safety Act (PSA).
- **Congress' Concerns:** The Congress is worried about outsiders being given land, jobs, and resources, and the Lieutenant Governor's powers.
- **BJP's Expanding Base:** The BJP is reaching out to marginalized groups like Scheduled Tribes, Scheduled Castes, and Other Backward Classes. They have fielded several Muslim candidates and aim to weaken the control of regional family-run parties.

Significance of the Election:

- **Potential for New Politics:** The election could introduce new political leadership and a reshaped political scenario in Jammu and Kashmir, with results expected to influence the region's future within India.



International Relations

Easy Explanation

Despite the conclusion of the recent India-China border talks without progress, Indian soldiers are preparing for another winter of face-to-face confrontation with Chinese forces in the Himalayas. While many believe India has countered China's tactics through military redeployment, China has continued to strengthen its positions and build villages along the border. Additionally, China has been using its relationship with Pakistan and other strategic initiatives like the Belt and Road Initiative to undermine India's influence in the region. India's relationships with neighboring countries like the Maldives and Bangladesh have also suffered, raising concerns about its regional standing.

To achieve its vision of becoming a global power by 2047, India needs to improve its relationships with its neighbors and ensure a stable, cooperative region. This requires strong statecraft, strategic wisdom, and the ability to handle security challenges effectively. India faces complex threats from China and Pakistan, both of which have territorial ambitions. India's growing trade deficit with China and reliance on defense imports are strategic vulnerabilities. Additionally, both China and Pakistan have improved their nuclear capabilities, which India must address through clear strategies and alliances with like-minded nations.

Key Takeaways

India-China Border Tensions:

- **Stalemated Talks:** The recent diplomatic meeting between India and China ended without progress, and Indian soldiers are preparing for another standoff.
- **China's Border Fortification:** Despite India's efforts, China is fortifying its military positions in Ladakh and building villages along the Arunachal border.

Regional Strategic Concerns:

- **China's Regional Moves:** China is using its influence in South Asia, especially through Pakistan and initiatives like the Belt and Road, to challenge India's position.
- **Declining Influence in Neighbors:** India's influence has diminished in countries like the Maldives and Bangladesh, raising questions about its regional diplomacy.

National Security and Strategic Challenges:

- **Need for Statecraft:** India needs comprehensive strategies combining political, military, and economic tools to secure its national interests.
- **Growing Threats from Neighbors:** China and Pakistan continue to provoke India, diverting resources from development. India's military and strategic response needs improvement to deter these threats.

Strategic Vulnerabilities:



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- **Trade Deficit with China:** India's \$85 billion trade deficit with China is limiting its strategic flexibility, especially with reliance on Chinese imports for essential goods.
- **Dependence on Defense Imports:** India's reliance on defense imports from countries like Russia and Israel limits its strategic autonomy, and initiatives like Atmanirbhar Bharat (self-reliance) face delays.

Nuclear Deterrence and Strategic Alliances:

- **Nuclear Challenges:** China and Pakistan have enhanced their nuclear capabilities, making India's nuclear deterrence strategy more critical.
- **Strategic Alliances:** India must seek external partnerships to counter regional threats and secure its national interests, even if it means breaking old alliances and forming new ones.

[Facing east- IE Editorial](#)

International Relations

Easy Explanation

Prime Minister Narendra Modi's visit to Singapore is aimed at strengthening India's relationship with one of its most important partners in Asia. This visit, along with others to countries like Brunei, Malaysia, and Vietnam, highlights India's focus on engaging with Southeast Asia and the Pacific region. While India has also been paying more attention to the Gulf region recently, Southeast Asia remains a key area of importance. In 2014, Modi rebranded India's Look East Policy as the Act East Policy, and there have been positive steps in defense and security cooperation with ASEAN. However, India's decision to leave the Regional Comprehensive Economic Partnership (RCEP) negotiations has raised concerns in the region, particularly in Singapore.

In trade, India is trying to make up for its exit from RCEP by pursuing bilateral agreements and exploring new areas like digitalization, health, space technology, and advanced manufacturing. A focus on semiconductor collaboration with countries like Malaysia and Singapore is part of this strategy, but it now depends on India's economic ministries to turn these agreements into real projects.

Key Takeaways

Diplomatic Engagement:

- **PM Modi's Singapore Visit:** The visit is part of a broader effort to revitalize India's ties with Southeast Asia and the Pacific.
- **High-Level Visits:** India has hosted and visited leaders from Malaysia, Vietnam, Fiji, and other Southeast Asian nations, reflecting strong goodwill towards India in the region.

Act East Policy and ASEAN:

- **Rebranding to Act East Policy:** Modi rebranded India's Look East Policy as Act East Policy in 2014, highlighting India's focus on Southeast Asia.



| Clear your doubts now.



- **Support for ASEAN:** India, along with the Quad, supports ASEAN's central role in the region's security framework, which has helped India gain more cooperation in defense and security.

Challenges in Trade:

- **India's RCEP Withdrawal:** India's decision to exit RCEP negotiations disappointed many in the region, especially Singapore, which had been a strong supporter of India's engagement in Southeast Asia.
- **Bilateral Focus:** India is now focusing on strengthening bilateral trade and investment with major Southeast Asian economies and exploring new areas like digitalization, space technology, and advanced manufacturing.

Semiconductor Collaboration:

- **Semiconductor Diplomacy:** India is working with countries like Malaysia and Singapore on semiconductor production, an important area for future collaboration.
- **Economic Ministries' Role:** It is now up to India's economic ministries to ensure that these agreements lead to real-world progress in the semiconductor sector.

[A silent epidemic stalks- IE Ideas](#)

Science Tech

Easy Explanation

India is experiencing rapid economic growth, largely driven by its young population. However, this growth is also leading to unhealthy lifestyle changes among the youth. Increased consumption of ultra-processed foods, lack of exercise, and early access to smartphones are all contributing to a decline in mental well-being. Research shows that the earlier young people get smartphones, the more likely they are to experience negative effects on their mental and cognitive abilities. Ultra-processed foods, which are highly addictive, also have a strong link to poor mental health.

Family relationships are another factor affecting mental well-being. Youth who speak their regional language and have closer family ties tend to be mentally healthier than those who speak primarily English, which may weaken family bonds. Data suggests that even though India's income levels are rising, youth from lower-income families who live healthier lifestyles have better mental well-being than their wealthier counterparts who consume more ultra-processed food and spend more time on screens.

This decline in mental health, if not addressed, could harm India's economic future by reducing the productivity of its workforce. Policymakers, schools, parents, and the private sector need to come together to address these challenges before it's too late.

Key Takeaways

Lifestyle Changes and Mental Health:



| Clear your doubts now.



- **Unhealthy Lifestyles:** Increased consumption of ultra-processed foods, lack of exercise, and early access to smartphones are contributing to poor mental health among India's youth.
- **Early Smartphone Use:** Studies show that early access to smartphones is linked to lower cognitive abilities and poor mental well-being.
- **Ultra-Processed Foods:** These foods are highly addictive and associated with mental health issues, especially affecting emotional and cognitive control.

Family Relationships and Language:

- **Family Closeness:** Youth who are close to their families and speak their regional language report better mental health compared to those who primarily use English.
- **Weakened Bonds:** The push for English in schools may be weakening family relationships and negatively impacting mental well-being.

Socioeconomic Factors:

- **Mental Well-Being and Income:** Youth from lower-income families who exercise, avoid ultra-processed foods, and have strong family ties report better mental well-being than wealthier youth with less healthy lifestyles.

Call to Action:

- **Urgent Need for Intervention:** Policymakers, schools, parents, and the private sector must address this mental health epidemic. If left unchecked, these issues could harm India's economic future by reducing the productivity of its workforce.
- **Role of Private Sector:** The private sector needs to consider the long-term impact of its products on youth mental health, as it will eventually affect worker productivity and demand for goods.

[Insurgency at its end- IE Ideas](#)

Internal Security

Easy Explanation

Union Home Minister Amit Shah has declared that India will be free from Maoist insurgency within two to three years, similar to how the government dealt with terrorism in Jammu & Kashmir and insurgent movements in the Northeast. The Maoist insurgency, which has lasted for over five decades, has seen significant decline in recent years due to efforts from various governments, especially under the Modi administration. The insurgency began in 1967 in the Naxalbari region of Bengal and spread to several other states. Over time, the movement transformed from a political struggle into a military movement, gaining control over large territories, particularly in the Dandakaranya region.

The Modi government has implemented a three-pronged approach—counterterrorism measures, better coordination between the Centre and states, and development in Maoist-controlled areas. As a result, Maoist violence has reduced drastically, and the movement now controls less than 5,000 square kilometers. Thousands of Maoists have surrendered, and the government has invested heavily in anti-Maoist operations.



| Clear your doubts now.



While Maoism once posed a major security threat, it is now on the verge of collapse, though the government stresses that vigilance is still necessary to prevent its resurgence.

Key Takeaways

History of Maoist Insurgency:

- **Origin of Maoism:** The Maoist insurgency in India started with the Naxalbari peasant uprising in Bengal in 1967, inspired by Mao Zedong's ideology.
- **Spread of Movement:** It spread to states like Bihar, Madhya Pradesh, and Andhra Pradesh over the next two decades, eventually transforming into a military movement.

Government Efforts to Counter Maoism:

- **Modi Government's Strategy:** The Modi government adopted a three-pronged approach—strong counterterrorism measures, effective coordination between the Centre and states, and development in Maoist areas.
- **Significant Reduction in Violence:** Maoist violence has decreased by 73%, with their influence reduced from 126 districts in 2013 to 38 districts in 2024.

Military and Developmental Push:

- **Security Operations:** Over 30 battalions of police and paramilitary forces are conducting counterterror operations, with forward operating bases (FOBs) helping extend infrastructure into Maoist-controlled areas.
- **Surrender of Maoist Cadres:** More than 2,000 Maoist cadres have surrendered in the last decade, as the government intensified pressure and offered rewards.

Decline of Maoism:

- **Maoist Control Reduced:** Maoist control has been reduced to less than 5,000 square kilometers, and their influence is weakening.
- **Failure of Ideology:** The failure of communist ideology globally and ineffective tactics in India have led to disillusionment within Maoist ranks.

[How Agriculture in Haryana differs from Punjab- IE Explained](#)

Economy

Easy Explanation

Haryana and Punjab are central to India's agricultural success, particularly during the Green Revolution, which made India self-sufficient in wheat and rice. However, both states face environmental challenges due to their heavy reliance on rice-wheat farming. Punjab's farming system is largely dominated by rice and wheat, making up most of its crop production. This has led to problems like groundwater depletion and the high cost of managing surplus grain. Rice, being a water-intensive crop, worsens the issue. Haryana, on the



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other hand, has a more diverse crop system, including cotton, bajra, guar, and mustard, which helps it avoid some of the problems Punjab faces.

In Haryana, many farmers grow basmati rice, which doesn't face the surplus problem because it is not procured at a fixed price by the government and is mostly exported. The state also has an extensive canal network, though some southern districts have limited irrigation and thus focus on drought-resistant crops like bajra and guar. The current challenge for both states is to encourage crop diversification, especially in Haryana, where the government is promoting other crops like bajra and mustard. However, rice farming still dominates in both states, affecting the production of other crops like cotton.

Key Takeaways

Agricultural Practices:

- **Punjab's Monoculture:** Punjab focuses heavily on rice and wheat, with rice making up 86.8% of the kharif crop and wheat 97.9% of the rabi crop.
- **Haryana's Diversification:** Haryana has a more diversified cropping system, with significant cultivation of cotton, bajra, guar, mustard, and sunflower in addition to rice and wheat.

Environmental and Resource Issues:

- **Water-Intensive Rice in Punjab:** Rice farming in Punjab is highly water-intensive, contributing to depleting groundwater levels.
- **Haryana's Irrigation Advantage:** Haryana's canal system provides irrigation to many districts, though some southern regions rely on drought-resistant crops due to limited water access.

Economic and Crop Challenges:

- **Basmati in Haryana:** Basmati rice, which consumes less water, is more prominent in Haryana, reducing the surplus issue seen with other rice varieties in Punjab.
- **Cotton Acreage Decline:** Farmers in both states have reduced cotton planting due to low prices and pest issues, diverting land to rice instead.

Government Initiatives:

- **Haryana's Crop Diversification Efforts:** Haryana is promoting crop diversification through MSP procurement and Bhavantar Bharpai Yojana, covering crops like bajra, mustard, and sunflower.
- **Rice Still Dominant:** Despite diversification efforts, rice cultivation has increased to record levels in both states in the current kharif season.

Future Focus:

- **Reducing Risks:** The next government in Haryana should focus on lowering the price and yield risks of crops other than rice and wheat to promote sustainable farming.





Why La Niña is delayed, and how it could still impact India's weather: IE Ideas

Geography

Easy Explanation

La Niña, a weather phenomenon associated with increased rainfall in India, is expected to develop by the end of September or early October this year. It is part of the El Niño Southern Oscillation (ENSO) cycle, which influences global weather patterns. La Niña typically enhances monsoon activity in India, but this year it is arriving too late to impact the southwest monsoon season. However, it could affect the northeast monsoon in Tamil Nadu, Andhra Pradesh, and other southern states. Additionally, La Niña years are linked to more frequent and intense cyclones in the Indian Ocean and harsher winters.

Global weather models initially predicted La Niña would start earlier, around July, but its onset has been delayed. The upcoming La Niña is expected to be weak, which may explain why predictions were off. Despite its late arrival, La Niña could still impact India's weather during the northeast monsoon and the winter months, potentially leading to more cyclones and a colder winter.

Key Takeaways

La Niña and ENSO:

- **What is La Niña?** La Niña is the cool phase of the ENSO cycle, which affects global weather patterns, including enhanced monsoon rainfall in India.
- **ENSO Phases:** ENSO has three phases—El Niño (warm), La Niña (cool), and neutral. These phases occur in cycles of 2-7 years.

Delayed Onset of La Niña:

- **Initial Forecasts:** La Niña was expected to begin around July, but its onset has been delayed due to a weak phase.
- **Current Predictions:** La Niña is now predicted to start by the end of September or early October, peaking in November and lasting through winter.

Impact on India's Weather:

- **Monsoon Season:** La Niña usually enhances the southwest monsoon, but this year it will not influence the season, which has already seen 16% surplus rainfall in August.
- **Northeast Monsoon:** La Niña could affect the northeast monsoon (October-December) in states like Tamil Nadu, Andhra Pradesh, and Kerala, though it does not typically favor heavy rainfall in this season.

Cyclones and Winter:

- **Cyclone Activity:** La Niña years often see more frequent and intense cyclones in the Indian Ocean, especially from October to December.



| Clear your doubts now.



- **Colder Winters:** La Niña is associated with harsher winters, suggesting that the upcoming winter could be particularly severe.

9th September 2024

[Mice study claims to have found long COVID's 'real' perpetrator- TH Science](#)

Science tech

Easy Explanation

The SARS-CoV-2 virus, responsible for COVID-19, is known to damage blood vessels, leading to complications like clotting and inflammation. This can cause severe symptoms such as lung and brain issues, even after mild COVID-19 cases. A new study has revealed that a blood protein called fibrin may play a more active role in driving inflammation and complications. The study showed that fibrin binds to the spike protein of the virus, which may lead to abnormal blood clots and worsen inflammation. This discovery could offer a new way to treat COVID-19 and long COVID, with promising results from testing a monoclonal antibody that can block this interaction.

However, while this study offers hope, it is still early research, primarily conducted on animals. More studies are needed to confirm these findings and evaluate the safety of treatments for humans. Additionally, the researchers involved in the study have financial ties to companies that produce fibrin antibodies, which raises some concerns.

Key Takeaways

SARS-CoV-2 and Blood Vessel Damage:

- **Vasculopathy in COVID-19:** The virus primarily damages blood vessels, leading to clotting and inflammation, causing severe symptoms in the lungs and brain.
- **Long COVID Complications:** These issues can occur even after mild or asymptomatic infections and are a part of long COVID.

New Study Findings:

- **Fibrin and the Spike Protein:** The study suggests that fibrin, a protein involved in blood clotting, binds to the spike protein of SARS-CoV-2, driving inflammation and complications.
- **Clot Resistance:** The fibrin-spike protein interaction may lead to clots that are harder to dissolve, which correlates with the poor effectiveness of clot-dissolving drugs in COVID-19 patients.

Therapeutic Strategy:

- **Monoclonal Antibody 5B8:** The study highlights a monoclonal antibody that can block the spike protein from binding to fibrin, potentially preventing complications. This antibody is currently in early clinical trials for human use.



| Clear your doubts now.

Caution and Further Research:

- **Preliminary Animal Study:** While promising, the study was conducted on animals, and more human-focused research is needed to confirm these findings.
- **Conflict of Interest:** Some researchers involved have financial ties to companies that produce fibrin antibodies, raising potential bias concerns.

[Policy paralysis, a weakened public health sector- TH Editorial](#)

Polity

Easy Explanation

Public health policies in India should address the diverse needs of different social groups, but recent policies have been critiqued for failing to do so. People's health needs can be divided into three categories: diseases of poverty (like tuberculosis and undernutrition), health issues related to environmental factors (like pollution), and the need for curative care. While the government has made some progress in strengthening public healthcare through schemes like the National Health Mission, recent focus has shifted toward health insurance programs like PMJAY under Ayushman Bharat, which mainly benefits private hospitals. The transformation of primary health centers into Health and Wellness Centres has weakened the original focus on preventive care, raising concerns that public trust in healthcare institutions is declining.

Instead of strengthening public healthcare, the government has outsourced secondary and tertiary care to private hospitals, making it difficult for those not covered by government schemes to access affordable care. The shift in focus from a comprehensive public health system to insurance-based schemes and superficial rebranding efforts threatens the integrity of the healthcare system, especially for the vulnerable population.

Key Takeaways

Public Health Needs:

- **Three Categories of Needs:** 1) Diseases of poverty (e.g., tuberculosis, undernutrition), 2) Environmental issues (e.g., pollution), and 3) Curative care (primary, secondary, and tertiary levels).
- **Felt vs. Projected Needs:** Felt needs are what people experience directly, while projected needs are what experts think are important.

Recent Health Policies:

- **Shift from Public Sector to Insurance Schemes:** While the National Health Mission initially strengthened public healthcare, the focus has shifted to publicly funded health insurance schemes (PFHI), like PMJAY, benefiting private hospitals.
- **Primary Health Centres (PHCs) Weakened:** The transformation of PHCs into Health and Wellness Centres has shifted their focus from preventive care to curative care, undermining their original purpose.

Private Sector Dominance:



| Clear your doubts now.



- **Private Hospitals Benefiting:** The outsourcing of secondary and tertiary care to private hospitals under PMJAY has led to the commercialisation of healthcare, making it harder for the uninsured to access affordable care.

Challenges to the Public Health System:

- **Decline in Public Trust:** Overcrowding, inadequate infrastructure, and the shift to private sector care are eroding trust in public healthcare.
- **Superficial Reforms:** Rebranding of health institutions, such as renaming PHCs as 'Ayushman Arogya Mandir', raises questions about the government's commitment to strengthening public health.

[Periodic reset- TH Editorial](#)

International Relations

Easy Explanation

Prime Minister Narendra Modi's recent visit to Brunei and Singapore is part of India's renewed focus on its "Act East" policy, which aims to strengthen ties with Southeast Asian nations. This visit marks the first time an Indian Prime Minister has visited Brunei, a country that holds strategic importance due to its ties with the U.S. and China. While India's trade with ASEAN has grown, its trade with Brunei has declined due to India's increased oil imports from Russia. The visit included discussions on defense, space cooperation, and trade, with India hoping to deepen its semiconductor collaboration with Singapore to reduce dependence on the U.S.-China-Taiwan supply chain.

India's engagement with ASEAN needs to be more consistent, especially after its 2019 exit from the Regional Comprehensive Economic Partnership (RCEP), a large trade agreement led by ASEAN. Although India emphasizes the importance of ASEAN in the Indo-Pacific, it needs to update its trade agreements and work more closely on geopolitical issues like the South China Sea and Myanmar.

Key Takeaways

India's Renewed Focus on ASEAN:

- **"Act East" Policy:** Modi's visit to Brunei and Singapore is part of India's effort to reconnect with Southeast Asia, an important region for trade and geopolitics.
- **First Visit to Brunei:** This marks the first bilateral visit by an Indian Prime Minister to Brunei, highlighting India's intention to build stronger ties.

Key Areas of Discussion:

- **Defense and Space Cooperation:** In Brunei, discussions focused on defense and renewing space cooperation, with Brunei hosting an ISRO station.
- **Semiconductor Partnership with Singapore:** Singapore is a key player in the electronics supply chain, and India aims to collaborate on semiconductor production to reduce risks associated with U.S.-China-Taiwan tensions.





Challenges and Opportunities:

- **Trade Relations:** India's decision to leave the RCEP in 2019 hurt its trade relations with ASEAN, but there is hope to improve ties through updated agreements like AITIGA (2009) and CECA (2005).
- **Geopolitical Cooperation:** While India is committed to ASEAN centrality in the Indo-Pacific, it needs closer coordination with ASEAN on issues like Myanmar and the South China Sea.

Historical Context:

- **"Look East" and "Act East" Policies:** India's modern ties with Southeast Asia date back to its Look East policy (1992) and have been strengthened through Modi's Act East policy (2014).

[With or without Chinese companies is the question- TH Editorial](#)

International Relations

Easy Explanation

Despite the coalition status of the government after the 2024 elections, Prime Minister Narendra Modi remains committed to transforming India into a global manufacturing hub, continuing the focus on the 'Make in India' project and the Production Linked Incentive (PLI) scheme. While these initiatives aim to attract domestic and foreign investments, a significant portion of India's electronics manufacturing benefits Chinese smartphone companies, which dominate the Indian market. Even though relations between India and China have been strained, particularly after the 2020 Galwan Valley incident, Chinese firms have adapted by complying with government regulations and increasing their partnerships with Indian entities.

India's long-term goal is to create a local manufacturing ecosystem similar to China's, but this process faces challenges. While companies like Tata Electronics are entering the market as contract manufacturers, the country still lacks the necessary infrastructure, such as clusters for technological sharing and a robust supplier network, to fully support indigenous manufacturing. The Indian government continues to balance attracting Chinese investment while pushing for greater local involvement in manufacturing.

Key Takeaways

India's Manufacturing Ambitions:

- **Make in India and PLI Scheme:** The government continues its push to make India a global manufacturing hub through initiatives like 'Make in India' and the PLI scheme, with increased budget allocations for electronics manufacturing.

Chinese Dominance in the Indian Market:

- **Chinese Smartphone Companies:** Despite efforts to reduce Chinese involvement, companies from China still dominate India's smartphone market, benefiting from the government's manufacturing incentives.





- **Adaptation by Chinese Firms:** Chinese companies have complied with Indian regulations by involving local manufacturers and Indian executives, ensuring they continue operating successfully in the Indian market.

Challenges for Local Manufacturing:

- **Lack of Infrastructure:** India still needs to develop key infrastructure, including supplier networks, power, and water supply, to support large-scale indigenous manufacturing of smartphones and other electronics.

Balancing Local and Foreign Investment:

- **Government's Dilemma:** While India wants to build homegrown industries, the government recognizes the importance of continuing foreign investments, including from Chinese companies, to achieve its manufacturing goals.

Wide Open- TH Editorial

Sociology

Easy Explanation

India's best-ever performance at the Paris Paralympics, with 29 medals and an 18th place finish, is a moment to celebrate. This marks a significant improvement from past Paralympics, where India won 19 medals in Tokyo 2020 and four medals in Rio 2016. The success highlights the dedication of Indian para-athletes and increased government support. Most of the medals came from para-athletics, especially in javelin and high jump. Para-badminton, para-shooting, para-archery, and para-judo also contributed to the medal tally. The athletes, including record-setters like Avani Lekhara, Sumit Antil, and Mariyappan Thangavelu, overcame great odds to achieve these milestones. The global response to the Paris Paralympics was positive, with large crowds cheering the athletes and over two million tickets sold. The event was a success and could help boost the growth and acceptance of para-sports worldwide.

Key Takeaways

India's Paralympics Performance:

- **Record Medal Haul:** India won 29 medals (7 gold, 9 silver, 13 bronze) and finished 18th at the Paris Paralympics, its best-ever performance.
- **Key Contributions:** Most medals came from para-athletics (17), with javelin throwers and high jumpers leading the way. Para-badminton, para-shooting, para-archery, and para-judo also added to the tally.

Notable Athletes and Achievements:

- **Avani Lekhara and Sumit Antil:** Both defended their gold medals, with Antil setting a new Paralympic record.



| Clear your doubts now.



- **Other Highlights:** Mariyappan Thangavelu claimed his third medal, Sheetal Devi became the youngest Indian medalist at 17, and Harvinder Singh won India's first para-archery gold.

Global Response and Inclusivity:

- **Spectator Support:** Over two million tickets were sold, with large crowds cheering the athletes daily at the Stade de France.
- **Inclusive Games:** The Paris Paralympics emphasized inclusivity with its emblem, mascot, and motto, "Games Wide Open."

Future Support for Para-Athletes:

- **Increased Support Needed:** The success of Indian para-athletes should encourage more government and corporate backing to ensure continued progress and better opportunities for these athletes.

[On uncommon cyclones in the Arabian Sea- TH Text&Context](#)

Geography

Easy Explanation

The North Indian Ocean plays a key role in the summer monsoon by supplying much of the moisture required for rainfall, with the Arabian Sea and Bay of Bengal being crucial for evaporation. Despite warm tropical oceans being conducive to cyclone formation, the North Indian Ocean has fewer cyclones compared to other ocean regions. This is due to a combination of factors, such as strong monsoon winds that prevent cyclones from forming and unique ocean currents connecting the Indian Ocean to the Pacific and Southern Oceans. Climate change is rapidly warming the Indian Ocean, affecting cyclone numbers and their behavior.

Cyclones are more common in the pre- and post-monsoon seasons, with the Bay of Bengal seeing more cyclones than the Arabian Sea. Recently, a rare August cyclone named "Asna" formed, originating from a strong land-born depression that fed off soil moisture from heavy rains in western India. This rare occurrence of a land-born cyclone transitioning onto the ocean highlights the unpredictable nature of weather patterns, especially as global warming influences extreme events.

Key Takeaways

Cyclogenesis in the Indian Ocean:

- **Moisture for Monsoon:** The North Indian Ocean, particularly the Arabian Sea and Bay of Bengal, supplies the moisture for the summer monsoon through evaporation.
- **Unique Ocean Currents:** The Indian Ocean is connected to the Pacific and Southern Oceans, bringing in warm and cold waters that affect cyclone formation.

Cyclones in the Indian Ocean:

- **Fewer Cyclones:** Despite warm waters, the North Indian Ocean has fewer cyclones due to factors like strong monsoon winds that strip energy from forming cyclones.



| Clear your doubts now.



- **Pre- and Post-Monsoon Seasons:** Cyclones mostly occur in the pre- and post-monsoon seasons, with the Bay of Bengal seeing more activity than the Arabian Sea.

Impact of Climate Change:

- **Warming Indian Ocean:** The Indian Ocean is warming rapidly due to climate change, influencing cyclone behavior and contributing to more extreme weather events.

Cyclone Asna:

- **Unusual Land-Born Cyclone:** Cyclone Asna, the first August cyclone in the region since 1981, formed from a land-born depression that fed on moisture from heavy rainfall in western India. It grew stronger after transitioning onto the warm Arabian Sea.

Unpredictability of Weather Patterns:

- **Unexpected Events:** The development of Cyclone Asna, coupled with unusual monsoon patterns, reflects the increasing unpredictability of weather due to climate change and global warming.

[How changes in the level of Arctic sea ice can change monsoon patterns in India: TH](#) [Text&Context](#)

Environment

Easy Explanation

Incessant rains in southeast India have caused devastating floods, leaving many dead and thousands homeless. Climate change is a major factor behind the increasingly unpredictable monsoon patterns. Recent research reveals that the Arctic sea ice also plays a role in influencing the Indian monsoon. As Arctic sea ice levels change, they affect atmospheric circulations that either increase or decrease rainfall in different parts of India. For example, less sea ice in the central Arctic can reduce rainfall in western and peninsular India while increasing it in central and northern India. Meanwhile, lower sea ice levels in the Barents-Kara Sea region can delay the onset of the monsoon and make it more unpredictable.

This new understanding highlights how far-reaching the effects of climate change are, with even distant regions like the Arctic influencing India's weather patterns. It underscores the importance of further research to predict these changes and mitigate their impact.

Key Takeaways

Monsoon and Cyclogenesis:

- **Indian Monsoon System:** The Indian summer monsoon, which brings most of the country's rainfall between July and September, is influenced by complex factors like surface temperatures and air currents.



| Clear your doubts now.



- **Arctic Sea Ice's Role:** The decline in Arctic sea ice affects monsoon patterns. Less sea ice in the central Arctic can lead to lower rain in western and peninsular India but more rain in central and northern regions.

Atmospheric Influences:

- **Rosby Waves:** The study shows that changes in Arctic sea ice can enhance Rossby waves, which influence wind patterns and pressure systems, altering weather in India.
- **Barents-Kara Sea Impact:** Low sea ice levels in the Barents-Kara Sea region can delay the monsoon and lead to uneven rainfall distribution across India.

Impact of Climate Change:

- **Exacerbated Unpredictability:** Climate change is accelerating the reduction of Arctic sea ice, making the Indian monsoon more unpredictable and causing extreme weather events, such as floods in some areas and droughts in others.

Urgency for More Research:

- **Need for Better Forecasting:** The study stresses the need for expanded research on climate dynamics to improve monsoon forecasts and better prepare for the impacts of climate change on weather patterns.

[Five sutras for digital infrastructure: IE Ideas](#)

Science Tech

Easy Explanation

India has achieved remarkable success in financial inclusion, with over 80% of the population now included in the formal financial system within just six years. This achievement has been celebrated globally, especially as a model for other countries in the Global South. India's focus on building digital public infrastructure (DPI), which was emphasized at the 2023 G20 summit, has played a key role in this progress. Now, India aims to help other countries achieve similar success by sharing its expertise.

A new framework called Citizen Stack, inspired by the India Stack digital infrastructure, ensures that DPIs meet high standards of security, scalability, and inclusivity. Citizen Stack acts as an auditor to certify DPIs, ensuring they are trustworthy and beneficial to the public. It also lays out five guiding principles for what makes a "good DPI," focusing on citizen empowerment, data privacy, preventing monopolies, ethical regulation, and collaboration between public and private sectors.

As digital solutions expand globally, Citizen Stack offers a gold standard for creating reliable and secure DPIs, ensuring they serve the public good.

Key Takeaways

India's Digital Inclusion Success:



| Clear your doubts now.



- **Financial Inclusion at Scale:** India achieved over 80% financial inclusion within six years, becoming a global model for digital and financial inclusion.
- **G20 Focus on Digital Infrastructure:** The 2023 G20 summit emphasized India's role in promoting digital public infrastructure (DPI) globally.

Citizen Stack Framework:

- **India Stack Inspiration:** Citizen Stack is built on the success of India Stack and serves as a trusted auditor to certify secure and scalable DPIs.
- **Not a Manufacturer:** Citizen Stack ensures quality and security for DPIs but does not create them itself.

Guiding Principles of a Good DPI:

1. **Protect Citizen-Market-State Relations:** Ensure DPIs are free from harmful influences.
2. **Citizen Empowerment and Privacy:** Implement consent-based systems to protect user privacy.
3. **Prevent Monopolies:** Ensure DPIs are interoperable to avoid monopolies.
4. **Techno-Legal Regulation:** Combine technology and law for ethical governance.
5. **Public and Private Collaboration:** Encourage innovation through collaboration without corporate dominance.

Global Role and Future Impact:

- **Ensuring Quality DPIs:** Citizen Stack sets a gold standard for DPIs worldwide, ensuring they meet high standards of security, reliability, and public benefit.
- **India's Global Contribution:** Just as India has shared yoga with the world, it now aims to share its digital infrastructure expertise to benefit the global community.

[Use of AI in warfare- IE Explained](#)

Science

Easy Explanation

As the use of artificial intelligence (AI) in warfare grows, the global effort to regulate its military applications is also intensifying. Ongoing conflicts, such as those in Ukraine and Gaza, are becoming "AI labs" for warfare, and there is a push to create global norms to manage the risks of AI in military use. India, though actively engaged in civilian AI, has stayed on the sidelines of the global debate on military AI. With international frameworks for AI arms control emerging, India needs to actively participate rather than remain passive.

The summit on the Responsible Use of AI in the Military Domain (REAIM), beginning in South Korea, seeks to shape global norms on military AI. This initiative has expanded beyond just discussing lethal autonomous weapons (LAWS or "killer robots") to include AI's broader role in intelligence, surveillance, and decision-making during warfare. The focus has shifted from trying to reverse AI use in the military to ensuring its "responsible use" through proper regulations.



| Clear your doubts now.



Countries like the U.S. and China are already leading discussions on AI in military use. India, on the other hand, has been in a "watch-and-wait" mode, hesitating to fully engage in the global conversation. However, with AI becoming an essential aspect of modern warfare, India cannot afford to stay passive in shaping the rules and norms that will govern this powerful technology.

Key Takeaways

AI in Warfare:

- **Growing Role of AI:** AI is being increasingly used in warfare for tasks like intelligence gathering, decision-making, and targeting, raising concerns about its ethical and practical implications.
- **Responsible Use Focus:** Global efforts, like the REAIM summit, are moving away from trying to ban AI in warfare and instead focusing on ensuring it is used responsibly.

Global AI Regulations:

- **REAIM Summit:** The summit seeks to create global norms for AI in the military, with countries like the U.S., U.K., and China actively participating in shaping these rules.
- **U.S. and NATO Efforts:** The U.S. has led the way with guidelines for responsible military use of AI, encouraging allies to adopt similar norms.

India's Role:

- **India's Hesitation:** India has been cautious about joining the global AI arms control debate, but with AI becoming central to warfare, it needs to engage in shaping international norms.
- **China's Active Participation:** In contrast, China has been at the forefront of AI discussions, emphasizing its role in "intelligised warfare."

Importance of Participation:

- **Learning from Nuclear Arms Control:** India's past hesitation in nuclear arms control left it at a disadvantage. Similarly, staying passive in the AI debate could prevent India from influencing global norms in the future.

[India generates highest plastic pollution in world: what a new study found- IE Explained](#)

Environment

Easy Explanation

India is one of the largest contributors to global plastic pollution, releasing around 9.3 million tonnes of plastic into the environment annually, surpassing countries like Nigeria, Indonesia, and China. A recent study highlighted that much of this pollution comes from unmanaged plastic waste, which includes both debris and plastic burned in open fires. This unmanaged waste is a major health hazard, linked to diseases such as cancer and respiratory issues.



| Clear your doubts now.



There is a clear divide between Global North and South countries regarding plastic waste. Countries in the Global North produce more plastic waste but manage it better, while nations in the Global South, including India, struggle with inadequate waste management systems. However, experts argue that the issue is not just a matter of waste management but also overproduction of plastic, as efforts to curb plastic use are being debated globally.

A legally binding treaty on plastic pollution is being negotiated, with some countries pushing for reduced plastic production, while others, like fossil-fuel producers, want to focus solely on better waste management.

Key Takeaways

India's Plastic Pollution:

- **India's Contribution:** India releases around 9.3 million tonnes of plastic waste into the environment annually, making it one of the top polluters.
- **Unmanaged Waste:** A large portion of India's plastic pollution comes from unmanaged waste, either in the form of debris or open burning.

Global Divide in Plastic Management:

- **Global North vs. South:** Countries in the Global North generate more plastic waste but have better waste management systems, while Global South countries, including India, lack infrastructure to manage waste effectively.
- **Health Hazards:** Unmanaged plastic waste, especially from burning, releases toxic gases that are linked to serious health problems like heart disease and cancer.

International Response:

- **Plastic Treaty Negotiations:** Efforts are underway to create a global treaty to address plastic pollution, with debates on whether the focus should be on curbing production or improving waste management.
- **Diverging Views:** Some countries and environmental advocates argue that simply managing waste is insufficient, as the real issue lies in overproduction of plastic.

Criticism of Waste-Management Focus:

- **Focus on Waste Management:** Critics warn that focusing only on waste management risks overlooking the bigger problem of excessive plastic production.
- **Industry Support:** Plastic industry groups support the idea that better waste management is the key solution, while environmentalists push for reduced production to truly address the crisis.

10th September 2024

[Regulatory reform stuck in a loop in Health Ministry- TH Editorial](#)

Sociology



| Clear your doubts now.



Easy Explanation

India's Drugs Controller General of India (DCGI) recently introduced three key initiatives: recall guidelines for faulty drugs, guidelines on good distribution practices (GDP) for storing and transporting drugs, and measures to prevent confusing brand names. These are meant to improve public health by ensuring that faulty drugs are removed from the market, drugs are stored properly, and brand names are clear to avoid prescription errors.

However, these measures have either not been enforced properly or lack the legal backing to be effective. The problems identified have been recognized for decades, yet progress has been slow, with many issues getting stuck in bureaucratic loops. Despite repeated discussions and reports by government bodies and courts, including the Parliamentary Standing Committee and Supreme Court, no concrete action has been taken to resolve them.

Key Takeaways

Key Policy Initiatives:

- **Recall Guidelines:** Intended to remove faulty drugs from the market quickly but lack legal enforcement.
- **Good Distribution Practices (GDP):** Aimed at regulating drug storage and transportation but not legally mandatory, despite India's hot and humid climate, which affects drug quality.
- **Similar Brand Names:** Rules to prevent confusing drug names are ineffective because pharmaceutical companies self-regulate rather than being monitored by a government authority.

Historical Background:

- **Long-standing Issues:** These problems were raised decades ago, with reports as early as 1976 and court judgments in 1974 and 2001 flagging these concerns.
- **Parliamentary Reports:** The 59th report of the Parliamentary Standing Committee (PSC) in 2012 highlighted the need for reform, but actions taken since have been inadequate.

Challenges in Implementation:

- **Non-Binding Guidelines:** The DCGI has no legal authority to enforce these guidelines; only the Ministry of Health can make binding laws.
- **Repeated Consultations:** Despite the urgency, the Ministry of Health has delayed progress by conducting repeated consultations without making meaningful changes.
- **Weak Brand Name Regulations:** A legal rule introduced in 2019 requiring companies to declare that their drug names are not similar to existing ones has proven ineffective, as it lacks proper regulatory oversight.

Leadership and Bureaucratic Hurdles:

- **Lack of Expertise:** Key officials in the Ministry of Health, who often lack specialized knowledge in drug regulation, move between postings too quickly to effect meaningful change.



| Clear your doubts now.



- **Industry Influence:** Consultations with pharmaceutical trade associations often stall the necessary reforms, while bureaucratic processes slow down progress.

Call for Intervention:

- **Breaking the Loop:** The article suggests that without intervention from the Prime Minister's Office, the cycle of consultations and delays will continue, preventing necessary reforms in India's drug regulation.

[Taking TB seriously: TH Editorial](#)

Science Tech health

Easy Explanation

The Union Health Ministry's decision to introduce a new treatment regimen for drug-resistant tuberculosis (TB), called BPaLM, is a significant step forward. This new regimen, which includes four drugs (Bedaquiline, Pretomanid, Linezolid, and Moxifloxacin), shortens treatment from up to 20 months to just six months. This faster treatment offers better outcomes and fewer side effects for patients with multidrug-resistant TB, a condition where the bacteria resist traditional TB drugs. By adopting this treatment just a couple of years after its recommendation by the World Health Organization (WHO), India is making strides towards its goal of eliminating TB by 2025, five years ahead of the global target.

This is particularly important for the estimated 75,000 people in India living with drug-resistant TB, as the new regimen is also more affordable and effective. India's efforts to combat TB include using rapid molecular tests for faster diagnosis, financial and nutritional support through schemes like Ni-kshay Mitra, and reducing TB incidence and mortality rates significantly in recent years.

Key Takeaways

New BPaLM Regimen:

- **Shorter Treatment Duration:** The new drug regimen (Bedaquiline, Pretomanid, Linezolid, and Moxifloxacin) shortens TB treatment to six months compared to traditional treatments that could last up to 20 months.
- **Better Outcomes:** This regimen offers improved outcomes with fewer side effects and is crucial for the estimated 75,000 people living with drug-resistant TB in India.

India's Commitment to TB Elimination:

- **Earlier Target for Elimination:** India aims to eliminate TB by 2025, five years ahead of the global target set by the UN Sustainable Development Goals.
- **Rapid Adoption:** The introduction of the BPaLM regimen just two years after WHO's recommendation shows India's commitment to advanced TB care.

Ongoing Efforts to Fight TB:



| Clear your doubts now.



- **Improved Diagnosis and Treatment:** Shifting to rapid molecular tests has led to faster diagnosis, higher treatment coverage, and better success rates.
- **Ni-kshay Mitra Scheme:** Extra support through financial, nutritional, and societal aid has helped reduce TB incidence by 16% and mortality by 18% from 2015 to 2022.

India's Leadership in TB Care:

- **Innovative Approaches:** India has led the way in the past with its Directly Observed Therapy Short-course programme and should continue to pioneer new methods for diagnosing and treating TB.

[Next Census should be the last enumeration-based one: TH Ediotrial](#)

Sociology

Easy Explanation

India plans to conduct its long-delayed Census, expected to be completed by 2026 or 2027, with a 16-year gap since the last one in 2011. The COVID-19 pandemic delayed the process. In the meantime, India has surpassed China in population, and many changes have occurred in demographics. Although accurate census data is crucial, traditional censuses have limitations, including high costs and delays.

The idea of “dynamic” or “register-based” censuses, which continuously update data in real-time, has been suggested as a way to provide timely and accurate statistics. Several countries like Austria, Finland, and Singapore have adopted this approach, saving costs and improving efficiency. While India is moving toward a digital census, the integration of databases like Aadhaar, voter IDs, and other registers remains complex. However, this shift could revolutionize data collection and help India maintain a constantly updated repository of socioeconomic and demographic data.

Key Takeaways

- **Census Delay and Timeline:** India's census, delayed by COVID-19, is likely to be completed by 2026 or 2027, with a 16-year gap since the 2011 census.
- **Dynamic Censuses:** Many countries are adopting dynamic or register-based censuses that continuously update data in real-time. This approach could save costs and improve accuracy compared to traditional decennial censuses.
- **India's Digital Census:** India's next census will be digital, but integrating various databases (e.g., Aadhaar, voter IDs) will be a challenging task. However, India has the expertise to achieve this.
- **Global Trends:** Countries like Austria, Denmark, and Singapore have moved toward register-based censuses, significantly reducing costs. For example, Austria reduced its census cost from €72 million to €10 million by switching to this approach.
- **Potential Benefits:** A dynamic census could offer constantly updated data on aspects like population, migration, and literacy. It could also save significant resources and improve policy-making in real-time.



| Clear your doubts now.



- **Future Vision:** If successful, the upcoming census could be India's last complete enumeration, ushering in an era of continuous, dynamic censuses.

[Over 70% child deaths in India are linked to malnutrition: TH Opinion](#)

Sociology

Easy Explanation

In 2021, 0.7 million children under the age of five died in India, with 0.5 million of these deaths linked to malnutrition in both children and mothers. This means that more than 70% of these child deaths were due to nutritional deficiencies, a figure higher than the global average of 50%. Malnutrition often worsens health conditions, making children more vulnerable to infections and diseases. Conditions like low birth weight, stunting (being too short for age), and wasting (low weight for height) are major risk factors for premature deaths in India.

Malnutrition-related deaths are much higher in low-income countries, where children often lack the necessary variety of nutrients and infectious diseases are more common. The death rates in poor countries like those in Sub-Saharan Africa and South Asia are 20 to 50 times higher than in rich countries. However, the number of children dying from malnutrition has significantly decreased. Since 1990, child deaths related to malnutrition in India have dropped by 80%, from 2.4 million to 0.5 million.

This improvement is largely due to better nutrition, progress in tackling infectious diseases, improved sanitation, access to clean water, and wider vaccination coverage. The support for mothers and babies during pregnancy and after birth has also improved, with more births attended by skilled health workers, further reducing health risks.

Key Takeaways

- **Malnutrition-Related Deaths in India:** In 2021, 0.7 million children under five died in India, with 70% of these deaths linked to malnutrition, which is higher than the global average of 50%.
- **Risk Factors:** Malnutrition exacerbates health conditions such as low birth weight, stunting, and wasting, making children more vulnerable to infections and diseases.
- **Impact of Income Levels:** Malnutrition-related deaths are significantly higher in low-income countries like India and those in Sub-Saharan Africa. Rich countries have much lower rates of child deaths from malnutrition.
- **Improvements Since 1990:** Child deaths related to malnutrition in India have decreased by 80% since 1990, thanks to better nutrition, improved healthcare, sanitation, and disease prevention efforts.
- **Role of Healthcare and Vaccinations:** Improved support during pregnancy, more skilled health workers during births, and wider vaccination coverage have been key factors in reducing child mortality in India.

[On the challenges to road safety in India: TH Text&Context](#)

Sociology



| Clear your doubts now.



Easy Explanation

The "India Status Report on Road Safety 2024" by IIT Delhi highlights India's slow progress in reducing road accident fatalities and emphasizes the link between road construction, mobility, and safety. The report uses data from six states and audits of state compliance with road safety guidelines to analyze the situation. It finds that road traffic injuries are a major public health issue, especially among motorcyclists, and that many states are unlikely to meet the United Nations' goal of halving road deaths by 2030.

India lacks a national crash-level database, relying instead on police reports, which limits effective intervention. Tamil Nadu, Telangana, and Chhattisgarh have the highest per capita road death rates, while West Bengal and Bihar have the lowest. The report also notes that pedestrians, cyclists, and motorcyclists are the most common victims, and that only a few states have audited their highways or implemented basic traffic safety measures like helmet enforcement and road signage.

Compared to developed countries like Sweden, India's road safety has worsened. In 1990, an Indian was 40% more likely to die in a road accident than someone in these countries, but by 2021, this figure had increased to 600%. To improve, the report calls for the creation of a national crash database and tailored road safety strategies for different states.

Key Takeaways

- **Road Traffic Deaths in India:** India faces a major challenge in reducing road fatalities, particularly among motorcyclists, and many states are unlikely to meet the UN's 2030 road safety goal.
- **Lack of Data:** India does not have a national crash-level database, which limits effective intervention. Road safety data is compiled from police reports, which often contain inaccurate information.
- **High-Risk States:** Tamil Nadu, Telangana, and Chhattisgarh have the highest road death rates, while West Bengal and Bihar have the lowest. Motorcyclists, pedestrians, and cyclists are the most vulnerable.
- **Global Comparison:** India's road safety record has worsened compared to developed countries, with an Indian now 600% more likely to die in a road accident than someone in Sweden.
- **Solutions:** The report recommends establishing a national crash database and implementing tailored road safety strategies for different states, along with improving road safety measures like helmet enforcement and traffic signage.

[The audacity of a mission: IE Editorial](#)

Sociology

Easy Explanation

The "Swachh Bharat Mission" (SBM), launched by Prime Minister Narendra Modi in 2014, aimed to eliminate open defecation across India by constructing over 100 million household toilets and changing the behavior of 550 million people. A recent report in the *Nature* journal highlighted the significant health benefits of SBM, estimating that it saved the lives of 60,000 to 70,000 infants and children under five annually.



| Clear your doubts now.



The SBM's bold goal took the world by surprise, marking the first time a head of government publicly committed to eradicating open defecation on such a large scale. The mission was transformed into a "jan andolan" (mass movement), with entire villages and states working together to declare themselves open defecation free (ODF). By 2019, all states declared themselves ODF, though efforts to maintain behavior change continue under phase two of SBM.

The SBM not only improved health but also brought economic benefits. A UNICEF study estimated that households in ODF villages saved around ₹50,000 annually in medical costs and time. SBM also garnered international recognition, with leaders from other countries adopting similar initiatives after learning from India's success. The key lessons of SBM – political leadership, public financing, partnerships, and people's participation (the four Ps) – are now seen as crucial for large-scale development programs globally.

SBM is one of many initiatives by the Modi government aimed at improving the quality of life for Indians, alongside programs like Ujjwala (cooking gas), Jan Dhan (bank accounts), and the Jal Jeevan Mission (clean water access).

Key Takeaways

- **Health Impact:** SBM helped save 60,000 to 70,000 children annually by reducing open defecation and improving sanitation.
- **Behavior Change:** The mission was a mass movement, with entire villages working together to achieve open defecation-free (ODF) status.
- **Economic Benefits:** ODF villages saw annual savings of ₹50,000 per household due to reduced medical expenses.
- **Global Recognition:** SBM's success inspired similar sanitation campaigns in other countries, and its four key principles (political leadership, public financing, partnerships, and people's participation) are now recognized globally.
- **Broader Impact:** SBM is part of a larger set of initiatives by the Modi government to improve living standards in India.

[Vaccines for mpox: IE Explained](#)

Science tech

Easy Explanation

The Democratic Republic of Congo (DRC), the center of the mpox outbreak, has finally received its first donation of mpox vaccines. The outbreak, which has spread to 121 countries since January 2022, prompted the World Health Organization (WHO) to declare mpox a global health emergency. Despite this, Africa has faced vaccine shortages, with only the DRC and Nigeria receiving any vaccines.

Why is Mpox Spreading Quickly? Mpox, first reported in humans in 1970, has become a concern due to the rapid spread of its Clade Ib variant, which transmits more easily between people. It can spread through close



| Clear your doubts now.



contact, including sexual activity, and is affecting more women and children. The Clade Ib variant is different from Clade Ia, which mostly comes from animals.

Available Vaccines There are currently three vaccines for mpox, all based on a weakened form of the vaccinia virus (the same used for smallpox). These are:

1. **Modified Vaccinia Ankara (MVA):** Made by Bavarian Nordic in Denmark, it is the most commonly used vaccine and has been approved in the U.S. and Europe.
2. **LC16m8:** Produced by Japan-based KM Biologics and approved only in Japan.
3. **ACAM2000:** Recently approved by the U.S. FDA and made by Emergent BioSolutions.

New vaccines are being developed, including one by Germany's BioNTech and another by India's Serum Institute. The Indian Council of Medical Research (ICMR) has also called for companies to help develop mpox vaccines and diagnostic kits.

Why Didn't Africa Get Vaccines Sooner? The high cost of mpox vaccines (\$50–\$75 per dose) has made it difficult for African countries to access them. These countries often rely on donations or support from global organizations like Gavi (the Vaccine Alliance) and UNICEF, which can't purchase vaccines without WHO approval. Delays in paperwork have slowed down this process. However, WHO Director-General Tedros Adhanom Ghebreyesus has promised quicker approvals and given Gavi and UNICEF the green light to start purchasing vaccines.

When Should the Vaccine Be Taken? The vaccine is recommended for high-risk populations, especially during outbreaks. It can also be administered after someone has been in contact with an infected person. For best results, the vaccine should be given within four days of exposure, but it can still be administered up to 14 days if the person hasn't developed symptoms.

Key Takeaways

- **Mpox Outbreak:** The mpox outbreak has spread to 121 countries, with Africa facing severe vaccine shortages.
- **Vaccine Availability:** Three vaccines are currently available, with new ones in development.
- **Cost and Delays:** High vaccine costs and delays in WHO approval have slowed vaccine distribution in Africa.
- **Prevention:** Vaccines are recommended for high-risk populations and can be given after contact with an infected person.

11 September 2024

[The grave threat from AMR-Indian Express Explained](#)

Science

Easy Explanation



| Clear your doubts now.



Antimicrobial resistance (AMR), driven by the misuse or overuse of antibiotics, is a growing crisis in India. AMR leads to the development of drug-resistant superbugs that threaten global health by making common infections harder to treat. India's issues stem from widespread antibiotic misuse by individuals, doctors overprescribing broad-spectrum antibiotics, and pharmaceutical companies causing antibiotic pollution. The World Health Organization (WHO) has released its first guidance on managing antibiotic pollution. The Indian Council of Medical Research (ICMR) reports rising resistance across common pathogens like *E. coli*, *Klebsiella pneumoniae*, and *Acinetobacter baumannii*. To address this crisis, experts recommend preventing infections, educating doctors on appropriate antibiotic use, and regulating antibiotic pollution from manufacturing.

Key Takeaways:

1. **AMR Crisis:** Superbugs evolve due to the overuse of antibiotics, making infections harder to treat.
2. **Individual Responsibility:** Misuse of antibiotics for viral infections is common in India.
3. **Medical System Issues:** Doctors overprescribe antibiotics, particularly broad-spectrum types.
4. **Pharmaceutical Pollution:** Unregulated antibiotic waste contributes to the spread of resistant bacteria.
5. **Solutions:** Prevention through hygiene, vaccination, targeted antibiotic use, and stricter manufacturing regulations are essential.

[Everything about Polaris Dawn mission, which will attempt first private space walk-Indian Express Explained](#)

Science and technology

Easy Explanation

The Polaris Dawn mission, launched by a SpaceX Falcon 9 rocket, is a pioneering private space mission led by billionaire Jared Isaacman. This five-day mission aims to conduct the first private spacewalk, test new spacesuits, and study the effects of space radiation on human health. The crew includes Isaacman, Scott Poteet, Anna Menon, and Sarah Gillis, with Isaacman and Gillis set to leave the capsule for the spacewalk. The mission is part of the Polaris Program, a collaboration between Isaacman and SpaceX to advance technologies for future Mars missions. During the mission, 40 scientific experiments, including space-based X-rays and Starlink communications tests, will be conducted.

Key Takeaways:

1. **Polaris Dawn's Milestone:** It aims to be the first private mission to conduct a spacewalk.
2. **Crew:** Jared Isaacman, Scott Poteet, Anna Menon, and Sarah Gillis form the team.
3. **Main Objectives:** The mission will test new EVA spacesuits and study the effects of radiation in the Van Allen radiation belts.
4. **Scientific Research:** The crew will perform 40 experiments, including X-ray imaging in space and testing Starlink's laser communication technology.
5. **Future Goals:** This mission is the first in a series to develop technology for future Mars exploration.



| Clear your doubts now.



EASE OF PAYING TAX-Indian Express Editorial

Economy

Easy Explanation

The 54th GST Council meeting addressed several adjustments in tax rates, notably reducing the GST on specific cancer drugs from 12% to 5% and on extruded or expanded products from 18% to 12%. Additionally, it exempted R&D funds received by tax-exempt universities and institutions. Discussions on reducing GST on health and life insurance were deferred to a later meeting, with decisions expected in November following a report by a Group of Ministers. The meeting also tackled the extension of the GST compensation cess, originally set to end in June 2022 but extended to March 2026 to cover Covid-related revenue shortfalls. The future of the cess and its distribution needs resolution. The council also debated the simplification of the GST structure, considering merging tax slabs and reviewing items in each slab to address anomalies and ensure revenue neutrality. These discussions highlight ongoing efforts to refine the GST system for better ease of business and transparency in taxation.

Key Takeaways:

1. **Tax Rate Reductions:** Significant reductions in GST rates for certain cancer drugs and other products, enhancing affordability and support for healthcare.
2. **Insurance Tax Discussions:** Plans to possibly lower GST on insurance products, acknowledging the financial burden on consumers.
3. **GST Compensation Cess:** Extended to 2026 to manage past revenue shortfalls, with ongoing discussions about its future beyond the repayment of loans.
4. **Rate Rationalization:** Ongoing debates on simplifying the GST structure to reduce the number of slabs and reclassify items, aiming to ease business operations and tax compliance.
5. **Revenue Neutrality:** Critical examination of tax adjustments to ensure they do not adversely affect overall tax revenue.
6. **Administrative Improvements:** Continued efforts to stabilize the GST framework, expand the tax base, and reduce leakages, reflecting a maturing system ready for further refinement.

On ANI's defamation suit against Wikipedia-The Hindu Text and Context

Polity

Easy Explanation

Asian News International (ANI), a major news agency, has filed a defamation lawsuit against the Wikimedia Foundation over descriptions on its Wikipedia page. The page alleges that ANI has acted as a propaganda tool for the Indian government, spreading misinformation through a network of fake news websites. During the legal proceedings, Justice Navin Chawla of the Delhi High Court demanded that Wikimedia reveal the identities of the Wikipedia users who edited the ANI page. The court threatened to block Wikipedia in India if



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the foundation does not comply. Wikipedia's platform allows nearly anyone to edit its articles, but entries on contentious topics are sometimes restricted to more experienced editors. This case raises significant concerns about free speech and the regulation of content on global digital platforms. The outcome could set a precedent for how internet platforms are treated by national courts and may influence future actions against other online entities engaged in similar disputes worldwide.

Key Takeaways

1. **Defamation Claim:** ANI has filed a lawsuit against the Wikimedia Foundation, alleging that its Wikipedia page defamatorily portrays the news agency as a propagator of government propaganda and distributor of misinformation.
2. **Judicial Intervention:** The Delhi High Court, presided by Justice Navin Chawla, has demanded Wikimedia to identify the editors who made the contested changes to ANI's Wikipedia page.
3. **Potential for Blocking:** The court has suggested that it might order the Indian government to block Wikipedia if the Wikimedia Foundation fails to comply with its demands.
4. **Editorial Rights:** Wikipedia's platform allows almost anyone to edit articles, although more sensitive topics might be restricted to more experienced contributors.
5. **Global Context:** This case is part of a broader pattern where Wikipedia faces legal challenges and censorship threats globally due to the content it hosts.
6. **Impact on Free Speech:** The outcome of this case could have implications for digital rights and free speech, highlighting the tension between national legal systems and global internet platforms.

[Understanding ovarian cancer: its causes, symptoms, and screening methods-The Hindu Text and Context](#)

Science

Easy Explanation

Ovarian cancer, known as the "silent killer," is one of the most lethal gynecological malignancies due to its vague and non-specific symptoms that often lead to late diagnosis. In India, it accounts for 6.6% of all women's cancers, with over 47,000 new cases and nearly 33,000 deaths reported in 2022. The disease has two main subtypes: less common Type I tumors with a better prognosis, and the more aggressive Type II tumors, which are usually diagnosed at an advanced stage. Screening for ovarian cancer remains challenging as there are no effective tests like the CA125 blood test, which can lead to false positives. Awareness of risk factors and symptoms is crucial for early detection. Genetic predisposition plays a significant role, with mutations in BRCA1 or BRCA2 genes significantly increasing the risk. Lifestyle factors and hormone replacement therapy (HRT) can also influence risk levels. Genetic counseling is recommended for those with a family history of the disease to guide prevention and management.

Key Takeaways:

1. **Subtle Symptoms:** Symptoms like bloating and pelvic pain are often dismissed as minor ailments, leading to late detection.



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2. **Screening Challenges:** There are no effective routine screening tests for ovarian cancer, making early detection difficult.
3. **Genetic Risks:** A significant genetic component exists, with BRCA gene mutations markedly increasing ovarian cancer risk.
4. **Lifestyle Factors:** Certain lifestyle choices, such as the use of talcum powder and chemical hair products, may influence risk.
5. **HRT and Risk:** Hormone replacement therapy has been linked to an increased risk of ovarian cancer.
6. **Preventive Strategies:** Awareness, genetic counseling, and understanding personal risk factors are key to prevention and early intervention.

[With their ancestors' help, weak cancer cells can form tough tumours-The Hindu Science](#)

Science

Easy Explanation

Recent research has shed light on how weaker, drug-resistant cancer cells can thrive and form robust tumors, despite their evolutionary disadvantages. Scientists from Cleveland Clinic and Case Western Reserve University found that drug-resistant cells, which typically grow slower in isolation due to a 'growth penalty,' can actually grow much faster when cultured with their non-resistant ancestors. This surprising interaction was discovered through a study where researchers built a mathematical model to understand growth dynamics both in the presence and absence of a drug. They observed that in a mixed environment with ancestral cells, the drug-resistant mutations proliferated more rapidly, overcoming their growth disadvantages. This study underscores the complex ecological relationships within tumors and suggests that these interactions promote drug resistance, which could be crucial for developing more effective cancer treatments.

Key Takeaways:

1. **Drug-Resistant Growth:** Drug-resistant cancer cells, although weaker alone, can grow faster when cultured with their ancestral, non-resistant cells.
2. **Mathematical Model:** Researchers created a model to demonstrate that the growth rate of drug-resistant cells depends on their cellular environment and the presence of ancestral cells.
3. **Ancestral Influence:** The presence of more ancestral cells in the culture leads to a higher proliferation rate of drug-resistant cells, effectively nullifying their growth penalty.
4. **Implications for Treatment:** Understanding the ecological dynamics within tumors could lead to new therapeutic strategies that disrupt these interactions, potentially improving cure rates.
5. **Extensible Findings:** The principles uncovered in this study could apply to other evolving systems, such as viruses and bacteria that develop resistance to treatments.
6. **Future Treatment Directions:** The findings suggest a potential new approach to cancer treatment by targeting the ecological interactions within tumors to disrupt the growth advantage conferred by ancestral cells.



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[UAE-India ties are rooted in affinity, trust and respect-The Hindu Editorial](#)

International relations

Easy Explanation

The UAE-India relationship, highlighted during Sheikh Khaled's visit to Delhi and his symbolic tree planting at Rajghat, underscores a deep-rooted partnership characterized by affinity, trust, and respect. Despite apparent differences in size, population, and economic foundations, the connection between the two nations is strengthened by a shared history and complementary strengths. The UAE is home to the largest Indian expatriate community, which contributes significantly to its socio-economic fabric. High-frequency flights and a Comprehensive Economic Partnership Agreement further illustrate the robust economic and cultural ties. Key collaborations in areas like health innovation, renewable energy, and civil nuclear technology demonstrate a forward-looking partnership that leverages both countries' strengths. The relationship is poised for future growth, with a focus on mutual benefits and innovation in various sectors.

Key Takeaways:

1. **Historical Roots:** The UAE-India ties go back thousands of years, with evidence of early trade and cultural exchange.
2. **Symbolic Gestures:** The tree plantings by UAE leaders at Rajghat symbolize the enduring and evolving nature of the relationship.
3. **Expatriate Community:** Over 3.5 million Indians in the UAE play a crucial role in its economy, highlighting the human element of the bilateral ties.
4. **Economic Partnership:** The quick agreement on a Comprehensive Economic Partnership Agreement in 2022 signifies the deep trust and understanding between the two nations.
5. **Strategic Collaborations:** Ongoing collaborations in sectors like technology, health, and energy are central to the strategic partnership.
6. **Future Potential:** The commitment to continual innovation and cooperation promises sustained growth and mutual benefits in the coming years.

[A panoramic view of the 2024 China-Africa summit-The Hindu Editorial](#)

International relations

Easy Explanation

The 2024 China-Africa summit, encapsulated by the Ninth Ministerial Conference of the Forum on China-Africa Cooperation (FOCAC), marked a significant stride in China's sustained engagement with Africa. This summit, which has become a strategic platform for collaboration since its inception in 2000, showcased China's dedication to fostering a "China-Africa Community with a Shared Future." This year's conference, while following a familiar structure with declarations of financial support and cooperative initiatives, offered new commitments such as zero tariff treatment for exports from the least developed African countries and



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increased cultural and security personnel training. The summit underscored China's multifaceted approach to enhancing its influence in Africa through economic, political, and security dimensions, aligning with both its Belt and Road Initiative and broader global development strategies.

Key Takeaways:

1. **Strategic Continuity:** China's consistent policy towards Africa emphasizes long-term economic and political relationships, reinforcing its position as a key partner to the continent.
2. **Economic Commitments:** China pledged significant financial investments including \$51 billion in loans and grants, aiming to bolster various sectors such as trade, green development, and industrial cooperation.
3. **Tariff Exemptions:** The initiative to grant zero tariff treatment to products from 33 African least developed countries could significantly boost African exports to China, enhancing economic ties.
4. **Training and Development:** Announcements of training opportunities for African women, youth, political parties, and security forces highlight China's commitment to capacity building in Africa.
5. **Multidimensional Cooperation:** The summit reaffirmed the multidimensional nature of China-Africa cooperation, addressing economic, security, and cultural exchanges.
6. **Global South Dynamics:** The summit also reflects China's broader strategy to cultivate support within the Global South, positioning itself as a counterbalance to Western influence, particularly from the United States.

12 Sep 2024

[Controversy over Mumbai's salt pans: why do these lands matter?-Indian Express Explained](#)

Sociology

Easy Explanation

Mumbai's salt pans are areas where seawater gathers and evaporates, leaving behind salt. These lands are important because they help stop flooding in the city. Recently, the government decided to give 256 acres of these salt pan lands to a project that will build homes for people living in slums. However, this decision has caused a lot of debate. Environmentalists and some political leaders believe that building on the salt pans will harm the environment, cause more flooding, and disturb the plants and animals living there. These lands are protected by law, but the pressure to build affordable housing is putting them at risk.

Key Takeaways:

1. Salt pans help prevent floods by holding water during heavy rains.
2. These areas are home to important wildlife and plants.
3. Building on salt pans could increase flooding and damage the environment.
4. Critics argue that the government is focusing on development over protecting nature.
5. The challenge is to provide housing while also protecting these important lands from harm.



| Clear your doubts now.



40% OF AMAZON RAINFOREST MOST VITAL TO CLIMATE IS UNPROTECTED-Indian Express

Explained

Environment

Easy Explanation

The Amazon rainforest plays a big role in fighting climate change because it stores a lot of carbon. New information shows that 40% of the most important parts of the forest are not protected by the government. These unprotected areas, mostly in Brazil, Peru, French Guiana, and Suriname, have very large trees that hold a lot of carbon. If these areas are destroyed by cutting down trees or fires, it could release this carbon into the air, making global warming worse. Some parts of the forest are protected, but a lot of it is still at risk.

Key Takeaways:

1. 40% of the most important parts of the Amazon rainforest are unprotected.
2. These areas store a lot of carbon, which could be released if the forest is damaged.
3. Protecting these areas is very important to prevent more carbon from entering the atmosphere.
4. The Amazon is barely absorbing more carbon than it is releasing, showing it's in a delicate balance.
5. Brazil, Suriname, and French Guiana are behind Peru in protecting these important areas.

The Start-up nation-Indian Express Editorial

Economy

Easy Explanation

India's economy has grown thanks to developments in digital payments, affordable internet access, and an increase in e-commerce and startups. To maintain this growth, the country needs to concentrate on three key areas: education, entrepreneurship, and job creation. India has a large and youthful population and hosts a vibrant startup ecosystem, which positions it well for substantial economic expansion through innovation.

The focus should be on enhancing education and fostering a spirit of entrepreneurship among students. Linking educational institutions with industries can lead to more innovative business ideas and job opportunities. If more Indian students are encouraged to start their own businesses, this could significantly boost employment. For instance, even with a high failure rate among new startups, successful ventures could still generate millions of new jobs annually.

Promoting a closer integration of education, business creation, and job opportunities can accelerate India's economic growth, leveraging its young workforce and dynamic startup environment to build a more robust economy.

Key Takeaways:

1. **Digital Growth:** India's recent economic growth is largely due to advancements in digital payments, affordable internet, and the rise of e-commerce and startups.



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2. **Three Key Areas:** To sustain growth, India needs to focus on improving education, encouraging entrepreneurship, and increasing employment opportunities.
3. **Youth Potential:** With a large, young population, India is positioned to capitalize on its demographic advantage by fostering a culture of innovation and entrepreneurship.
4. **Startup Influence:** The vibrant startup ecosystem in India is crucial for job creation and economic development. More student involvement in entrepreneurship could lead to significant employment growth.
5. **Industry-Education Link:** Strengthening connections between educational institutions and industries can generate more innovative ideas and business ventures, enhancing job prospects.
6. **Economic Strategy:** Integrating education, entrepreneurship, and employment can significantly boost India's economic performance, making it a key strategy for long-term growth.

[When rich states get richer-Indian Express Editorial](#)

Polity

Easy Explanation

In India, there's a big income gap between the richer southern and western states and the poorer northern and central regions. For example, someone in Andhra Pradesh earns about four times more than someone in Bihar. This gap is likely to increase unless the growth rates of these states change drastically. Southern states like Andhra Pradesh have benefited from government policies, skilled industries like IT, and strong infrastructure which have helped them grow faster and become wealthier. Meanwhile, northern and central states lag behind, and without major changes, this inequality might get worse. This situation affects where companies decide to invest and where people choose to live and work, often leading to more people moving to richer areas which might cause social and economic issues.

Key Takeaways:

1. **Income Disparity:** There is a significant income gap between the southern and western states of India and the poorer northern and central regions.
2. **Economic Centers:** The southern and western states are richer due to better infrastructure, skilled industries, and supportive government policies.
3. **Migration Trends:** The growing disparity may increase migration from poorer to richer states, adding pressure on urban infrastructure in wealthier areas.
4. **Investment Focus:** Companies prefer to invest in regions with established infrastructure and skilled labor, reinforcing the economic divide.
5. **Policy Challenges:** Addressing this inequality requires long-term structural changes, but governments often resort to short-term, populist measures instead.

[FILL THE SKILL GAP-Indian Express Editorial](#)

Economy

Easy Explanation



| Clear your doubts now.



Earlier this year, a group of Indian workers went to Israel to help with a labor shortage in the construction sector, but this plan faced problems because the workers' skills did not meet the job requirements. Some workers had to return to India or switch to different jobs. Despite these issues, the agreement between India and Israel shows the benefits of international work agreements that allow workers to move between countries. However, to make these agreements successful, it's important to properly train workers to meet the job demands abroad. Training institutes in India need to improve and update their programs to prepare workers better for these opportunities, especially as global demand for labor continues to grow.

Key Takeaways:

1. **Skill Mismatch:** There's a big gap between the skills Indian workers have and what is needed in jobs abroad, like in Israel's construction sector.
2. **Benefits of Work Agreements:** International agreements that allow labor mobility can be beneficial but need careful management to ensure workers are well-prepared.
3. **Training Needs:** Training programs in India must be improved to equip workers with the necessary skills for jobs overseas.
4. **Global Demand:** Indian workers are in demand worldwide, particularly in regions with aging populations and labor shortages.
5. **Ongoing Education:** Continuous updating and upgrading of skills through better education and training are crucial for workers to succeed in the international labor market.

[Why did Brazil's Supreme Court suspend X?-The Hindu Text and Context](#)

International relations

Easy Explanation

Brazil's Supreme Court ordered a complete suspension of Elon Musk's social media platform, referred to as X, because the platform failed to appoint a legal representative in Brazil within the required time. This decision by Justice Alexandre de Moraes is part of a broader investigation into digital militias and far-right groups that used X to spread misinformation and incite violence following the loss of Brazil's former President Jair Bolsonaro in the 2022 elections. Elon Musk, the owner of X, has publicly resisted these measures by refusing to comply with the court's demands, which has led to a significant legal and public dispute between him and Justice de Moraes.

Key Takeaways:

1. **Legal Non-compliance:** X was suspended in Brazil due to its failure to meet legal requirements, including appointing a local legal representative.
2. **Public Dispute:** The tension between Elon Musk and Justice Alexandre de Moraes escalated due to Musk's refusal to follow Brazilian judicial orders concerning misinformation and public safety.
3. **Broader Implications:** This case highlights challenges related to regulatory sovereignty, internet governance, and the role of social media in political processes.
4. **Social Media Impact:** The situation underscores how platforms can be used to influence political outcomes and the complexities of managing this influence while respecting free speech.



| Clear your doubts now.



[Organ-on-chip tech could boost BioE3 objective to personalise medicine-The Hindu Science](#)

Science and technology

Easy Explanation

The organ-on-chip technology represents a significant advancement in the field of drug testing and development. It involves microdevices that simulate the functions of human organs, providing a more precise platform for testing drugs than traditional animal models or cell cultures. This technology aligns with India's BioE3 policy aimed at driving innovation in biotechnology through precision therapeutics. The global market for organ-on-chip is expected to reach \$1.4 billion by 2032, driven by its potential to speed up drug development, reduce costs, and minimize animal testing. With the support from both governmental and private sectors, including substantial investments in R&D, this technology could transform the healthcare sector by enabling personalized medicine and reducing the time and expense associated with bringing new drugs to market.

Key Takeaways:

1. **Technological Innovation:** Organ-on-chip technology offers a more accurate and efficient method for drug testing, capable of mimicking human organ responses in a controlled environment.
2. **Market Potential:** The technology is gaining momentum with significant investments and is expected to considerably impact the healthcare sector by 2032.
3. **Policy Alignment:** This technology supports India's BioE3 policy goals by potentially enhancing biomanufacturing capabilities and advancing precision therapeutics.
4. **Investment and Support:** Major investments from both the government and private sectors are crucial in developing and implementing organ-on-chip technologies.
5. **Impact on Drug Development:** Organ-on-chip can reduce the reliance on animal testing, lower drug development costs, and accelerate the process of bringing new drugs to the market.
6. **Challenges and Opportunities:** While the technology offers many benefits, it requires collaboration across various fields and must navigate complex regulatory landscapes to be fully realized.

[World's 'polar bear capital' prepares for climate challenges-The Hindu Science](#)

Science

Easy Explanation

Churchill, a town in northern Canada known as the "polar bear capital of the world," is adapting to climate change challenges that threaten its primary tourist draw—polar bears. As the sea ice in Hudson Bay diminishes, affecting the bears' hunting grounds, the town has shifted its focus to diversify tourism and improve infrastructure resilience. Local initiatives include promoting beluga whale tours, northern lights viewing, bird spotting, and dogsledding. The town has also innovated building designs to cope with changing ground conditions due to thawing permafrost, showing a proactive approach to handling climate impacts.



| Clear your doubts now.



Key Takeaways:

1. **Adaptive Community:** Churchill has transitioned from a military and research community to a tourism-focused town, adapting its economy and infrastructure to the changing environmental conditions and the decline in traditional industries.
2. **Diversification of Tourism:** In response to potential declines in polar bear populations, Churchill is promoting alternative tourist attractions like beluga whale watching and northern lights tours to sustain its economy.
3. **Resilient Infrastructure:** The town has adopted flexible building technologies to manage the effects of thawing permafrost and increasing rainfall, ensuring stability and safety.
4. **Model for Climate Adaptation:** Churchill serves as a model for other communities worldwide, demonstrating proactive strategies to cope with the impacts of climate change on local economies and natural habitats.
5. **Community Resilience:** The town exemplifies a resilient mindset, focusing on practical solutions and improvements rather than dwelling on challenges.

[Perils of decentralisation with Chinese characteristics-The Hindu Editorial](#)

International relations

Easy Explanation

China's economic decentralization strategy, once hailed as a key driver of its rapid growth, is facing challenges due to its tendency to lead to overcapacity and inefficiency. In contrast to a federal system, China's governance allows the central government to retract powers from local authorities, which has led to aggressive local competition in industries like steel and semiconductors without adequate market demand. This has resulted in significant wastage of resources—estimated at \$6.9 trillion between 2009 and 2013. Xi Jinping's response has been to centralize control and narrow the focus of economic directives, particularly aiming for self-sufficiency in critical industries such as semiconductors, often disregarding the market dynamics. This shift has coincided with a growing global reluctance to engage with Chinese overcapacity, viewing it as a national security threat. Additionally, China's attempts to replace Western markets with domestic demand and new markets through the Belt and Road Initiative have largely failed, as these markets are not economically robust enough to sustain the high production outputs.

Key Takeaways:

1. **Decentralization Issues:** China's decentralized economic model has led to local governments prioritizing industrial growth over public services, resulting in structural overcapacity and resource wastage.
2. **Central Control:** In response to these challenges, Xi Jinping has been centralizing control and focusing on specific industries, pushing towards self-sufficiency but often ignoring market needs.
3. **Global Challenges:** China's economic model and its international conduct have led to increasing global resistance, viewing its production capabilities as potential threats.



| Clear your doubts now.



4. **Economic Limits:** The current economic model is reaching its limits, exacerbated by ineffective attempts to create new demand domestically and internationally through initiatives like the Belt and Road Initiative.
5. **Need for Change:** China faces potential economic decline unless it can adapt its economic strategies and improve its political and economic relationships internationally.

13 Sep 2024

[Health cover for elderly-Indian Express Explained](#)

Sociology

Easy Explanation

The Indian government is expanding the Ayushman Bharat health insurance scheme to include all citizens aged 70 and above, regardless of their income levels. This means every person who is 70 years old or older will receive free health coverage of up to ₹5 lakh per year. The expansion aims to benefit about 6 crore (60 million) elderly individuals, many of whom currently lack health insurance. Registration for the scheme will begin soon, and eligible seniors can sign up through the Ayushman Bharat app or at government health facilities. This move is significant because India's elderly population is growing, and many older adults, especially women and widows, need better access to healthcare services.

Key Takeaways:

1. **Free Health Insurance for Seniors:** All Indians aged 70 and above will now receive free health insurance coverage of up to ₹5 lakh per family per year under the Ayushman Bharat scheme.
2. **Shared Family Coverage:** The ₹5 lakh coverage is shared within the family. If there are multiple elderly members in a household, they will share this amount.
3. **Easy Registration Process:** Eligible individuals can register for the scheme using the Ayushman Bharat app or by visiting any government health facility.
4. **Benefit for Women and Widows:** A significant number of elderly beneficiaries are women and widows, who often lack sufficient healthcare support. The scheme will provide much-needed assistance to these vulnerable groups.
5. **Addressing Growing Elderly Population:** With India's senior population expected to nearly double by 2050, expanding healthcare coverage is crucial to meet the increasing demand for medical services among older adults.

[From Ashokan times to now,Sanchi to Europe, story of the Great Stupa-Indian Express Explained](#)

History



| Clear your doubts now.



Easy Explanation

The Great Stupa of Sanchi is one of India's oldest stone structures and a significant monument in Buddhist history. Built in the 3rd century BCE by Emperor Ashoka, it was constructed over the relics of the Buddha. The stupa is a large, dome-shaped building, but what makes it stand out are its four ornate gateways called toranas, added in the 1st century BCE. These gateways are beautifully carved with scenes from the Buddha's life and stories from the Jataka Tales.

Recently, a full-size replica of the East Gate of the Great Stupa was unveiled in front of the Humboldt Forum museum in Berlin, Germany. This replica is almost 10 meters tall and 6 meters wide, weighing about 150 tonnes. The original East Gate became famous in Europe during the 19th century when plaster casts were made and displayed in various museums. The Berlin replica was created using modern technology like 3D scanning and involved both German and Indian artists.

Key Takeaways:

1. **Historical Significance:** The Great Stupa of Sanchi is a crucial monument in Buddhist art and architecture, commissioned by Emperor Ashoka in the 3rd century BCE.
2. **Unique Gateways:** The stupa is famous for its four decorative gateways (toranas), which feature intricate carvings of the Buddha's life and other Buddhist stories.
3. **International Recognition:** The East Gate became well-known in Europe after plaster casts were made in the 1800s, leading to replicas in European museums.
4. **Berlin Replica:** A life-sized replica of the East Gate now stands in Berlin, symbolizing cultural exchange and appreciation between India and Germany.
5. **Preservation Efforts:** The Great Stupa was restored in the early 20th century after being in ruins, highlighting the importance of preserving cultural heritage sites.

[COULD LIVE GERMS,10,000 FT UP IN SKY,CAUSE DISEASES IN HUMANS?-Indian Express](#)
[Explained](#)

Science

Easy Explanation

Scientists have discovered hundreds of types of bacteria and fungi floating high in the atmosphere, up to 10,000 feet above Japan. These microbes are believed to have traveled more than 1,200 miles, carried by wind currents from regions like northeast China. Some of these microorganisms have the potential to cause diseases in humans. The research was inspired by studies on Kawasaki disease, a mysterious illness in children that shows surges in cases when specific winds blow from China to Japan and even to California. By flying a plane into these air masses, researchers collected samples and found not only microbes but also minerals like hafnium, indicating they originated from certain areas in China. While the study does not conclusively solve the mystery of Kawasaki disease, it provides evidence that wind currents can transport potentially harmful microbes over long distances.

Key Takeaways:



| Clear your doubts now.



1. **Airborne Microbes at High Altitudes:** Researchers found hundreds of bacteria and fungi types at 10,000 feet above Japan, some capable of causing human diseases.
2. **Long-Distance Travel:** These microorganisms are estimated to have traveled over 1,200 miles, suggesting that wind currents can carry microbes across vast distances.
3. **Link to Disease Spread:** The presence of potential human pathogens high in the atmosphere hints that winds may play a role in spreading diseases.
4. **Kawasaki Disease Connection:** The study was motivated by patterns in Kawasaki disease cases, which increase when winds blow from northeast China to Japan and California.
5. **Further Research Needed:** While the findings are significant, more studies are required to understand how these airborne microbes affect human health and to determine their role in diseases like Kawasaki disease.

[Panic in the time of cholera: issues critical to managing a resurgence-The Hindu Science](#)

Science

Easy Explanation

Cholera, a severe diarrhoeal disease caused by consuming contaminated water or food, is making a concerning comeback worldwide. Despite technological advances, fundamental issues like providing clean water, proper sanitation, and hygiene are being overlooked. Climate change worsens these problems by causing floods and droughts, which can spread the bacteria responsible for cholera. The World Health Organization (WHO) reports that cholera cases and deaths increased significantly last year, with 22 countries experiencing active outbreaks in 2024. Vulnerable groups like malnourished children and people with weakened immune systems are at higher risk. There's also a severe shortage of cholera vaccines, with only one manufacturer supplying them, leading to reduced vaccination doses. While vaccines help, the only sustainable way to prevent cholera is by ensuring everyone has access to safe drinking water and sanitation. Global efforts, such as the WHO's plan to end cholera by 2030, emphasize the need for coordinated actions and investments. Success depends on governments prioritizing these basic needs and addressing the impacts of climate change.

Key Takeaways:

1. **Cholera Resurgence:** There is a significant global increase in cholera cases and deaths, signaling a resurgence of this preventable disease.
2. **Lack of Basic Amenities:** Inadequate access to clean water, sanitation, and hygiene is a primary cause of the spread of cholera.
3. **Impact of Climate Change:** Climate change exacerbates cholera outbreaks through floods and droughts, affecting water safety and forcing people to use contaminated sources.
4. **Vulnerable Populations at Risk:** Malnourished children and people with weakened immune systems, like those living with HIV/AIDS, are at greater risk of severe illness or death from cholera.
5. **Vaccine Shortage:** A global shortage of cholera vaccines, due to limited manufacturing, has led to reduced vaccination doses and challenges in controlling outbreaks.



| Clear your doubts now.



6. **Need for Sustainable Solutions:** Long-term prevention of cholera relies on improving access to safe drinking water, sanitation, and hygiene rather than solely on vaccination.
7. **Global Initiatives:** Organizations like WHO and the Global Task Force on Cholera Control are working towards ending cholera by 2030, emphasizing multi-sectoral interventions and the need for increased funding.
8. **Government Action Required:** Success in combating cholera hinges on governments investing in basic infrastructure for clean water and sanitation and addressing the effects of climate change.

[What does dissolution of SCoS entail?-The Hindu text and Context](#)

Polity

Easy Explanation

The Indian government has dissolved the Standing Committee on Statistics (SCoS), a 14-member panel led by economist Pronab Sen. The SCoS was responsible for advising on survey methods, sampling designs, and addressing issues related to statistical surveys. The official reason given for its dissolution is that its work overlapped with the Steering Committee for National Sample Surveys, headed by Rajeeva Laxman Karandikar.

A new Steering Committee has been formed with 17 members, including four experts from the former SCoS. This new committee has similar roles but includes more government officials and fewer independent experts. There are concerns that dissolving the SCoS could affect the quality of statistical data and leave data gaps unaddressed.

Economists and policymakers are urging the government to conduct the national census, which has been delayed since 2021 due to the COVID-19 pandemic. The lack of updated census data hinders effective decision-making on important issues like employment, education, and access to welfare schemes. Relying on older data or administrative records may not provide the comprehensive and unbiased information needed for accurate policies.

Key Takeaways:

1. **Standing Committee Dissolved:** The government dissolved the Standing Committee on Statistics due to overlapping functions with another committee.
2. **New Steering Committee Formed:** A new committee with similar responsibilities but more official members has been established to oversee national sample surveys.
3. **Impact on Data Quality:** There are concerns that the dissolution may negatively affect the quality and reliability of statistical data used for policymaking.
4. **Delay in Census Causes Issues:** The postponement of the national census since 2021 is causing data gaps, affecting decisions on social and economic policies.
5. **Importance of Updated Census Data:** Updated census information is crucial for accurate planning and implementation of government programs and services.
6. **Call for Prompt Census:** Experts and policymakers recommend conducting the census as soon as possible to ensure effective and informed decision-making.



| Clear your doubts now.



7. **Administrative Data Limitations:** Reliance on administrative data alone is insufficient due to potential biases and lack of comprehensive coverage compared to census data.
8. **Need to Address Data Gaps:** The new committee should focus on filling data gaps and ensuring high-quality statistical information for the country.

[Is it time for India to introduce a Universal Basic Income?-The Hindu Editorial](#)

Economy

Easy Explanation

The article discusses whether India should introduce a Universal Basic Income (UBI) to address rising unemployment and income inequality caused by jobless growth and automation. Jobless growth refers to economic growth without a corresponding increase in employment opportunities. The International Labour Organization (ILO) reports that 83% of India's unemployed are youth, and automation and artificial intelligence (AI) are contributing to this issue.

Two economists, N.R. Bhanumurthy and Arun Kumar, share their perspectives:

- **N.R. Bhanumurthy:** He notes that India already has partial forms of UBI through various cash transfer schemes for farmers, women, and unemployed youth. However, he questions the feasibility of implementing a full UBI in India. Instead, he suggests focusing on strengthening universal basic social safety nets. He believes that government initiatives like the Pradhan Mantri Awas Yojana are creating employment opportunities and that the government is aware of unemployment issues.
- **Arun Kumar:** He argues that providing money without work doesn't offer dignity and can lead to social issues. He emphasizes the importance of generating employment by investing in labor-intensive sectors such as education, health, and rural development. Kumar points out that government investments are currently focused on capital-intensive projects that do not create many jobs. He highlights the problem of "job-loss growth," where automation leads to job displacement without new employment opportunities.

Both agree that unemployment is a serious concern but differ on the solution. While Bhanumurthy leans towards enhancing social safety nets, Kumar stresses the need for job creation through appropriate government policies and investments.

Key Takeaways:

1. **Youth Unemployment is Rising:** A large proportion of India's unemployed are young people, affected by automation and AI reducing job opportunities.
2. **Debate on Universal Basic Income (UBI):** There's an ongoing discussion on implementing UBI in India to address unemployment and income inequality.
3. **Existing Partial Safety Nets:** India has some cash transfer schemes, but no comprehensive UBI is in place.
4. **Need for Job Creation:** Focusing on generating employment in labor-intensive sectors is essential for economic growth and providing dignity through work.



| Clear your doubts now.



5. **Automation Leads to Job Losses:** Technological advancements are causing "job-loss growth," displacing workers without creating new jobs.
6. **Government Investment Should Shift:** There's a need to move investment from capital-intensive to labor-intensive projects to boost employment.
7. **Skill Development and Policy Action Required:** Addressing skill gaps and making fiscal policy adjustments are crucial, needing strong political commitment.

[Good, but not enough -The Hindu Editorial](#)

Sociology

Easy Explanation

The Union government's extension of the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) to all citizens over 70 years old, regardless of income, is commendable and provides free health coverage to nearly 60 million elderly people. However, the scheme's limitations are significant—it only covers secondary and tertiary hospitalization, excluding outpatient care, diagnostics, and medications, which are essential for managing chronic diseases common among the elderly. The inadequate public primary and secondary healthcare facilities in many states worsen the situation, increasing the burden on tertiary care. Strengthening these facilities is crucial to enhance the scheme's effectiveness. The article cautions that India's reliance on insurance-based models, similar to the U.S., may lead to higher healthcare costs and undermine public healthcare commitments. While the PM-JAY extension is necessary, it remains incomplete without comprehensive coverage that includes outpatient services and a robust public health infrastructure.

Key Takeaways:

1. **Positive Extension but Limited:** Extending PM-JAY to all over 70 is commendable but insufficient.
2. **Excludes Outpatient Care:** Lack of coverage for outpatient services, diagnostics, and medicines limits the scheme's effectiveness.
3. **Chronic Diseases Require Outpatient Treatment:** Elderly individuals often need regular outpatient care for chronic conditions.
4. **Weak Public Healthcare Systems:** Inadequate primary and secondary public healthcare increases the burden on tertiary care.
5. **Need to Strengthen Public Healthcare:** Investing in robust public healthcare is essential for overall effectiveness.
6. **Risk of High Costs:** Reliance on insurance-based models and private hospitals may lead to increased healthcare costs.
7. **Incomplete Measure:** PM-JAY is necessary but requires comprehensive coverage and stronger public health infrastructure to be truly effective.



| Clear your doubts now.



14 Sep 2024

[WHAT IS OPEN AI O1, THE AI MODEL THAT 'THINKS' BEFORE IT ANSWERS? - Indian Express Explained](#)

Science and technology

Easy Explanation

OpenAI recently launched the new AI model "OpenAI o1," designed to "think" more like humans when solving complex tasks in fields like science, coding, and math. It is the first in a series of "reasoning" models under the secretive Project Strawberry, aimed at improving AI's problem-solving and reasoning abilities. Although still in early development, the model focuses on learning from different perspectives, checking its own outputs, and improving through mistakes. Safety is a key concern, and OpenAI has worked to ensure o1 follows safety rules effectively, significantly improving from previous versions. The model's advanced problem-solving skills may impact jobs like software development and data analysis, and it can assist researchers in physics, biology, chemistry, and healthcare by analyzing large datasets and generating solutions more quickly.

Key Takeaways:

1. **OpenAI o1** is a new AI model designed to "think" like humans.
2. It's part of Project Strawberry, aimed at improving AI's reasoning.
3. The model focuses on learning from mistakes and checking its outputs.
4. Safety has been improved to prevent AI from being tricked.
5. It could impact jobs in coding, data analysis, and research fields.
6. OpenAI o1 will assist researchers by speeding up problem-solving.

[WHAT IS HELIUM AND WHY IS IT USED IN ROCKETS? - Indian Express Explained](#)

Science

Easy Explanation

Helium is an essential element used in rockets and spacecraft due to its inert nature and unique physical properties. Recent missions like NASA's Boeing Starliner, SpaceX's Polaris Dawn, ISRO's Chandrayaan 2, and ESA's Ariane 5 have faced delays or issues because of helium leaks. Helium is used to pressurize fuel tanks, ensuring a consistent flow of fuel to the rocket engines, and for cooling systems. Its very low boiling point allows it to remain a gas even at extremely low temperatures, which is crucial since many rocket fuels are stored in such conditions. However, helium's small atomic size and low molecular weight make it prone to leaking through tiny gaps or seals in storage tanks and fuel systems. While helium leaks can help detect potential faults due to their easy detectability, the frequency of these leaks has highlighted the need for innovation in valve design and more precise valve-tightening mechanisms within the aerospace industry.

Key Takeaways:



| Clear your doubts now.



1. **Helium's Role in Rockets:** Helium is inert and the second lightest element, making it ideal for pressurizing fuel tanks and cooling systems in rockets.
2. **Recent Mission Delays:** Missions like Boeing's Starliner and SpaceX's Polaris Dawn have experienced delays due to helium leaks, emphasizing its critical role and associated challenges.
3. **Physical Properties:** Helium remains gaseous at extremely low temperatures due to its low boiling point, aligning with the storage conditions of many rocket fuels.
4. **Leak Proneness:** The small atomic size of helium atoms makes them susceptible to escaping through minute gaps, leading to leaks in fuel systems.
5. **Leak Detection:** Helium leaks are easily detected because of the gas's scarcity in Earth's atmosphere, aiding in identifying faults in fuel systems.
6. **Need for Innovation:** Frequent helium leaks have prompted calls for improved valve designs and more precise tightening mechanisms to enhance safety and efficiency in space missions.

[Port Blair and its historical connection to the Chola conquest of Srivijaya-Indian Express](#) Explained

History

Easy Explanation

Union Home Minister Amit Shah announced that Port Blair will be renamed **Sri Vijaya Puram** to reflect its historical significance and remove colonial imprints, aligning with Prime Minister Narendra Modi's vision. The new name honors the islands' role in India's freedom struggle and their connection to the Chola Empire, which used the territory as a naval base.

Originally named after British surveyor **Archibald Blair**, Port Blair became a British penal colony after the 1857 revolt, housing freedom fighters like **Vinayak Damodar Savarkar** in the Cellular Jail built in 1906.

In the 11th century, Chola emperor **Rajendra I** used the Andaman Islands as a strategic base to attack the **Srivijaya Empire** in present-day Indonesia. This invasion was a unique event in the otherwise peaceful relations between India and Southeast Asian states, with scholars citing trade disputes or imperial ambitions as possible reasons.

Key Takeaways:

1. **Renaming to Sri Vijaya Puram:** Port Blair will be renamed to honor India's historical heritage and shed colonial legacies, reflecting its connection to the Chola Empire.
2. **Colonial Origins of Port Blair:** The city was named after Archibald Blair, who surveyed the islands; it later became a British penal colony for Indian freedom fighters.
3. **Cellular Jail and Freedom Struggle:** Port Blair's Cellular Jail was a notorious prison where many freedom fighters, including Vinayak Damodar Savarkar, were incarcerated.
4. **Chola Empire's Naval Base:** The Andaman Islands served as a strategic naval base for the Chola Empire in the 11th century during their expedition against Srivijaya.
5. **Chola Invasion of Srivijaya:** The invasion was a significant event that disrupted the otherwise peaceful relations between India and Southeast Asian states.



| Clear your doubts now.



6. **Historical Interpretations:** Scholars suggest the Chola expedition was motivated by trade disputes or a desire for imperial expansion, reflecting the complexities of regional dynamics at the time.

[The shock of crumbling infrastructure and the solution-The Hindu Editorial](#)

Economy

Easy Explanation

Recent incidents of under-construction bridge collapses in Bihar have highlighted significant issues in India's infrastructure sector, particularly concerning quality control and project implementation. Despite substantial government investment and initiatives like the PM Gati Shakti National Master Plan, challenges such as time delays, cost overruns, and inadequate project management persist. Many infrastructure projects suffer from delays and increased costs due to factors like multiple clearance requirements, insufficient planning, and lack of capacity in local government bodies. To address these issues, there is a need to overhaul traditional project management practices by integrating modern tools and adopting a holistic "Program Management Approach." Establishing professional agencies for project management education and adopting global best practices can help develop an industry-ready workforce. Implementing robust program management systems is crucial for preventing project failures and achieving India's goal of becoming a developed nation by 2047.

Key Takeaways:

1. **Infrastructure Failures Highlight Issues:** Recent bridge collapses in Bihar expose problems in quality control and project implementation within India's infrastructure sector.
2. **Economic Importance of Infrastructure:** The sector is vital for India's economy and its ambition to become a developed nation by 2047.
3. **Time Delays and Cost Overruns:** A significant number of projects face delays and increased costs due to inadequate project management and planning.
4. **Challenges in Project Execution:** Issues include multiple clearance processes, lack of comprehensive planning, and insufficient capacity of local bodies.
5. **Need for Modern Project Management:** Traditional practices require an overhaul to incorporate modern tools, real-time data management, and global best practices.
6. **Global Examples for Improvement:** Countries like the UK, China, and Saudi Arabia have agencies focused on effective project completion, serving as models for India.
7. **Program Management Approach:** Adopting a holistic approach can improve coordination and efficiency in delivering multiple projects simultaneously.
8. **Skill Development is Crucial:** Establishing agencies to provide professional courses in project management can develop a skilled workforce and enhance project execution.
9. **Government Initiatives Need Strengthening:** While initiatives like PM Gati Shakti aim to integrate efforts, the quality and integrity of project implementation teams are critical.
10. **Preventing Future Failures:** Implementing robust program management systems is essential to prevent infrastructure failures and ensure efficient use of resources for India's growth.



| Clear your doubts now.



Being 'trans' is being human-The Hindu Editorial

Sociology

Easy Explanation

The article argues that being transgender is an inherent part of human identity that deserves recognition and respect. The author highlights how current debates questioning transgender rights mirror historical instances where marginalized groups faced discrimination under the guise of "questions" or "problems," such as slavery, women's suffrage, and racial segregation. She criticizes "gender-critical" perspectives that deny the validity of transgender identities by asserting that biological sex solely defines gender. Drawing on Simone de Beauvoir's philosophies, the author emphasizes that gendered consciousness is shaped by social experiences rather than strictly by biological anatomy. She contends that debating the existence of transgender people is dehumanizing and that society's response to transgender rights reflects its character and commitment to personal liberty and freedom.

Key Takeaways:

1. **Transgender Identity is Human Identity:** Being transgender is a natural aspect of human diversity that should be acknowledged and respected without requiring justification or defense.
2. **Historical Patterns of Discrimination:** Current debates over transgender rights echo past injustices where marginalized groups were denied civil rights through so-called "questions" and "debates."
3. **Critique of Gender-Critical Views:** The author challenges the notion that biological sex solely determines gender, arguing that such views invalidate transgender identities.
4. **Philosophical Insights from Simone de Beauvoir:** Gender is not inherently tied to biological sex; rather, it is shaped by social experiences and consciousness of the body.
5. **Societal Reflection on Rights:** The manner in which society addresses transgender rights reveals its character and commitment to equality and personal freedoms.
6. **Dehumanization Concerns:** Questioning the legitimacy of transgender identities fragments the integral human self and perpetuates dehumanization.

Weather gods-The Hindu Editorial

Geography

Easy Explanation

The Union Cabinet has approved the ₹2,000 crore **Mission Mausam**, aiming to significantly upgrade India's weather forecasting infrastructure. This mission involves procuring and installing up to 60 weather radars, 15 wind profilers, and 15 radiosondes by 2026, enhancing the capabilities of organizations like the India Meteorological Department, the National Centre for Medium Range Weather Forecasting, and the Indian Institute of Tropical Meteorology (IITM). Beyond improving weather prediction accuracy, Mission Mausam seeks to explore weather modification techniques. One key proposal is to establish a '**cloud-simulation chamber**' at the IITM to model rain clouds and test interventions like cloud seeding to control rainfall. Additionally, there are plans to study methods to control lightning strikes, which are the leading



| Clear your doubts now.

cause of natural deaths in India. While the feasibility of weather modification remains uncertain, investing in fundamental atmospheric sciences research is seen as a positive step towards understanding and mitigating the effects of climate change.

Key Takeaways:

1. **Mission Mausam Launched:** The Union Cabinet approved the ₹2,000 crore Mission Mausam to upgrade India's weather forecasting systems.
2. **Infrastructure Enhancement:** The mission includes installing new weather radars, wind profilers, and radiosondes to improve atmospheric data collection.
3. **Exploration of Weather Modification:** Beyond forecasting, the mission aims to investigate weather interventions like cloud seeding.
4. **Cloud-Simulation Chamber:** A facility at IITM will model rain clouds to test methods for controlling rainfall.
5. **Lightning Control Research:** Plans are in place to study ways to reduce lightning strikes, the top cause of natural deaths in India.
6. **Uncertainty Remains:** While promising, the feasibility of controlling weather phenomena like lightning and rainfall is still uncertain.
7. **Investment in Research:** Emphasizing fundamental research in atmospheric sciences is crucial for mitigating climate change effects.

15th September 2024

[What are the issues faced by EPFO pensioners?: TH FAQ](#)

Economy

Easy Explanation

Starting from January 1, 2025, around 78 lakh pensioners under the Employees' Pension Scheme (EPS-95) will be able to receive their pensions from any bank and branch across India. This is part of a new Centralised Pension Payment System (CPPS) approved by the Union Labour Ministry. Currently, pensioners face difficulties when moving, as they need to transfer their Pension Payment Orders (PPOs), which causes delays. The CPPS will simplify this by allowing pensioners to access their pensions seamlessly through any bank.

Why This Change? Currently, pensioners can only withdraw their pension from a select group of banks. When they move, they need to transfer their PPOs, leading to delays. The new CPPS will allow pensioners to receive their pensions without these complications, making the process easier and faster. In the future, the system will move to Aadhaar-based payments, reducing the need for pensioners to visit bank branches.

What Do Pensioners Think? Some pensioners are cautiously optimistic about the change. While they welcome the convenience, they are waiting to see if there are any practical challenges during the implementation. Pensioners already use ATM cards to withdraw money, thanks to the core banking system.



| Clear your doubts now.



Disappointment Over Low Pension Amounts Many pensioners are disappointed because they were hoping the government would introduce a unified pension scheme, similar to what government employees have, combining the best features of the Old Pension Scheme (OPS) and the New Pension Scheme (NPS). Trade unions and some Members of Parliament have been asking the government to increase the minimum pension amount from the current ₹1,000 to ₹7,500 or even ₹9,000, along with other allowances.

Higher Pension Applications Pensioners are also concerned about the status of their applications for higher pensions based on wages that exceed the Provident Fund (PF) ceiling. Although the Supreme Court allowed this in principle, many pensioners are still waiting for their applications to be processed. Out of 17.5 lakh applications submitted, only 8,401 Pension Payment Orders (PPOs) were issued, and many applications were rejected.

Government's Stance The government has been increasing its contribution to the EPS-95 scheme each year, but it cites financial constraints for not raising the minimum pension. In the 2024-25 budget, the government is expected to contribute around ₹10,950 crore to the scheme. The Employees' Provident Fund Organisation (EPFO) is cautious about allowing higher pensions, as it argues that the scheme is meant for economically weaker workers. It believes granting higher pensions would affect the sustainability of the Pension Fund, although no cash flow problems have been reported so far.

Next Steps To address the issue, the government could increase its contributions to the EPS-95 scheme and revise the ceiling for PF contributions, which has remained unchanged for 10 years. Former Finance Minister Arun Jaitley had suggested giving employees the option to invest in either the EPF or the NPS, which could help address concerns about returns on investment. Additionally, the government should remove the rule that excludes employees earning above the PF ceiling after September 1, 2014, from the EPS-95 scheme, making it available to all employees, regardless of their pay.

Key Takeaways

- **Centralised Pension Payment System (CPPS):** Starting January 2025, pensioners under EPS-95 can receive their pension from any bank or branch.
- **Current Challenges:** Pensioners face delays when transferring PPOs between offices when they move.
- **Disappointment:** Pensioners hoped for a unified pension scheme with increased minimum pension, but the government has not yet implemented this.
- **Government Contributions:** The government is increasing its contributions to the EPS-95 scheme but cites financial constraints for not raising the minimum pension.
- **Way Forward:** The government could increase its contributions and give employees more investment options to address concerns about returns.

[Will Mission Mausam improve weather forecasts? TH FAQ](#)

Geography

Easy Explanation



| Clear your doubts now.



On September 11, 2024, the Indian government approved a ₹2,000 crore program called **Mission Mausam**. This initiative aims to improve India's ability to forecast weather, particularly for the monsoon, cyclones, and air quality, by upgrading infrastructure used for atmospheric observations. The project will enhance systems used by the **India Meteorological Department (IMD)**, the **National Centre for Medium Range Weather Forecasting**, and the **Indian Institute of Tropical Meteorology**.

What are its objectives?

The mission aims to enhance **weather forecasting**, improve **cyclone warnings**, and provide better alerts on **air quality**. Key features include deploying **next-generation radars**, new **satellite systems**, high-performance **supercomputers**, and a **GIS-based Decision Support System** for real-time data sharing. The goal is to improve forecasts by using more advanced instruments like weather radars and wind profilers that monitor atmospheric conditions.

Has a similar mission been undertaken before?

Yes, this mission builds on the **Monsoon Mission**, launched in 2012. Previously, India used statistical methods to predict monsoons, which were often too broad to capture droughts or regional differences. The Monsoon Mission introduced **dynamical models**, which use **supercomputers** to simulate weather patterns based on physics equations. These models allow for more accurate forecasts on multiple timescales, from daily to seasonal predictions, and have been successful in improving weather forecasts.

What makes Mission Mausam unique?

This mission goes beyond simply improving weather forecasts; it introduces the concept of "**weather management**." This involves actively changing weather patterns through **cloud seeding**, a process where chemicals are sprayed into clouds to either increase or decrease their rain potential. The mission also aims to **control lightning** strikes, which are responsible for a significant number of deaths in India. To better understand and modify weather, a large **cloud chamber** will be set up at the Indian Institute of Tropical Meteorology (IITM). This chamber will simulate the inside of a cloud to help researchers study cloud behavior and lightning.

Challenges of Weather Modification

While **cloud seeding** has been tested since the 1950s, it remains difficult to control where the rain will fall. Sometimes, clouds seeded for rain end up raining in unintended areas. **Mission Mausam** aims to address these challenges by gaining a deeper understanding of weather modification processes.

Key Takeaways

- **Mission Mausam** is a ₹2,000 crore initiative to improve India's weather forecasting and management systems.
- The mission builds on the success of the **Monsoon Mission**, which introduced supercomputer-based **dynamical models** for weather forecasting.
- New technologies, including **next-gen radars** and **satellite systems**, will be deployed to provide better weather predictions.



| Clear your doubts now.



- **Weather modification**, including **cloud seeding** and lightning control, will be explored under this mission, but it presents challenges in controlling weather outcomes.
- A **cloud chamber** will be built at IITM to study clouds and their behavior, aiding research on weather modification.

[Diabetes drug may lower death rate in obese people: study- TH Science](#)

Science

Easy Explanation

Recent studies show that **excess weight**, especially **abdominal obesity**, is linked to serious health issues such as **diabetes**, **high blood pressure**, and **heart disease**. While many weight-loss methods have been tried over the years, few have lasted.

One promising development is the use of **GLP-1 agonists**, a class of drugs initially developed for **diabetes**. These drugs mimic a hormone that helps increase insulin, slow digestion, and make people feel full. **Semaglutide**, one of these drugs, has been used for diabetes since 2017 and, in higher doses, is now approved for **weight loss** in Western countries.

A recent study, known as the **SELECT trial**, tested semaglutide on **17,604 overweight or obese participants** with **heart disease** but **no diabetes**. The participants received weekly injections of either semaglutide or a **placebo** and were monitored for three years. The study aimed to see if semaglutide could reduce **heart attacks, strokes, and deaths**. Results showed that the group taking semaglutide had fewer deaths from all causes compared to those on the placebo.

Surprising Findings

The SELECT trial revealed a **19% reduction** in **cardiovascular deaths, heart attacks, and strokes** for those taking semaglutide. However, some surprising questions arose:

1. **Early reduction in deaths**: Participants saw a decrease in death rates even **before losing weight**, which is unusual because the health benefits of weight loss usually take longer to appear.
2. **COVID-19 deaths**: There was an unexpected reduction in **COVID-19 deaths**, but the study did not mention whether the participants were **vaccinated**, leaving questions about how the drug might impact **COVID-19 mortality**.

Did all participants have similar health conditions?

In clinical trials, especially **randomised** ones like SELECT, it's important that the participants are similar at the beginning. However, one noticeable difference was that **loop diuretics** (drugs often prescribed for **advanced heart, liver, or kidney disease**) were more commonly used by those who later died. This could suggest that some participants who died may have had more **severe heart disease** from the start, which might explain the early reduction in deaths and the impact on COVID-19 deaths.

GLP-1 Agonists: Beyond Weight Loss



| Clear your doubts now.



GLP-1 agonists are already used to treat **diabetes** and are now showing promise for helping **overweight and obese** individuals without diabetes. Although more research is needed, these drugs could become an important tool in **medical practice**, especially if further studies confirm the SELECT trial results.

Key Takeaways:

1. **GLP-1 agonists**, like **semaglutide**, were initially used for **diabetes** but are now being explored for **weight loss**.
2. The **SELECT trial** showed that semaglutide reduced **deaths, heart attacks, and strokes** in obese people without diabetes.
3. The trial raised some surprising questions, including **early reductions in death rates** and **fewer COVID-19 deaths**, which are still being explored.
4. **Loop diuretic use** among those who died suggests some participants had more severe health conditions, potentially influencing the results.
5. Further research is needed, but **GLP-1 agonists** may offer health benefits beyond **weight loss** and **diabetes control**.

16th Sep 2024

[Why Commons matter, how community is key to their well-being-Indian Express Explained](#)

Governance

Easy Explanation

Commons refer to resources like forests, community lands, and water bodies, shared by communities rather than owned by individuals or governments. A recent event in Delhi focused on the conservation, restoration, and governance of these Commons, with over 500 participants, mostly from grassroots organizations. Community involvement in the management of Commons has proven more sustainable than government or market interventions, a concept pioneered by Nobel laureate Elinor Ostrom. In India, the Forest Rights Act (FRA) of 2006 serves as a model for empowering local communities to manage forest Commons. However, similar frameworks are needed for other types of Commons like wastelands. The event emphasized the need for inclusive, community-led governance to protect and maintain these vital resources.

Key Takeaways:

1. Commons are shared resources such as forests, water bodies, and intangible assets like language.
2. Over-exploitation of Commons is a risk, but community-led governance is more sustainable.
3. Elinor Ostrom's research supports community leadership in managing Commons.
4. India's 2006 Forest Rights Act is a strong model for forest Commons but needs expansion.
5. NGOs are advocating for more comprehensive laws to govern various Commons resources.



| Clear your doubts now.

[A new dilemma: food vs cars-Indian Express Explained-Indian Express Explained](#)

Economics

Easy Explanation

The article discusses the emerging "food versus cars" dilemma, highlighting how phosphoric acid—a key ingredient in di-ammonium phosphate (DAP) fertiliser—is increasingly being diverted for the production of lithium-iron-phosphate (LFP) batteries used in electric vehicles (EVs). India, which heavily relies on imports for its DAP and phosphoric acid needs, faces potential shortages due to this shift. China's growing use of phosphoric acid for LFP batteries and its export restrictions have already led to a significant drop in DAP imports to India. This poses a challenge for Indian agriculture, particularly for the upcoming rabi crop season, as DAP is crucial for root development during sowing. Farmers are being forced to substitute DAP with complex fertilisers containing less phosphorus, which may not be as effective. The article emphasizes the need for India to secure phosphate supplies through overseas joint ventures and to reconsider its fertiliser consumption patterns to mitigate dependency and potential shortages.

Key Takeaways:

1. **Phosphoric Acid Diversion:** Phosphoric acid, essential for DAP fertiliser production, is increasingly being used to manufacture LFP batteries for EVs, creating a "food vs cars" dilemma.
2. **India's Dependency on Imports:** India imports over half of its DAP needs and most of its phosphoric acid and rock phosphate, making it vulnerable to global supply shifts.
3. **Impact of China's Policies:** China's export restrictions and its focus on LFP batteries have reduced the availability of phosphoric acid and DAP for India, leading to a 51% drop in DAP imports during April-August 2024.
4. **Potential Agricultural Challenges:** Reduced DAP availability may affect the rabi crop season, as DAP is critical for crop root development during sowing, potentially impacting yields.
5. **Substitution with Complex Fertilisers:** Farmers are substituting DAP with complex fertilisers that contain less phosphorus, which may not provide the same efficacy in crop growth.
6. **Economic Unviability for Fertiliser Companies:** Government-fixed prices and subsidies are insufficient to cover the costs of importing DAP, leading companies to incur losses and disincentivizing imports.
7. **Need for Strategic Action:** India should secure phosphate resources through overseas joint ventures and shift towards fertilisers with higher nutrient use efficiency but lower NPK content to reduce import dependency.
8. **Global Market Dynamics:** The shift towards LFP batteries globally could further strain phosphate supplies for agriculture, necessitating proactive measures from countries like India.



| Clear your doubts now.



[Behind Typhoon Yagi becoming the most powerful storm in Asia this year-Indian Express](#)

[Explained](#)

Geography

Easy Explanation

Typhoon Yagi has become the most powerful tropical cyclone in Asia this year and the second most intense globally after Hurricane Beryl. The storm has caused widespread devastation across Southeast Asian countries, notably Vietnam, where it resulted in approximately 233 deaths, contributing to a regional death toll exceeding 300. Typhoon Yagi originated as a tropical storm in the Philippine Sea on September 1, weakened after initial landfall, but re-intensified over the unusually warm waters of the South China Sea, eventually reaching Category 5 status with peak winds of 260 km/h.

Tropical cyclones form over warm ocean waters near the equator due to the rise of warm, moist air, creating low-pressure areas that draw in surrounding air. This process leads to the development of storm systems that gain strength from the ocean's heat. Climate change is playing a significant role in intensifying these storms. Warmer ocean surface temperatures contribute to more rapid storm intensification, causing cyclones to form closer to coastlines, intensify more quickly, and linger longer over land, resulting in heavier rainfall, stronger winds, and increased flooding upon landfall.

Key Takeaways:

1. **Typhoon Yagi's Impact:** Typhoon Yagi is the strongest storm in Asia this year, causing severe damage and loss of life, particularly in Vietnam.
2. **Formation of Tropical Cyclones:** Tropical cyclones develop over warm ocean waters near the equator when warm, moist air rises, creating low-pressure areas that lead to storm formation.
3. **Re-intensification Over Warm Waters:** Typhoon Yagi re-strengthened over unusually warm waters in the South China Sea, reaching Category 5 with peak winds of 260 km/h.
4. **Role of Climate Change:** Rising global temperatures are making tropical cyclones more intense, with storms forming closer to coastlines, intensifying rapidly, and lasting longer over land.
5. **Increased Severity Due to Warm Oceans:** Warmer ocean temperatures escalate evaporation and heat transfer, resulting in stronger storms with heavier rainfall and greater flooding risks when they make landfall.

[STUDY SHOWS HOW AI CAN TRIGGER RETHINK ON CONSPIRACY THEORIES-Indian Express](#)

[Explained](#)

Science and technology

Easy Explanation

A recent study published in the journal *Science* demonstrates that artificial intelligence (AI) chatbots can effectively reduce individuals' belief in conspiracy theories. In the study, 2,190 American participants who held various conspiratorial beliefs engaged in a three-round conversation with an AI chatbot powered by



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GPT-4 Turbo. The chatbot was designed to address the specific evidence each participant cited, providing comprehensive answers and detailed arguments. The results were significant: participants showed an average 20% reduction in their belief in the conspiracy theories they held, and this change persisted undiminished for at least two months. The study suggests that AI can be a valuable tool in combating misinformation and disinformation by engaging individuals in personalized dialogues that encourage critical thinking.

Key Takeaways:

1. **AI Chatbots as a Tool Against Misinformation:** The study indicates that AI-powered chatbots can effectively challenge and reduce belief in conspiracy theories by providing personalized, evidence-based responses.
2. **Significant and Lasting Impact:** Participants experienced a 20% average decrease in belief in their chosen conspiracy theories, with the effect lasting for at least two months after the interaction.
3. **Human Reasoning is Malleable:** Contrary to the notion that individuals are resistant to changing deeply held beliefs, the research shows that people can reconsider their views when presented with compelling evidence.
4. **Personalized Dialogue is Effective:** The chatbot's ability to address specific evidence cited by individuals was key to influencing their beliefs, highlighting the importance of tailored communication in debunking misinformation.
5. **Potential Applications:** The findings suggest that AI could be deployed in real-world settings to combat the spread of conspiracy theories and disinformation, potentially reducing their negative societal impacts.

[A crucial election in Sri Lanka-The Hindu Text and Context](#)

International relations

Easy Explanation

Sri Lanka will hold a crucial presidential election on September 21, the first since the 2022 economic crisis that led to the ousting of President Gotabaya Rajapaksa. The political landscape has shifted significantly, with traditional parties like the SLFP and UNP losing prominence. The main contenders are incumbent President Ranil Wickremesinghe, Opposition Leader Sajith Premadasa, and Anura Kumara Dissanayake of the NPP. Each offers distinct platforms: Wickremesinghe emphasizes stability and IMF-backed reforms; Premadasa advocates for a resilient, inclusive economy; and Dissanayake promises systemic change by eradicating corruption. The outcome is uncertain due to a fragmented electorate and a preferential voting system. The new President will face challenges in steering economic recovery and uniting a divided parliament.

Key Takeaways:

1. **First Post-Crisis Election:** The September 21 election is the first since the 2022 economic crisis that ousted Gotabaya Rajapaksa.



| Clear your doubts now.



2. **Shifted Political Landscape:** Traditional parties have diminished, leading to a three-way race among Wickremesinghe, Premadasa, and Dissanayake.
3. **Main Candidates:**
 - *Ranil Wickremesinghe:* Focuses on stability and IMF-aligned economic reforms.
 - *Sajith Premadasa:* Promises a resilient and inclusive economy.
 - *Anura Kumara Disanayake:* Advocates for systemic change and anti-corruption.
4. **Preferential Voting System:** Requires a candidate to secure over 50% of votes; otherwise, second preferences are counted.
5. **Uncertain Outcome:** A fragmented electorate and divided minority votes make predicting the winner challenging.
6. **Challenges for the New President:** Navigating economic recovery and securing legislative support in a divided parliament.

[What are AM, FM, and signal modulation?-The Hindu Text and Context](#)

Science and technology

Easy Explanation

AM (Amplitude Modulation), FM (Frequency Modulation), and PM (Phase Modulation) are techniques used to transmit information by altering the properties of waves—specifically amplitude, frequency, and phase. These modulation methods are essential for efficient and clear communication across various technologies, including radio, TV, and digital transmissions like Wi-Fi. AM adjusts the wave's amplitude to encode information, making it suitable for broader coverage but more susceptible to noise. FM modifies the wave's frequency, offering higher quality and resistance to interference but with limited range. PM changes the wave's phase, providing robust digital transmission that resists amplitude fluctuations. Signal modulation allows multiple signals to coexist in the same channel without interference, facilitating advanced communication systems.

Key Takeaways:

1. **Signal Modulation Basics:**
 - **AM (Amplitude Modulation):** Varies the wave's amplitude to encode information. Ideal for wide-area broadcasting but prone to noise and interference.
 - **FM (Frequency Modulation):** Alters the wave's frequency for higher sound quality and resistance to interference, though with a shorter transmission range.
 - **PM (Phase Modulation):** Changes the wave's phase, enhancing digital transmission by minimizing the impact of amplitude noise.
2. **Wave Properties:**
 - **Amplitude:** Determines the wave's height; higher amplitude means louder sound or brighter light.
 - **Frequency:** Measures the number of wave cycles per second (Hz); higher frequency allows for more data transmission.



| Clear your doubts now.



- **Wavelength:** The distance between successive crests or troughs, affecting transmission range and penetration.
3. **Analog vs. Digital Transmission:**
- **Analog Signals:** Continuous signals representing information through varying amplitudes and frequencies. Used in traditional AM/FM radio and TV broadcasts.
 - **Digital Signals:** Discrete signals using binary data (0s and 1s) for more robust and error-resistant communication. Preferred for modern technologies like Wi-Fi and digital broadcasting.
4. **Advantages of Modulation:**
- **Efficient Use of Spectrum:** Allows multiple signals to share the same channel without interference.
 - **Improved Signal Quality:** Enhances clarity and reduces noise, especially in FM and PM.
 - **Versatility:** Supports both analog and digital transmissions across various communication platforms.
5. **Applications of Modulation:**
- **Broadcasting:** AM and FM are widely used for radio and television broadcasts.
 - **Digital Communications:** PM is favored for digital transmissions like Wi-Fi due to its resistance to amplitude noise.
 - **Advanced Technologies:** Modulation techniques underpin the functionality of the internet and other modern communication systems.
6. **International Standards:**
- The International Telecommunication Union (ITU) allocates specific frequency bands for different services to minimize interference and optimize transmission efficiency.
7. **Future Trends:**
- A global shift from analog to digital broadcasting is underway, driven by declining electronic component costs and the demand for higher-quality, more reliable communication.

[New research rescues the dodo's reputation from confusion and myth-The Hindu Science](#)

Science

Easy Explanation

Researchers from the University of Southampton, Oxford University Museum of Natural History, and the Natural History Museum have reevaluated the infamous reputation of the dodo bird. Contrary to the long-held belief that dodos were slow and unintelligent, the study reveals that they were likely swift and thriving forest dwellers. By analyzing 400 years of research papers and the only existing soft tissue samples, the team discovered that the dodo belonged to the Columbidae family of pigeons and doves. The study attributes the dodo's extinction not to inherent stupidity but to human-induced factors such as habitat destruction and the introduction of predators like pigs, rats, and cats. This research not only corrects historical misconceptions but also provides valuable insights for current conservation efforts to protect bird species from extinction.



| Clear your doubts now.

Key Takeaways:

1. **Myth-Busting the Dodo:** The study challenges the stereotype of the dodo as a slow and dumb bird, suggesting instead that dodos were swift and well-adapted to their forest environments.
2. **Human Impact on Extinction:** The extinction of the dodo was primarily caused by human activities, including habitat destruction and the introduction of invasive species, rather than the bird's supposed lack of intelligence.
3. **Revised Taxonomy:** Researchers confirmed that the dodo belonged to the Columbidae family, closely related to pigeons and doves, through extensive review and analysis of existing specimens.
4. **Research Methodology:** The team utilized cutting-edge computer technology to piece together the dodo's lifestyle and evolutionary history by examining historical documents and soft tissue remains.
5. **Conservation Lessons:** Understanding the true causes of the dodo's extinction offers important lessons for current efforts to protect endangered bird species and prevent further biodiversity loss.
6. **Future Research Plans:** The researchers aim to collaborate internationally, including with scientists from Mauritius, to further investigate the dodo's extinction and apply these findings to modern conservation strategies.
7. **Cultural Impact:** The dodo's legacy as a symbol of extinction and human-caused environmental degradation is reinforced, emphasizing the need for responsible stewardship of natural resources.
8. **Call for Environmental Responsibility:** The study underscores the ongoing relevance of the dodo's extinction as a warning against neglecting environmental conservation and the impacts of human actions on vulnerable species.

17 Sep 2024

[Good rains,full reservoirs-Indian Express Explained](#)

Economy

Easy Explanation

India's reservoirs, except for those in North India, are filled close to capacity, reflecting a good water storage situation due to ample monsoon rains. As of September 12, the country's rainfall was 836.7 mm, an 8% surplus for the season. Reservoirs across most regions are in a better position compared to last year and the 10-year average. The total live storage available in 155 major reservoirs is 153.757 billion cubic meters (BCM), which is 85% of the total capacity. However, regions like Himachal Pradesh and Punjab have seen below-normal rainfall, impacting their storage levels. Major river basins are also reporting normal or above-normal water storage, ensuring a stable water supply for many regions.

Key Takeaways:

1. Overall reservoir storage is at 85% capacity, better than last year and the 10-year average.
2. North India, especially Himachal Pradesh and Punjab, faces below-normal rainfall, impacting water storage.
3. Other regions like the South, Central, and West India are seeing much better storage levels.



| Clear your doubts now.



4. Major river basins are reporting healthy water storage, further supporting the good water situation.

[MAKE ROOM FOR HER-Indian Express Editorial](#)

Sociology

Easy Explanation

India has seen a significant rise in the number of women entering the medical profession, with enrollment figures showing gender parity in recent years. Fields like cardiology, oncology, and neurology, which were traditionally male-dominated, are now seeing more women. Despite this progress, systemic challenges remain. Women still face sexism in medical institutions, lack essential facilities like changing rooms, and endure unsafe working environments. The growing presence of women in medicine highlights the need for reforms, including better security, workplace accommodations, and more women in leadership positions to address these issues effectively.

Key Takeaways:

1. Female enrollment in medical colleges has increased significantly, achieving near gender equality.
2. More women are entering previously male-dominated fields like cardiology and neurology.
3. Challenges persist, such as sexism, lack of basic facilities, and inadequate security.
4. The system needs to adapt by providing better protection and more leadership roles for women.

[Why is T.N.'s education funding on hold?-The Hindu Text and Context](#)

Sociology

Easy Explanation

Tamil Nadu (T.N.) has not received its allocated funds under the Union government's flagship education scheme, Samagra Shiksha, for the current year. The central government has linked the release of these funds to the state's full implementation of the National Education Policy (NEP) 2020, which includes the contentious three-language formula. T.N. opposes certain provisions of the NEP, particularly the three-language policy, due to historical and cultural reasons. The state traditionally follows a two-language formula, mandating the study of Tamil and English, with other languages offered as optional.

The impasse escalated when the Centre asked T.N. to sign a Memorandum of Understanding (MoU) for the PM Schools for Rising India (PM SHRI) scheme, which is designed to implement NEP 2020 in model schools. T.N. signed a modified MoU, omitting the clause on NEP implementation, which the Centre did not accept. This has led to a public exchange between the state and central governments, with T.N. accusing the Centre of infringing upon its constitutional autonomy in education by withholding funds unless it complies with the NEP.

Key Takeaways:



| Clear your doubts now.



1. **Funding Withheld:** Tamil Nadu has not received its Samagra Shiksha funds because it has not agreed to fully implement NEP 2020, as required by the Centre.
2. **Contentious NEP Provisions:** The state opposes specific elements of NEP 2020, especially the three-language formula and certain curricular changes.
3. **Three-Language Formula Issue:** T.N. prefers its long-standing two-language policy (Tamil and English) and rejects the inclusion of Hindi or any other language as mandatory.
4. **Autonomy in Education:** The state argues that linking fund disbursement to NEP compliance infringes upon its constitutional rights to autonomy in education.
5. **Public Dispute:** The disagreement has led to a public war of words between the Centre and T.N., highlighting ongoing tensions over educational policies and state rights.
6. **Historical Context:** T.N.'s resistance to the three-language formula is rooted in historical movements against the imposition of Hindi dating back to the pre-Independence era.
7. **Modified MoU Rejected:** The Centre did not accept T.N.'s modified MoU for the PM SHRI scheme that excluded the commitment to fully implement NEP 2020.
8. **Impact on Education Schemes:** The stalemate affects not only Samagra Shiksha funding but also the implementation of other educational initiatives in the state.

How do emergency provisions impact Centre-State relations? -The Hindu Text and Context

Polity

Easy Explanation

The violence in Manipur has sparked debates on Centre-State relations and the use of emergency provisions in India. While States are primarily responsible for law and order, Articles 355 and 356 of the Constitution allow the Centre to intervene under specific circumstances. Article 355 mandates the Union to protect States against external aggression and internal disturbances and ensure constitutional governance. Article 356 permits the imposition of President's Rule if a State government fails constitutionally.

Historically, Article 356 was misused to dismiss State governments, but the **S.R. Bommai case (1994)** limited its use, requiring a genuine constitutional breakdown and subjecting it to judicial review. Courts have expanded the scope of Article 355, allowing the Centre to take necessary actions without immediately resorting to Article 356. In Manipur's case, it's suggested that the Centre should act under Article 355 to restore normalcy while respecting the federal structure.

Key Takeaways

1. Federal Structure and Division of Powers:

- India operates under a federal system dividing powers between the Union (central government) and the States.
- States are primarily responsible for maintaining law and order, as specified in the Constitution's Seventh Schedule.

2. Article 355 - Centre's Duty to Protect States:



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- Article 355 mandates the Union government to protect States against external aggression and internal disturbances.
 - It obligates the Centre to ensure State governance aligns with the Constitution.
- 3. Article 356 - President's Rule and Its Misuse:**
- Article 356 allows the President to impose central rule (President's Rule) if a State's constitutional machinery fails.
 - Historically, it was misused to dismiss State governments for political reasons, undermining federalism.
 - The **S.R. Bommai case (1994)** curtailed this misuse, stating President's Rule should only follow a genuine constitutional breakdown and is subject to judicial review.
- 4. Expanded Scope of Article 355 by Judiciary:**
- Courts broadened Article 355, enabling the Centre to take necessary actions to protect States and ensure constitutional governance without immediately resorting to Article 356.
 - This includes providing assistance, issuing directives, and deploying central forces if needed.
- 5. Recommendations by Constitutional Commissions:**
- Bodies like the Sarkaria and Punchhi Commissions recommend using Article 356 sparingly and as a last resort.
 - They emphasize that the Centre should first utilize Article 355 to address State issues, promoting cooperative federalism.
- 6. Manipur's Unrest Highlights Centre-State Challenges:**
- The recent violence in Manipur underscores the complexities of Centre-State relations and emergency provisions.
 - Despite the severity, political considerations have prevented invoking Article 356.
 - It's suggested that the Centre should use its powers under Article 355 to assist Manipur while respecting the federal balance and State autonomy.

[What is the current status of the introduction of African cheetahs?-The Hindu text and Context](#)

Environment

Easy Explanation

Project Cheetah is India's ambitious initiative to reintroduce African cheetahs into its ecosystems with the dual goals of conserving the species and restoring savanna habitats. Despite these noble objectives, the project has faced significant setbacks since its inception. Challenges include prolonged captivity of the cheetahs beyond the planned timelines and multiple fatalities among both adult cheetahs and cubs. These issues have raised concerns about the project's long-term viability and execution. The Cheetah Action Plan (CAP) had outlined specific strategies and timelines for the release and acclimatization of the cheetahs, aiming for a self-sustaining population in Kuno National Park over the next few decades. However, factors such as adaptation difficulties, health issues, and management practices have impeded progress. Additionally, questions have emerged about whether India possesses sufficient suitable habitat to support a



| Clear your doubts now.



viable, free-ranging cheetah population. The project's success depends on overcoming these challenges through sustained commitment, scientific management, and community support.

Key Takeaways:

1. **Project Challenges:** Project Cheetah aims to conserve African cheetahs and restore ecosystems but faces significant hurdles, including cheetah fatalities and extended periods of captivity.
2. **Prolonged Captivity Concerns:** The cheetahs have remained in captivity longer than planned, which may hinder their ability to adapt to the wild, as extended confinement can affect their survival skills.
3. **Cheetah Fatalities:** Several cheetahs and cubs have died due to various factors like pre-existing health conditions, injuries, and adaptation issues, highlighting concerns about the project's management and execution.
4. **Habitat Suitability Questions:** Doubts exist about whether India has enough suitable habitat (estimated at 4,000 to 8,000 sq. km) to establish a sustainable, free-ranging cheetah population.
5. **Long-term Commitment Needed:** The project requires long-term financial, technical, and administrative support—at least 25 years as per the CAP—to achieve its conservation goals.
6. **Management and Oversight Importance:** Effective management by the expert committee, government bodies, and wildlife authorities is crucial for the project's success, emphasizing the need for adherence to scientific guidelines and best practices.
7. **Future Uncertainty:** The project's long-term success is uncertain and depends on addressing significant challenges related to habitat availability, cheetah adaptation, scientific management, and garnering community support.

[Environment takes centre stage as global summits loom-The Hindu science](#)

Environment

Easy Explanation

As global environmental challenges intensify, the United Nations is set to host four major environmental summits in the coming months to address critical issues such as biodiversity loss, climate change, desertification, and plastic pollution.

1. **Biodiversity COP16 in Cali, Colombia (October 21 - November 1):** This biennial Conference of the Parties will evaluate progress since the 2022 Montreal summit, where nations committed to protecting 30% of the planet by 2030. Countries will present their national strategies to achieve these biodiversity goals.
2. **Climate Change COP29 in Azerbaijan (November 11 - 22):** Hosted by an oil and gas-dependent nation, this pivotal climate summit aims to finalize a new agreement on climate finance. Key discussions will focus on securing substantial funding from developed nations to support developing countries vulnerable to climate impacts. The outcome may be influenced by the results of the upcoming US election.
3. **Desertification COP16 in Riyadh, Saudi Arabia (December 2 - 13):** This session will address the critical issue of land degradation and desertification caused by climate variations and human activities. Experts hope the conference will mark a significant turning point in combating the loss of fertile land.



| Clear your doubts now.



4. **Global Treaty on Plastic Pollution in South Korea (Starting November 25):** Nations will negotiate an international treaty to tackle plastic pollution affecting various ecosystems. Debates will center around whether to limit plastic production or enhance recycling and waste management practices.

Key Takeaways:

1. **Heightened Global Commitment:** Upcoming UN summits reflect an increased global dedication to addressing urgent environmental issues through international cooperation and policy initiatives.
2. **Biodiversity Conservation Goals:** The COP16 in Cali will focus on assessing progress towards the 30% protection target set in 2022, requiring robust national strategies to prevent biodiversity loss and restore ecosystems.
3. **Climate Finance Negotiations:** COP29 in Azerbaijan will prioritize securing substantial financial support from developed nations to aid developing countries in adapting to climate change, with outcomes potentially influenced by geopolitical events like the US election.
4. **Urgency in Combating Desertification:** The Riyadh COP16 aims to tackle land degradation and desertification, emphasizing the need for sustainable land management practices to protect food security and livelihoods.
5. **Global Action on Plastic Pollution:** The treaty negotiations in South Korea seek to establish a coordinated international response to plastic waste, balancing efforts to reduce production with improvements in recycling and waste management.
6. **Influence of Geopolitical Factors:** Political developments, such as elections in major countries, may significantly impact the negotiations and outcomes of these environmental summits, shaping global environmental policies and commitments.

[How quantum computing can make large language models even better-The Hindu Science](#)

Science and technology

Easy Explanation

Quantum computing offers promising solutions to enhance large language models (LLMs) by addressing their current limitations. Traditional LLMs, while powerful in tasks like text classification and translation, face significant challenges such as high energy consumption, factual inaccuracies (hallucinations), and difficulties in understanding syntactic structures. Quantum Natural Language Processing (QNLP) and Quantum Generative Models (QGen) leverage quantum phenomena like superposition and entanglement to make LLMs more efficient and accurate. These quantum approaches aim to reduce the carbon footprint, minimize hallucinations, improve syntactic comprehension, and handle both stationary and nonstationary data more effectively. Recent advancements, including successful implementations of QGen in time-series forecasting, highlight the potential of quantum computing to revolutionize AI by making it more sustainable and performant.

Key Takeaways:



| Clear your doubts now.



1. **Energy Efficiency:**

- Quantum Natural Language Processing (QNLP) can significantly lower the energy consumption of LLMs by using fewer parameters to achieve comparable results, making AI models more sustainable.

2. **Reduction of Hallucinations:**

- QNLP enhances the accuracy of LLMs by better distinguishing contextual information, thereby reducing the occurrence of factually incorrect or nonsensical outputs.

3. **Improved Syntactic Understanding:**

- Quantum computing enables LLMs to better grasp the structural arrangement of language, improving their ability to generate contextually appropriate and grammatically correct text.

4. **Handling Complex Data:**

- Quantum Generative Models (QGen) excel in processing both stationary and nonstationary time-series data, offering superior pattern recognition and forecasting capabilities compared to classical models.

5. **Lower Carbon Footprint:**

- By leveraging quantum phenomena, QNLP and QGen reduce the computational resources required for training and inference, thereby decreasing the overall carbon emissions associated with LLMs.

6. **Enhanced Efficiency and Performance:**

- Quantum models require fewer computational resources and parameters, enabling more sophisticated and efficient AI systems without compromising performance.

7. **Future Prospects:**

- Continued advancements in quantum computing and its integration with AI promise to unlock new levels of efficiency, accuracy, and sustainability in large language models, paving the way for more intelligent and environmentally friendly AI applications.

8. **Research and Development:**

- Ongoing research, such as the successful implementation of QGen in Japan for time-series forecasting, demonstrates the practical viability and benefits of quantum-enhanced AI models.

By integrating quantum computing into AI development, particularly in natural language processing and generative modeling, the future of LLMs looks towards being more efficient, accurate, and sustainable.

[Clarity of vision-The Hindu Editorial](#)

Science

Easy Explanation

The article addresses the issue of unsubstantiated and exaggerated claims in the medical field, focusing on a recent incident involving ENTOD Pharmaceuticals. The company promoted its eye drops, PresVu, claiming they could eliminate the need for reading glasses in individuals with presbyopia—a progressive loss of near focusing ability due to aging. These claims were not authorized by the Central Drugs Standard Control Organisation (CDSCO), leading to the suspension of the company's permission to manufacture and market



| Clear your doubts now.

the product. ENTOD Pharmaceuticals blamed media reports and public perception for the escalation, despite having made promotional statements themselves.

The key ingredient in PresVu is pilocarpine, a substance long used in ophthalmology for conditions like glaucoma and presbyopia. While pilocarpine-based eye drops have been approved by the U.S. FDA in 2021 and 2023 for presbyopia, these approvals were accompanied by measured claims and disclosures about side effects. The CDSCO's intervention reinforces the Drugs and Magic Remedies (Objectionable Advertisements) Act, highlighting the government's duty to rely on scientific data and curb unsubstantiated medical claims to protect public interest.

Key Takeaways

1. Exaggerated Medical Claims Persist:

- The health sector continues to grapple with companies making unsubstantiated and exaggerated claims about medical products, which can mislead the public and compromise patient safety.

2. Regulatory Action by CDSCO:

- The Central Drugs Standard Control Organisation suspended ENTOD Pharmaceuticals' license to manufacture and market PresVu due to unauthorized claims about its efficacy in eliminating the need for reading glasses.

3. Company Accountability:

- Despite blaming media reports, ENTOD Pharmaceuticals contributed to misinformation by publicly promoting unverified claims about their product, including tagging government officials in promotional posts.

4. Importance of Scientific Evidence:

- Medications should be promoted based on robust scientific data, including transparent communication about benefits and potential side effects, to ensure informed decision-making by consumers.

5. Reinforcement of Regulatory Laws:

- The CDSCO's action underscores the importance of the Drugs and Magic Remedies (Objectionable Advertisements) Act in preventing misleading advertisements and protecting consumers from false claims.

6. Government's Duty to Protect Public Interest:

- It is imperative for government agencies to enforce regulations that ensure all medical claims are substantiated by scientific evidence, maintaining public trust and safeguarding health outcomes.

7. Measured Communication in Medical Approvals:

- Approvals of medical products, such as pilocarpine-based eye drops by international bodies like the U.S. FDA, are typically accompanied by cautious and balanced communication, highlighting both advantages and risks.

8. Combating Misinformation in Healthcare:

- The incident highlights the need for vigilance against the spread of misinformation in healthcare and the responsibility of both regulatory bodies and companies to provide accurate information.



18th September 2024

[Rapa Nui genomes restore the real history of an old, troubled people: TH Science](#)

Science tech

Easy Explanation

The **volcanic island of Rapa Nui**, also known as **Easter Island**, is one of the most remote places on Earth. Early **Polynesian explorers** are believed to have settled there centuries before European sailors first arrived in **1722**. The island's geography is tough, with limited freshwater, poor soil, and few plants and animals, making survival challenging.

Despite these challenges, the first humans on Rapa Nui established a unique society, symbolized by the island's famous **moai statues**, which are large stone figures representing ancestors. However, it was widely believed that the island's population grew too large, leading to an **ecological collapse**. This theory, made famous by Jared Diamond's book **Collapse**, suggested that the people of Rapa Nui overused the island's resources, causing their society to fall apart.

New evidence, though, suggests this idea might not be true.

A New Perspective

Research has shown that the island's population **declined** before Europeans arrived, but not because of environmental destruction. Instead, the people likely adapted to the harsh conditions through methods like **rock gardening** (using rocks to protect soil moisture) and **burning palm vegetation** to improve soil quality. Their agriculture was limited, but they managed to survive.

Recent studies using **AI models** have also found that **rock gardening** was less widespread than previously thought, meaning the population might have been smaller—around **4,000 people**.

Genetic research adds to this new perspective. In **2014**, scientists found that the **Rapa Nui people** had some **Native American ancestry**, indicating they had contact with people from South America long before Europeans arrived. However, after European colonization, the island's population was decimated by two major events: **slave traders** took many Rapa Nui people, and a **smallpox outbreak** further reduced the population to just around **100 people**.

Restoring History

Instead of collapsing due to **resource overuse**, the **Rapa Nui** people likely managed their island's resources responsibly. It was the arrival of **outsiders** and the diseases they brought that caused the population to fall dramatically. Studying the **genomes** of Indigenous peoples like the Rapa Nui helps correct these kinds of **misunderstandings** and gives a more accurate account of their history.

Key Takeaways:



| Clear your doubts now.



1. **Rapa Nui (Easter Island)** was settled by Polynesians long before Europeans arrived in **1722**.
2. The famous **moai statues** were built between the 13th and 16th centuries, representing ancestors.
3. **Previous theories** claimed the population collapsed due to **overuse of resources**, but new research suggests the society managed its resources well.
4. Genetic evidence shows the population declined due to **slave trade** and **smallpox**, not environmental destruction.
5. Studying **Indigenous genomes** helps restore accurate historical accounts of ancient societies.

[The continuing distribution of the death penalty: TH Editorial](#)

Polity

Easy Explanation

In India, the **death penalty** continues to be a major topic of discussion, especially with new laws like the **Aparajita Woman and Child (West Bengal Criminal Laws Amendment) Bill, 2024**. This bill proposes introducing the death penalty for crimes like **rape** following a brutal case of rape and murder in Kolkata. The bill has been passed in the West Bengal Assembly, but the final decision will be made by the **President of India**.

India, however, has one of the **highest numbers of death sentences** globally. In 2023, there were 120 death sentences, with more than 500 prisoners on death row. The use of the death penalty for crimes, especially sexual offenses like rape, is seen by some as a way to **reduce crime**. Yet, experts argue that the **death penalty doesn't actually prevent crimes**, including sexual violence. Instead, focusing on improving women's safety and dealing with **deep-rooted social issues** is needed.

The **Justice Verma Committee** already recommended that the death penalty **is not a deterrent** for crimes like rape, but the **Union Cabinet** didn't adopt these recommendations. Some believe that **abolishing the death penalty** and focusing on **reforming the police, prosecution, and judicial system** will be a better way to handle crimes like sexual violence.

Additionally, society needs to work on **supporting survivors** of rape with resources like **education, healthcare, and employment opportunities**. Legal reforms should also focus on addressing **deep-seated patriarchal and caste-based systems**, ensuring real justice for marginalized communities.

Key Takeaways

- **The Aparajita Bill:** Introduced by West Bengal in response to a brutal rape and murder, it proposes the **death penalty for rape** but awaits approval from the **President of India**.
- **Death Penalty in India:** India still retains the death penalty, with over **500 prisoners on death row** as of 2023. Many experts argue that the death penalty **does not act as a deterrent** for crimes, especially rape.
- **Global Perspective:** Countries around the world are increasingly **abolishing the death penalty**. India is one of the countries that still holds on to it, along with Afghanistan, Bangladesh, and Pakistan.



| Clear your doubts now.

- **Justice Verma Committee:** Recommended that the **death penalty does not prevent sexual violence**, but these suggestions were **ignored by the government**.
- **Public Anger and Cultural Responses:** Cases of sexual violence often provoke public outrage, leading to **calls for the death penalty**, but this "**othering**" of the perpetrators ignores the **larger societal issues** that contribute to these crimes.
- **Social Justice and Support for Survivors:** Legal reforms need to focus on addressing **deep-rooted social inequalities** in terms of caste, class, and gender, providing **support and resources** for rape survivors, including education and employment.
- **Abolitionist Feminism:** Advocates for ending the death penalty and focusing on **reforming the entire justice system** to create a safer environment for women and children, while addressing **structural inequalities**.
- **Broader Legal and Social Reforms:** There is a need for **victim-centered** legal reforms, breaking the link between **family honor and sexual violence**, and implementing **evidence-based policymaking**.
- **Education and Awareness:** Public and judicial awareness campaigns are necessary to debunk the myth that **the death penalty reduces violence against women and children**, and to work towards **gender equality** in both private and public spaces.

[Demographic advantage, Indian economy's sweet spot: TH Editorial](#)

Economy

Easy Explanation

India's economic rise has been impressive, driven by a young population and rapid growth. However, there are challenges, such as low participation in the workforce, especially in industries like manufacturing. **India's labor force participation rate was 55.2% in 2022**, and growth is primarily being driven by the **services sector** rather than industries that create more jobs. To fully benefit from its **demographic dividend** (having a young working-age population), India needs to continue **economic reforms**.

The **reform agenda** should focus on improving ease of doing business and creating jobs, particularly in **labor-intensive sectors**. Currently, many businesses find it hard to grow due to outdated **labor laws**, which should be modernized. Small and medium businesses, which create many jobs, need support to expand. **Skilling programs** are also essential to equip the workforce with the necessary skills, especially since only **4.4% of young workers** in India are formally skilled.

Additionally, advancements in **artificial intelligence (AI)** and **machine learning (ML)** will bring changes to the job market. While some low-skill jobs may disappear, new opportunities will also emerge in these technologies, and India needs to be prepared.

India's **young and growing population** is an advantage that should be leveraged to create opportunities, with reforms, education, and training programs playing a key role in shaping the future workforce.

Key Takeaways



| Clear your doubts now.



- **India's Economic Growth:** India is one of the **fastest-growing economies** but faces the challenge of **low labor force participation**, particularly in the **manufacturing sector**.
- **Reforms for Job Creation:** There is a need to continue with **economic reforms**, especially by updating **labor laws** and supporting the **manufacturing sector** to create more jobs.
- **Small and Medium Enterprises (SMEs):** These businesses are key to job creation but face challenges due to **compliance burdens** and **outdated labor laws**. Modernizing these laws will help them grow.
- **Importance of Skilling:** With only **4.4%** of young workers formally skilled, there is a **skills shortage**. Public-private partnerships can help develop effective training programs, and **lifelong learning** should be prioritized.
- **Impact of AI and Machine Learning:** AI/ML will change the job market, and while some repetitive jobs may be at risk, there are significant opportunities in these sectors, which India must harness.
- **Holistic Approach:** India must take a **holistic approach** by combining reforms, education, and training to **create a strong talent pool** and make the most of its **demographic dividend**.

[Power asymmetry between China and Russia: TH Text&Context](#)

International Relations

Easy Explanation

The Russian invasion of Ukraine in 2022 caused a major change in global politics, with Russia becoming more closely aligned with China. Many countries, including India, are concerned about this new partnership, especially since China is considered India's main rival. People are wondering if Russia has become the "junior partner" in this relationship, meaning it would have less independence in choosing between China and India.

Russia and China both have issues with the global financial system, which is controlled by Western countries like the United States. After Russia invaded Ukraine, Western nations froze a large portion of Russia's financial reserves and cut off some of its banks from the global SWIFT financial system. China fears a similar situation if tensions with the West escalate, as a large part of its financial reserves is tied to the U.S. system. Both countries have tried to move away from using the U.S. dollar in their trade, but haven't had much success yet.

Russia is becoming increasingly dependent on China, especially economically. While Russia's trade with China is crucial for its economy, China's trade with Russia is much smaller in comparison. Russia heavily relies on energy exports to China, which make up a significant part of its economy. In contrast, China exports a wider range of goods to Russia. Russia has also become dependent on China for essential goods needed for manufacturing weapons, especially due to sanctions from the West.

For India, this close relationship between Russia and China could pose challenges. While India has a long history of strong relations with Russia, the increasing strategic and economic ties between Russia and China might limit Moscow's ability to support India in any conflict with China.

Key Takeaways



| Clear your doubts now.



- **Global Political Shift:** The Russian invasion of Ukraine in 2022 pushed Russia closer to China, raising concerns globally, including in India, about the implications of this partnership.
- **Shared Grievances Against U.S.-Led Financial System:** Both Russia and China want to challenge the dominance of the U.S. dollar and SWIFT financial system but have had limited success in creating alternatives.
- **Economic Dependence:** Russia is becoming increasingly dependent on China, especially for energy exports and critical goods for weapons manufacturing. China is now Russia's most important trade partner.
- **Asymmetry in Trade:** While Russia relies heavily on trade with China, particularly in energy, China's trade with Russia is a much smaller part of its overall economy, making the relationship imbalanced.
- **Implications for India:** Russia's growing alignment with China could affect its relations with India, raising concerns about Moscow's ability to act independently in its dealings with New Delhi, especially if there's a conflict involving China.

[Reaping the silver dividend: IE Editorial](#)

Sociology

Easy Explanation

The Indian government recently announced an extension to the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), which will provide an additional ₹5 lakh of health insurance coverage for people over the age of 70. While this is a positive move, it is not enough to address all the healthcare challenges faced by older adults in India. The government claims that this scheme will help 4.5 crore families, but estimates show that the allocated budget is far less than what is required for full coverage.

India's population is aging quickly, and many older adults suffer from non-communicable diseases (NCDs) such as diabetes and heart disease, requiring long-term care. However, public healthcare for the elderly is limited, and most older people do not have health insurance. Many households face financial hardship when paying for healthcare, especially as out-of-pocket expenses for elderly care are much higher than for younger people.

The scheme currently only covers hospital care, but many older adults need ongoing outpatient care, which is crucial for managing chronic conditions. Without better primary healthcare and preventive care services, India's healthcare system will continue to struggle. Additionally, the government needs to increase public healthcare spending, improve infrastructure, and ensure better access to medicines and healthcare workers.

Ultimately, while the extension of AB-PMJAY helps to reduce catastrophic healthcare spending, it is not enough to ensure the well-being of India's growing elderly population. The government must promote healthy aging through comprehensive healthcare reforms, focusing on preventive care and long-term support for older adults.

Key Takeaways



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- **AB-PMJAY Extension:** The government extended the health insurance scheme with a ₹5 lakh top-up for people over 70. This will help 4.5 crore families but is not enough to fully address healthcare needs.
- **Aging Population:** India is aging rapidly, and many older adults suffer from non-communicable diseases (NCDs) that require long-term care.
- **Inadequate Funding:** The allocated budget for the scheme is much less than what is needed for full implementation.
- **Out-of-Pocket Expenses:** Elderly care is costly, and many households face financial hardship due to healthcare expenses.
- **Healthcare Infrastructure:** The scheme only covers hospital care, but many elderly people need outpatient services and ongoing care for chronic conditions, which the scheme doesn't address.
- **Need for Comprehensive Reforms:** India needs to increase public healthcare spending, improve infrastructure, and ensure better access to medicines and healthcare workers to meet the needs of its aging population.
- **Promoting Healthy Aging:** The government must focus on preventive care and long-term healthcare reforms to promote healthy and active aging.

[Nature of J&K Assembly: IE Explained](#)

Polity

Easy Explanation:

The Jammu and Kashmir Assembly election will be different from past ones because of the constitutional changes made in 2019 when Article 370 was revoked. These changes took away the statehood of Jammu and Kashmir, turning it into a Union Territory (UT). The upcoming Assembly will have less power compared to earlier Assemblies, as the UT is governed by the Lieutenant Governor (LG), who has more control over key matters like public order, police, the bureaucracy, and the anti-corruption bureau.

Jammu and Kashmir's Assembly can pass laws, but only on certain subjects, excluding critical areas like public order and police. Additionally, any bill that involves financial matters must have the LG's recommendation, limiting the Assembly's powers further. These arrangements mean the new Assembly will have more restricted powers compared to full-fledged state Assemblies.

Key Takeaways:

- **Assembly Powers:** The new Jammu and Kashmir Assembly will legislate mainly on state subjects but not on key areas like public order and police.
- **Role of the LG:** The LG has significant power, including control over public order, police, bureaucracy, and anti-corruption matters.
- **Restricted Financial Authority:** Any financial bill or law that creates financial obligations must have the LG's approval.



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- **Comparison with Delhi and Puducherry:** Like Delhi and Puducherry, Jammu and Kashmir's Assembly has limited powers, but the LG's control in J&K is stronger, similar to Delhi's governance model.
- **2019 Reorganization Act:** The Act changed Jammu and Kashmir's status from a state to a UT with limited legislative powers and enhanced LG authority.

[Exploding pagers in Lebanon: Supply chain tampering prime suspect: IE Explained](#)

Science Tech

Easy Explanation:

In 1996, an Israeli security agency, Shin Bet, killed Hamas bombmaker Yahya Ayyash by remotely detonating explosives in his cellphone. Recently, a similar attack occurred when hundreds of pagers exploded in Lebanon and Syria, primarily affecting members of the Hezbollah group. These explosions injured 2,750 people and killed eight. Although the exact cause of the pager explosions is still unclear, experts believe Israel may have infiltrated the supply chain and lined the pagers with explosives, remotely detonating them. The attack is seen as part of ongoing tensions between Israel and Hezbollah, with speculation that it was in response to an alleged assassination attempt on a former Israeli defense official. Israel and Hezbollah have a long history of conflict, with the last open war between them occurring in 2006.

Key Takeaways:

- **Explosions of Pagers:** Hundreds of pagers exploded in Lebanon and Syria, injuring 2,750 people and killing eight, primarily affecting Hezbollah members.
- **Israel Suspected:** Israel, known for its history of remote, targeted attacks, is suspected of orchestrating the explosion by infiltrating the pager supply chain.
- **Method:** Experts believe the pagers were lined with explosives, possibly activated through an electronic signal or programmed to explode after beeping for a few seconds.
- **Ongoing Conflict:** The attack is seen as part of the continuing conflict between Israel and Hezbollah, with Israel considering intensifying its military campaign against the group.
- **History of Conflict:** Israel has viewed Hezbollah as a major threat and has fought several wars with the group, with the last major conflict occurring in 2006.

19th September 2024

[Superfast lasers open shortcut to hard drives of the future: TH Science](#)

Science

Easy Explanation:

Imagine you're watching a thrilling cricket match, and suddenly a Mexican wave starts in the stands, where people stand up and sit down in sequence. This creates a ripple effect that moves through the crowd. Now



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think of something similar happening in the world of physics, but instead of people, tiny particles inside materials—called electrons—are involved, and instead of standing and sitting, they change their internal property known as "spin." This movement of spin is called a "spin current," and scientists believe it could be the future of computer technology.

Every electron has a spin, which can be thought of like an arrow pointing either up or down. By controlling the spins of electrons in materials, we could store and process data much faster than we do today. Currently, computers store data in hard drives that rely on magnetic properties, but future drives using spin currents could be way more efficient, faster, and use less energy.

Researchers have recently made a major breakthrough by showing how to create these spin currents incredibly quickly. They used special lasers and materials, like cobalt and platinum, and managed to produce spin currents in just two femtoseconds (which is an unimaginably short period of time—one femtosecond is a millionth of a billionth of a second). This speed is essential for future technology because it means data could be processed at lightning-fast rates.

The scientists achieved this by shooting very brief pulses of light at the material, causing the electrons to temporarily switch their spin states. By carefully observing how the material reacted, they proved that it's possible to make spin currents happen incredibly fast.

This discovery is exciting because it's like finding a new way to build the computers of tomorrow. In the future, this could mean better, faster devices with more storage that use less power. The next steps for the scientists will be testing whether these spin currents can be produced in actual devices, and if it's possible to make them even faster.

Key Takeaways:

- **What is Spin Current?:** Spin currents involve the transfer of electron spin states (up or down) through a material, similar to a wave in a stadium. This could be key for future data storage in computers.
- **Why It Matters:** Spintronics, the study of electron spins, could lead to faster, more efficient data storage devices that consume less energy, revolutionizing computer hard drives.
- **The Breakthrough:** Scientists recently demonstrated the creation of spin currents in just two femtoseconds using lasers and materials like cobalt and platinum, setting a new speed record.
- **Next Steps:** Researchers will now test if this method can be applied to real-world devices and whether spin currents can be created even faster, potentially transforming computing technology.

[GPT-4 can help break the hold of conspiracy theories: TH Science](#)

Science

Easy Explanation:

Conspiracy theories can have a huge impact on important events, such as the U.S. presidential elections. For example, after Donald Trump lost the 2020 election, many of his supporters believed a conspiracy theory



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that the election was “stolen,” leading to a violent attack on the U.S. Capitol in 2021. Researchers are now exploring how artificial intelligence (AI) chatbots can help people rethink these kinds of beliefs.

In a new study, researchers wanted to find out if AI chatbots could convince people to give up conspiracy theories they believed in. They gathered 2,190 people in the U.S., asked them about a conspiracy theory they believed, and then had AI chatbots (similar to GPT-4) talk to them. The chatbots were programmed to present strong evidence against these beliefs and engage in personalized conversations with the participants. The idea was that just giving people facts wasn’t enough; instead, the chatbots would interact in a deeper, more personalized way.

After three rounds of conversation, the researchers saw a 20% reduction in how strongly the participants believed in their conspiracy theories. This change in belief lasted for at least two months. Interestingly, debunking one conspiracy theory also made participants less likely to believe in other conspiracies. The study shows that people who believe in conspiracy theories can change their minds if they are presented with the right evidence in the right way.

This research also highlights the power of AI tools like chatbots to do good, showing that they can help people think critically and make informed decisions.

Key Takeaways:

- **Impact of Conspiracy Theories:** Conspiracy theories can lead to real-world consequences, such as the January 2021 Capitol Hill insurrection.
- **Research Goal:** The study tested whether AI chatbots could help people rethink and let go of conspiracy beliefs.
- **Study Details:** Researchers used AI chatbots based on GPT-4, having them engage with participants who believed in conspiracy theories. The chatbots provided evidence and personalized arguments.
- **Results:** After three conversations, participants showed a 20% drop in belief in conspiracy theories, with the effect lasting for two months.
- **Positive Impact of AI:** The study suggests AI chatbots can effectively challenge conspiracy theories and have the potential to promote more informed thinking.

[In Wilmington, juxtaposing immediacy with legacy: TH Editorial](#)

International Relations

Easy Explanation:

The leaders of the Quad nations (Australia, India, Japan, and the United States) are meeting in Wilmington, U.S., for their fourth summit. This group of countries is working together to address global issues like security, technology, climate change, and maritime laws, with a strong focus on the Indo-Pacific region. The meeting is important because both U.S. President Joe Biden and Japan’s Prime Minister Fumio Kishida are



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dealing with leadership transitions, so they want to finalize important decisions before any new leadership changes happen.

One of the main goals of the summit is to improve maritime security, especially in the Indian Ocean region. They are looking to strengthen the laws that govern how countries behave in the ocean to ensure everyone follows international rules. India will play a key role by sharing real-time information with other Quad nations to keep the seas safe and free.

The Quad is not only focused on security but also on other critical issues such as climate change, technology, and helping countries during disasters. They will also review progress on projects like providing solar energy to Pacific Islands and developing better technology networks. This summit is crucial because of rising security threats in the Indo-Pacific region, especially due to China's aggressive actions and global conflicts like the Russia-Ukraine war. By working together, the Quad aims to create a stable, peaceful, and economically resilient Indo-Pacific.

Key Takeaways:

- **Quad Leaders' Summit:** The fourth summit involves leaders from Australia, India, Japan, and the U.S., focusing on key global challenges.
- **Maritime Security:** A major focus is improving maritime laws and security in the Indo-Pacific, especially in the Indian Ocean, with India playing a significant role.
- **Wide-Ranging Issues:** The Quad is working on various topics including climate change, technology, disaster relief, and infrastructure improvements.
- **Indo-Pacific Challenges:** The region faces security threats from China and global conflicts, making cooperation among the Quad countries vital for peace and economic stability.
- **Long-Term Goals:** The summit is a step toward broader global cooperation, setting the stage for future initiatives on sustainable development and security.

[Fast-track courts: Justice on the clock: TH Opinion](#)

Polity

Easy Explanation:

Fast-track courts in India were set up to handle serious crimes like sexual offenses and crimes against women and children. Their purpose was to speed up the delivery of justice and reduce the huge backlog of cases in the judicial system. While the number of fast-track courts increased between 2018 and 2020, the progress has slowed since then. In 2023, the number of functioning courts actually dropped, showing that many states are struggling to keep these courts running due to a lack of financial and administrative resources.

Some states, like Uttar Pradesh, Maharashtra, and Tamil Nadu, have kept many of their fast-track courts operational, while others, like Odisha, Kerala, and Telangana, are facing difficulties. This uneven distribution reflects differences in resources and priorities between states.



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Even where these courts are functional, they are overwhelmed by the large number of cases, leading to delays in justice. Also, many fast-track courts only handle sexual offenses, which limits their ability to reduce the burden on regular courts.

To make these courts more effective, states need to provide better resources and invest in technology. Digital tools like case management systems and video conferencing can help reduce delays and improve efficiency. Fast-track courts have the potential to deliver justice more quickly, but they need proper support to do so.

Key Takeaways:

- **Purpose of Fast-Track Courts:** They were created to handle serious crimes and reduce delays in delivering justice.
- **Growth and Challenges:** The number of fast-track courts increased until 2020 but has since declined due to financial and administrative struggles.
- **State Differences:** Some states have maintained many courts, while others struggle due to limited resources and priorities.
- **Overburdened Courts:** Even functional courts are overwhelmed by the number of cases, leading to delays in justice.
- **Need for Expansion:** Fast-track courts mostly handle sexual offenses but should cover other high-pendency cases to reduce the overall burden.
- **Technology Solutions:** States should use technology like e-filing and video conferencing to improve efficiency.
- **Path Forward:** With better resources and support, fast-track courts can help ensure faster delivery of justice.

[Can Sheikh Hasina be extradited?: TH Text&Context](#)

International Relations

Easy Explanation:

Bangladesh's International Crimes Tribunal (ICT) plans to seek the extradition of former Prime Minister Sheikh Hasina from India. She left Bangladesh in August after a mass uprising and sought refuge in India. Since her departure, multiple criminal charges have been filed against her, including murder, abduction, and crimes against humanity. Bangladesh hopes to bring her back through an existing extradition treaty with India.

The extradition treaty between India and Bangladesh, signed in 2013, allows both countries to exchange fugitives charged with crimes punishable by at least one year of imprisonment. The treaty was amended in 2016, making it easier for countries to extradite individuals. This amendment removed the need for concrete evidence, meaning that an arrest warrant is enough to start the process. This makes it easier for Bangladesh to request Hasina's extradition, as the charges against her are serious enough and also considered crimes in India.



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However, there are exceptions to extradition. If the crime is deemed political in nature, India could refuse. Crimes like murder and kidnapping don't fall under this political exception, so India may not be able to use this reason to refuse. Another reason for refusal could be if India believes the charges were not made in good faith or if there's a risk that Hasina won't receive a fair trial in Bangladesh.

Ultimately, even though the treaty sets guidelines for extradition, the decision to send Hasina back will depend on diplomatic discussions and political considerations between the two countries. Experts say that even if India refuses to extradite her, it probably won't harm the strong relationship between India and Bangladesh, which continues to collaborate on important economic and development projects.

Key Takeaways:

- **Extradition Request for Sheikh Hasina:** Bangladesh's International Crimes Tribunal is seeking the extradition of Sheikh Hasina, who took refuge in India.
- **Criminal Charges:** Hasina faces multiple charges, including murder and crimes against humanity.
- **India-Bangladesh Extradition Treaty:** A 2013 treaty between the two countries allows for the extradition of fugitives with crimes punishable by at least one year's imprisonment.
- **Easier Extradition Process:** A 2016 amendment to the treaty removed the need for concrete evidence, simplifying the process.
- **Possible Refusal Grounds:** Extradition can be refused if the crime is political, but murder and other serious charges don't fall under this category.
- **Diplomatic Considerations:** The final decision on extradition will depend on diplomatic negotiations, and a refusal by India is unlikely to harm the strong bilateral relationship.

[TWO YEARS OF CHEETAH: IE Editorial](#)

EVS

Easy Explanation:

Two years after cheetahs were reintroduced to India in Kuno National Park, there are now 24 cheetahs in the country. These cheetahs were brought from Africa to revive the species, which had been declared extinct in India in the 1950s. However, the project, called Project Cheetah, is still in its early stages, and there have been some challenges and setbacks that need to be addressed before it can be considered a success.

Currently, all the cheetahs, both the ones brought from Africa and their offspring, are living in enclosures to help them adjust to the environment. Since cheetahs are natural predators that thrive in the wild, their true survival test will come when they are released into the wild. The goal is to create a self-sustaining population that doesn't rely on human protection.

There have been some unfortunate incidents, such as the death of Pawan, a seven-year-old cheetah, who drowned under mysterious circumstances in August. This was the eighth adult cheetah to die since the project began. This has raised concerns and criticism about breeding African cheetahs in India, which originally had Asiatic cheetahs.



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Questions have been raised about the lack of transparency in the project, especially after the sudden disbandment of a team that was supposed to investigate Pawan's death. There have also been complaints about the changing goals of Project Cheetah, which initially aimed to establish a wild breeding population of cheetahs in Kuno but has since shifted focus to "managing" a population through assisted dispersal.

Experts have pointed out that the authorities haven't always listened to advice from scientists, particularly those from South Africa and Namibia who helped with the cheetah translocation. The forest department has also struggled to handle the unique needs of these African animals. As the project expands to Gandhi Sagar Sanctuary, the authorities will need to address these issues and ensure better management to make the project a success.

Key Takeaways:

- **Cheetah Reintroduction in India:** Two years after the reintroduction of cheetahs, there are now 24 of them in Kuno National Park, but the project is still in its early stages.
- **Challenges with Adaptation:** All cheetahs are currently in enclosures to help them adjust. A key goal is to release them into the wild and create a self-sustaining population.
- **Setbacks:** The death of Pawan, the eighth adult cheetah to die, has raised concerns about the project's management and the suitability of introducing African cheetahs instead of the native Asiatic cheetahs.
- **Lack of Transparency:** The sudden disbandment of an investigation team looking into Pawan's death has fueled criticism of the project's lack of openness.
- **Changing Goals:** The original goal of establishing a wild breeding population has shifted to managing the cheetahs through assisted dispersal.
- **Expert Opinion Ignored:** The NTCA has been criticized for not considering advice from South African and Namibian scientists, as well as for the forest department's lack of preparedness to handle the cheetahs' needs.
- **Next Steps:** Project Cheetah plans to expand to Gandhi Sagar Sanctuary, and the NTCA must address these issues to ensure the project's future success.

[Why India wants 'review & modification' of Indus Waters Treaty: IE Explained](#)

International Relations

Easy Explanation:

India has sent another notice to Pakistan, seeking a "review and modification" of the Indus Waters Treaty (IWT), signaling a potential desire to renegotiate the 64-year-old agreement. The treaty, signed in 1960 between India and Pakistan, governs the use of water from the Indus River and its tributaries. The treaty gives India control over the eastern rivers (Beas, Ravi, and Sutlej), while Pakistan controls the western rivers (Indus, Chenab, and Jhelum).

India wants to renegotiate the treaty due to several concerns, including changes in population, environmental challenges, the need for clean energy, and ongoing cross-border terrorism. Additionally, disagreements between India and Pakistan over hydropower projects in Jammu & Kashmir have created further tensions.



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Pakistan has raised objections to two Indian hydropower projects—Kishanganga and Ratle—claiming they violate the IWT.

In 2023, India had sent a previous notice due to Pakistan's refusal to cooperate in resolving the disputes over these projects through the treaty's dispute resolution process. Pakistan initially requested a neutral expert to examine the projects but later pushed for a decision by the Permanent Court of Arbitration (PCA). India refused to participate in the PCA process, arguing that it violated the treaty's provisions. The World Bank had attempted to mediate but was unable to resolve the issue.

India's decision to send a second notice in September 2023 comes after multiple meetings between the two countries and their representatives. India has maintained its stance that the PCA's involvement is not consistent with the treaty, while Pakistan continues to push for arbitration on the disputed projects.

Key Takeaways:

1. **Indus Waters Treaty (IWT):** Signed in 1960, the treaty governs water use between India and Pakistan, giving India control over the eastern rivers and Pakistan over the western rivers.
2. **India's Call for Renegotiation:** India sent a notice to Pakistan, seeking a "review and modification" of the IWT due to concerns like population changes, environmental issues, and the need for clean energy.
3. **Hydropower Dispute:** The two countries are in disagreement over India's hydropower projects—Kishanganga and Ratle—in Jammu & Kashmir. Pakistan claims they violate the IWT, while India insists they are legal under the treaty.
4. **Dispute Resolution Issues:** Pakistan initially requested a neutral expert to resolve the disputes but later pushed for arbitration by the Permanent Court of Arbitration (PCA), which India refused to engage with, citing treaty violations.
5. **India's Notice in 2023:** India had sent a notice earlier this year due to Pakistan's refusal to cooperate in resolving the disputes through the treaty's specified process.
6. **World Bank's Mediation:** The World Bank tried to mediate but was unsuccessful, leading India to take further action in seeking changes to the treaty.
7. **India's Position:** India has maintained that the PCA's involvement is not in line with the treaty, while Pakistan continues to insist on arbitration.
8. **What's Next:** India continues to press for changes to the treaty and remains engaged in dispute resolution talks, but tensions remain high due to disagreements over water use and hydropower projects.

[Simultaneous polls roadmap: IE Explained](#)

Polity

Easy Explanation:

The Indian government is moving forward with a plan to hold simultaneous elections for the Lok Sabha (the lower house of Parliament), state Assemblies, and local government bodies. This is called the "One Nation, One Election" proposal. The Union Cabinet has approved the plan, which was recommended by a high-level



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committee led by former President Ram Nath Kovind. The idea is to hold elections at all levels in two phases: the first phase will align Lok Sabha and Assembly elections, and the second phase, within 100 days, will cover local body elections.

To make this happen, two amendments to the Indian Constitution need to be passed in Parliament. The first amendment will align Lok Sabha and Assembly elections, and the second will ensure that local body elections are held within 100 days of the national and state elections. The government will also need the support of at least half the states to pass the second amendment since local government falls under state control. After the changes are made, any new state Assembly elected after the new system starts will dissolve along with the Lok Sabha to keep elections aligned.

Key Takeaways:

1. **One Nation, One Election Plan:** The Indian government has approved a plan to hold simultaneous elections for the Lok Sabha, state Assemblies, and local bodies.
2. **Two Phases:** The elections will be held in two phases. Lok Sabha and Assembly elections will be aligned in the first phase, and local body elections will follow within 100 days.
3. **Constitution Amendments Needed:** Two amendments are required to the Constitution. The first will align Lok Sabha and state elections, while the second will ensure local body elections are held within 100 days of the other elections.
4. **Support Needed from States:** Since local government elections are under state control, at least half of India's states must support the second amendment for it to pass.
5. **Implementation:** Once passed, the transition to simultaneous elections means some state Assemblies will dissolve earlier than their five-year terms, in line with the Lok Sabha elections. In case of mid-term elections, newly elected Assemblies or Lok Sabha will serve only until the next simultaneous election date.
6. **Electoral Roll:** The Election Commission of India (ECI) will create a single electoral roll for all elections in the country, which will be used for Lok Sabha, state, and local elections.

[Earth to temporarily get a mini moon. What does it mean?: IE Explained](#)

Science

Easy Explanation:

A small asteroid named 2024 PT5 will be temporarily captured by Earth's gravity in late September, staying in orbit around our planet for about two months before continuing its journey in space. While such events, where Earth temporarily gains a "mini-moon," are rare, they aren't entirely new. In most cases, asteroids either miss Earth or burn up in the atmosphere. This asteroid, which was discovered in August 2024, will be a unique opportunity for scientists to study close-approaching space rocks.

Mini-moons are small asteroids that Earth's gravity traps for a short time, and there have only been a few recorded instances of this happening. The asteroid 2024 PT5 is estimated to be around 33 feet long and is



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too small to be seen with the naked eye or amateur telescopes, though professional astronomers can observe it with their equipment. There's even a possibility that the asteroid is a piece of debris from the Moon itself.

Some scientists argue that 2024 PT5 may not fully qualify as a mini-moon because it will perform a "horseshoe-shaped orbit" and won't completely circle the Earth before leaving. Regardless, this event is important as it will help scientists learn more about asteroids that pass near Earth, which can contain valuable resources for future space missions.

Key Takeaways:

1. **2024 PT5 Asteroid:** A small asteroid will be captured by Earth's gravity for two months starting in late September, making it a temporary mini-moon.
2. **Mini-moon Concept:** Mini-moons are asteroids that temporarily orbit Earth before flying off. They are usually small and hard to detect.
3. **Discovery and Size:** The asteroid was discovered in August 2024 with NASA's help, and it's about 33 feet long, visible only through professional telescopes.
4. **Potential Moon Fragment:** There's a possibility that 2024 PT5 could be a fragment from the Moon, adding to the intrigue of its origin.
5. **Horseshoe Orbit:** Some scientists debate whether it qualifies as a mini-moon because it will follow a horseshoe-shaped orbit instead of fully circling Earth.
6. **Scientific Importance:** Studying this asteroid will help scientists understand more about space rocks that come close to Earth, which could have valuable resources.

20th September 2023

[How Kerala reduced mortality from amoebic meningoencephalitis: TH Science](#)

Science

Easy Explanation:

Children in Kerala often enjoy playing in ponds during the summer, but this year, many children fell ill with a rare and dangerous brain infection called amoebic meningoencephalitis. This infection is caused by a tiny organism called a free-living amoeba (FLA), found in freshwater bodies like ponds and lakes. Although these infections are rare, Kerala saw a sudden rise in cases this year, with 19 people affected, mostly children. What made the situation unusual was the sudden appearance of adult cases in August, which worried people even more.

Despite the seriousness of the infection, Kerala managed to save 14 out of the 19 people, which is a big success considering that, globally, this disease has a 97% fatality rate. On September 12, all 10 people who were being treated at a hospital in Thiruvananthapuram were discharged after completing their treatment. This success was largely due to quick diagnosis and treatment.



| Clear your doubts now.



The infection, called Primary Amoebic Meningoencephalitis (PAM), is usually caused by an amoeba called *Naegleria fowleri*, also known as the "brain-eating amoeba." PAM is very dangerous because it destroys brain tissue and often leads to death if not treated early. The infection typically affects healthy children, teenagers, and young adults, and it progresses so quickly that doctors often don't have time to treat it.

Kerala's experience is unique because they managed to save many people. Early detection and treatment using a special drug called Miltefosine helped improve the survival rate. The state also set up a special medical board and used a cocktail of drugs to treat the patients.

In one unusual case, several young people from a village in Kerala became infected after they mixed tobacco with pond water and inhaled it through makeshift devices. This risky behavior allowed the amoeba to enter their bodies through their noses and reach their brains. Doctors were able to quickly identify the infection and treat seven young people from the area.

Another unusual case involved a man from the city who hadn't come into contact with ponds or lakes. It was discovered that the water from his house's well was contaminated because the overhead tank hadn't been cleaned in a long time. He had also previously suffered a head injury, which made it easier for the amoeba to reach his brain.

Kerala is now focusing on spreading awareness about how to prevent this deadly infection. People are being advised not to dive into water bodies, use nasal plugs while swimming, and avoid snorting water through their noses when washing their faces or swimming in ponds. The health department is also telling doctors to always check for amoeba in brain infection cases, even if the patient hasn't been in contact with water bodies.

Key Takeaways:

1. **Rare Brain Infection:** Kerala saw an unusual rise in cases of a rare brain infection called amoebic meningoencephalitis, caused by free-living amoebae (FLA) in freshwater bodies.
2. **Children Mostly Affected:** While most of the infected were children, an adult case cluster was reported in August, causing additional concern.
3. **High Survival Rate:** Despite the global fatality rate of 97%, Kerala managed to save 14 out of 19 patients, significantly lowering the death rate to 26%.
4. **PAM and Its Dangers:** The infection is usually caused by *Naegleria fowleri*, the "brain-eating amoeba," and is often fatal because of how quickly it progresses.
5. **Risky Behavior in a Village:** In one case, several young people were infected after inhaling pond water mixed with tobacco, which allowed the amoeba to enter their brains.
6. **New Precautions:** Kerala's health department is advising people to avoid diving into water bodies, use nasal plugs while swimming, and avoid snorting water into their noses.
7. **Early Detection is Key:** Doctors are being told to check for amoeba in all brain infection cases because early diagnosis and treatment can be life-saving.

[The true cost of hospital-acquired infections: TH Science](#)

Science



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Easy Explanation:

Two high-profile medical cases, one in Mumbai and one in Bangalore, highlight issues with hospital-acquired infections (HAIs). In Mumbai, a patient developed a post-operative infection after knee surgery and sued the hospital for the resulting financial losses. In Bangalore, a family sought to have their hospital bill reduced after their loved one developed a serious infection while in intensive care. They argued that since the infection was acquired at the hospital, the hospital should cover the costs.

These cases bring attention to broader challenges in the healthcare system, such as how HAIs are managed and the financial and ethical burdens placed on patients. HAIs are infections that people get while being treated in hospitals, and they significantly increase health risks and costs.

In the U.S., hospitals do not charge patients for treating HAIs, which makes them more accountable for preventing these infections. However, in India, hospitals are not required to publicly share data on HAIs, making it harder for patients to assess the quality of care. Although some Indian hospitals have high standards, there is no system that forces them to disclose how well they control HAIs.

Key Takeaways:

1. **Two High-Profile Cases:** In Mumbai, a patient sued after developing an infection post-surgery. In Bangalore, a family requested a bill waiver after their loved one got an infection in the ICU.
2. **Hospital-Acquired Infections (HAIs):** These infections happen while patients are in the hospital, and they increase risks and costs.
3. **Differences in the U.S.:** U.S. hospitals don't charge for treating HAIs, which helps make them more accountable.
4. **Indian Healthcare System:** Hospitals in India don't have to share their HAI rates publicly, although many have international accreditations.
5. **Proposed Solutions:** Indian hospitals should publicly report their HAI rates, and insurance companies could help improve infection control by tying payouts to better standards. Hospitals should avoid charging patients for treating HAIs.
6. **Public Awareness:** Not all infections acquired in hospitals are due to negligence, and patients should be educated about the risks and realities of HAIs.

[India's place in Russia-Ukraine peace-making: TH Editorials](#)

International Relations

Easy Explanation:

India's involvement in the Russia-Ukraine conflict has raised questions about its potential role as a peacemaker. Although the Indian government initially stayed away from the conflict, there are now indications that India may be trying to mediate between Russia and Ukraine. Prime Minister Narendra Modi's visits to Moscow and Kyiv, meetings with key leaders, and India's engagement with both sides suggest that India could be positioning itself as an important negotiator.



| Clear your doubts now.

India has maintained a neutral stance during the conflict, refraining from taking sides and promoting non-alignment. It has managed to maintain strong relations with both the West and Russia, increasing its trade with Russia and also maintaining its image as a balanced and honest broker. India's past experiences in mediating global conflicts, such as during the Cold War, are now being looked at as a model for its role in this war.

However, the situation is complicated. Russia occupies a significant portion of Ukraine's territory, and both sides have rejected peace proposals from other countries. The war has reached a critical point, and as the U.S. prepares for elections, the future of American support for Ukraine is uncertain.

To mediate effectively, India will need to propose a strong peace plan, something it has not yet done. India also faces internal challenges like economic concerns and regional conflicts, which may limit its ability to invest fully in resolving this international issue. Moreover, there is a question of whether India can be consistent in its approach to international conflicts, given that it has avoided dialogue with Pakistan while calling for diplomacy elsewhere.

Key Takeaways:

1. **India's Role:** India is exploring the possibility of mediating in the Russia-Ukraine conflict. Prime Minister Modi has visited both countries and held talks with global leaders.
2. **Neutral Stance:** India has maintained a neutral stance during the war, increasing trade with Russia while also engaging with Western nations.
3. **Challenges:** Both Russia and Ukraine have rejected previous peace proposals. The war has reached a critical stage, and India's ability to mediate depends on its ability to propose a viable solution.
4. **Internal and External Pressures:** India faces internal challenges like regional conflicts and economic issues, which may affect its capacity to mediate in the war. Additionally, India's consistency in international diplomacy could be questioned.
5. **Global Impact:** If successful, India's involvement could position it as a key global player, but the task of mediating in this conflict is daunting and fraught with challenges.

[Wrong Notion: TH Editorial](#)

Polity

Easy Explanation:

The Union government has decided to move forward with the idea of holding simultaneous elections for the Lok Sabha (national elections) and State Assemblies, followed by municipal and panchayat elections within 100 days. This proposal is based on recommendations from a committee led by former President Ram Nath Kovind. The government believes that holding elections together would save money and reduce the constant election campaigning, which they argue distracts politicians from governance and legislative work.

However, critics argue that there is little evidence to support the claim of cost savings. Additionally, holding elections simultaneously could extend the process and complicate governance. One of the committee's suggestions is that if a State Assembly dissolves before completing its five-year term, new elections would



| Clear your doubts now.

be held, but the newly elected Assembly would only serve the remaining time before the next scheduled general election. This, critics say, contradicts the idea of cost-cutting and undermines the federal structure of the country, which allows voters to make separate choices for national, state, and local governments based on their specific needs.

Critics also say that having simultaneous elections could reduce the importance of each level of government, especially local and state elections, and concentrate power in the hands of national parties. They argue that this proposal, which would also require cutting short the terms of some State governments, is an anti-federal move. They believe that the plan should be rejected to preserve the country's multi-tiered democratic system.

Key Takeaways:

1. **Simultaneous Elections Plan:** The government plans to hold national, state, and local elections together, starting with the Lok Sabha and State Assembly elections, followed by local elections within 100 days.
2. **Rationale:** The government claims this will save money and reduce the constant election campaigning, allowing politicians to focus on governance.
3. **Criticism:** There is little evidence to support cost savings, and simultaneous elections could complicate governance and extend the election process.
4. **Federalism Concerns:** Critics argue that this move undermines the federal structure by reducing the importance of state and local elections and concentrating power in the national level.
5. **Opposition:** Parties and civil society groups committed to federalism are urged to reject the proposal, which would also require cutting short the terms of some State governments.

[Dividing Water: IE Editorial](#)

International Relations

Easy Explanation:

India has followed up on its previous request to modify the Indus Waters Treaty (IWT) with a stronger message to Pakistan, asking for a review and further changes to the agreement, which is over 60 years old. The dispute between the two countries mainly revolves around two hydropower projects: the Kishanganga project on the Jhelum River, which is fully operational, and the Rattle project on the Chenab River, which is under construction. The IWT allows India to use water from these rivers for non-consumptive purposes, like hydropower, while ensuring that the flow of water to Pakistan is not disrupted. However, Pakistan has raised objections to these projects, despite a decision from the Permanent Court of Arbitration (PCA) supporting India's right to proceed with the Kishanganga project.

Pakistan has also refused to engage in direct government-level negotiations and has retracted its request for a neutral expert to mediate the dispute, which was the next step in the IWT's conflict resolution process. Last year, the PCA claimed authority to judge both projects, but India disagreed, stating that mediation by a neutral expert should have come first.



| Clear your doubts now.



India's recent notice also highlights the importance of renewable energy in its climate action plans, pointing to the Ratle project's contribution to clean energy and job creation. The IWT allows for modifications, but it is important for both countries to maintain the treaty's spirit of cooperation, especially as climate change impacts shared water resources. While Pakistan has been rigid in its stance, India, too, has sometimes taken a tough approach, especially after the 2016 Uri attack, when Prime Minister Modi remarked, "Blood and water cannot flow together." Despite this, the treaty has survived wars and conflicts, and both nations should work to preserve it in light of growing ecological challenges.

Key Takeaways:

1. **India's Request for Treaty Review:** India has asked Pakistan to review and modify the Indus Waters Treaty (IWT), especially concerning two hydropower projects: Kishanganga and Ratle.
2. **Pakistan's Objections:** Pakistan has objected to these projects, despite international rulings allowing India to proceed. It has also avoided negotiations and mediation.
3. **Clean Energy Emphasis:** India stresses that the Ratle project is important for clean energy and job creation, aligning with its climate goals.
4. **Need for Cooperation:** The treaty's spirit of cooperation is essential, especially with the growing impacts of climate change on shared water resources.
5. **History of Tensions:** The treaty has survived wars and terrorism, and both India and Pakistan should focus on protecting it during these ecological crises.

[The escalation in West Asia: IE Explained](#)

International Relations

Easy Explanation:

Tensions have escalated in West Asia after a series of explosions from pagars and radios in Lebanon and parts of Syria killed 37 people and injured over 3,500. The militant group Hezbollah, backed by Iran, has accused Israel of carrying out the attacks, though Israel has neither confirmed nor denied involvement. Hezbollah leader Hassan Nasrallah called the attacks a "terrorist act" and warned of retaliation.

This situation adds to the already tense environment due to the ongoing Gaza war, where Israel has been retaliating against Hamas since October last year. The conflict has displaced thousands of Israelis and Lebanese.

Israel has suggested expanding its military operations to the north, focusing on Hezbollah. They believe they have weakened Hamas in Gaza and are now turning attention to Hezbollah, which is seen as a bigger threat. This week's attacks were aimed at Hezbollah's communication networks, targeting their leadership ranks.

The possibility of further escalation between Hezbollah and Israel is high, with both sides preparing for the next phase of conflict. Iran, Hezbollah's main backer, may also respond, potentially through coordinated attacks.



| Clear your doubts now.



For India, the situation is a significant concern. India has managed to maintain diplomatic ties with both Israel and Palestine, but any escalation involving Hezbollah and Iran could make things more complex. India also has millions of citizens working in West Asia, whose safety could be jeopardized, and a significant portion of India's oil supply comes from the region, raising concerns about energy security.

Key Takeaways:

1. **Explosions in Lebanon and Syria:** Hezbollah blames Israel for coordinated attacks, escalating tensions in the region.
2. **Hezbollah-Israel Conflict:** The ongoing war with Hamas in Gaza and Israel's shift in focus to Hezbollah increases the risk of a broader conflict.
3. **India's Concerns:** Any escalation could complicate India's diplomatic relations and affect the safety of Indian workers in the region, as well as its energy security.
4. **Potential Retaliation:** Hezbollah is expected to respond, and Iran may also become involved, further intensifying the conflict.

[Logistics of holding simultaneous elections in India: task before the ECI: IE Explained](#)

Polity

Easy Explanation:

The **Indian government** has decided to move forward with the idea of **One Nation, One Election (ONOE)**, which means holding **elections for the Parliament (Lok Sabha), state Assemblies**, and later, **local elections** like city councils and village bodies **at the same time**. The idea is to make elections less frequent, save money, and reduce the amount of time political leaders spend campaigning.

However, to make this happen, a lot of changes are needed, and the **Election Commission of India (ECI)** has a big role to play. Although the ECI supports this idea, they have said that it will take a lot of **money, effort, and time** to organize such large-scale elections.

Currently, elections for some states are already held along with Lok Sabha elections, but not all states follow this pattern. To bring all elections together, the government will need to **buy more voting machines**, and make **changes to the Constitution**, which will need **Parliament's approval**.

The ECI also pointed out that elections in India take a long time due to reasons like **security, festivals, and weather**, and holding all elections together could make this process even longer.

Key Takeaways:

1. What is One Nation, One Election (ONOE)?

- ONOE aims to hold elections for **Parliament, state Assemblies**, and **local bodies** at the **same time** across India.
- The goal is to **reduce election costs** and make it easier to govern without constant campaigning.



| Clear your doubts now.



2. Challenges for the Election Commission of India (ECI)

- The ECI supports ONOE, but there are **logistical challenges**.
- **More EVMs (Electronic Voting Machines) and VVPATs (Voter Verifiable Paper Audit Trail) machines** are needed.
- The **cost** to buy the machines is estimated to be around **₹8,000 crore**.
- The **two companies** that manufacture voting machines will need **time** to make enough for the entire country.

3. Practical Difficulties in Holding Simultaneous Elections

- **Weather, security concerns, and festivals** make scheduling elections difficult.
- The ECI recently delayed elections in **Jammu and Kashmir** and **Maharashtra** due to these challenges.

4. Timeline for Implementation

- It will take **years of planning** and **Constitutional changes** for ONOE to become a reality.
- The ECI will need to coordinate with the **central and state governments** to organize such large-scale elections.

21st September 2024

[Reject: IE Editorial](#)

Polity

Easy Explanation:

The **One Nation, One Election (ONOE)** plan, which proposes to hold **all elections at the same time** across India, has moved forward as the **Union Cabinet** accepted the recommendations of a committee led by **former President Ram Nath Kovind**. The idea has been strongly backed by **Prime Minister Narendra Modi**, who mentioned it in his **Independence Day speech** in August 2023.

However, the **ONOE plan has many critics**. The **Kovind Committee** was seen as biased because its members either already supported ONOE or were aligned with the government's views. The **Opposition party** leader, **Adhir Ranjan Chowdhury**, refused to join the committee, calling it a "total eyewash" because the **committee's conclusion** seemed predetermined.

The **Opposition** still has a chance to stop this proposal because it needs **Parliament's special approval** and the agreement of state legislatures. ONOE is controversial because it could **reduce the power of the people and local governments** by forcing elections to happen according to a **fixed calendar** instead of when people lose trust in their leaders.



| Clear your doubts now.



In a country as **diverse as India**, critics argue that **ONOE** would go against the **Constitution's values** of **federalism and democracy**, where elections should be held whenever necessary, not on a fixed schedule just to cut costs or make administration easier.

Key Takeaways:

1. What is ONOE?

- ONOE proposes to hold **all elections** (national, state, local) at the **same time**.
- The idea is to **cut costs** and **make elections more efficient**, but it has many critics.

2. Concerns with the ONOE Plan

- The **Kovind Committee** was seen as **biased**, with members already in favor of ONOE.
- **Opposition leader Adhir Ranjan Chowdhury** refused to join the committee, calling it a "**total eyewash**".
- The plan **prioritizes cost-cutting** over the **democratic process**, making elections less responsive to people's will.

3. What Needs to Happen for ONOE to Pass?

- The **Parliament** must approve ONOE with a **special majority**, and then state legislatures must also agree.
- The **Opposition** can still block the proposal in Parliament.

4. Why ONOE is Controversial

- **ONOE** goes against India's **federal system**, where each state and local body has its own elections.
- Critics argue that **elections are meant to reflect the people's will** and should be held when necessary, not on a **fixed schedule**.
- It undermines the **Constitution's democratic values** by making elections a matter of administrative convenience.

[A new White Revolution: where India stands, where it aims to be: IE Explained](#)

Economy

Easy Explanation:

Operation Flood, started in 1970, brought about the **White Revolution** in India, which dramatically improved the country's **dairy sector**. Now, the government has announced plans for **White Revolution 2.0**, which aims to **expand the dairy cooperatives** and **increase milk production** over the next five years.

White Revolution 2.0 focuses on **dairy cooperatives**, which have been the foundation of the dairy industry. The goal is to **increase milk collection from 660 lakh kg per day to 1,007 lakh kg per day by 2028-29**. This plan will expand the reach of **dairy cooperatives** to more villages, **provide more market access** to farmers, create **employment opportunities**, and empower **women**.



| Clear your doubts now.



The **National Dairy Development Board (NDDDB)** will help establish new **dairy cooperative societies** and improve existing ones. These cooperatives will ensure that more farmers can sell their milk, and the milk can be tested and stored properly. The **National Programme for Dairy Development (NPDD) 2.0** will provide funding to support these efforts, including setting up systems to **collect, store, and process milk** at the village level.

India is already the **world's largest milk producer**, but **milk yields** (the amount of milk per animal) are still low in some states. With this new initiative, the government aims to continue **improving milk production** while helping farmers and boosting the economy.

Key Takeaways:

1. What is White Revolution 2.0?

- A new initiative to **boost milk production** by expanding the reach of **dairy cooperatives** in India.
- The plan aims to increase milk collection to **1,007 lakh kg/day** by **2028-29**.
- Focus on **dairy cooperatives** to bring more farmers into the market and create **employment**, especially for **women**.

2. Dairy Cooperatives in India

- **Dairy cooperatives** currently cover **70% of districts** in India and involve about **1.7 lakh dairy cooperative societies**.
- However, **coverage varies** between states, with states like **Uttar Pradesh and West Bengal** having **lower coverage**.
- The government plans to establish **56,000 new cooperative societies** and strengthen **46,000 existing ones**.

3. Funding for White Revolution 2.0

- The **National Programme for Dairy Development (NPDD) 2.0** will provide **financial support** to set up and improve **milk procurement systems**, storage, and **testing facilities**.
- About **Rs 3.8 crore** has been allocated to pilot projects in states like **Haryana, Madhya Pradesh, and Karnataka**.

4. Milk Production in India

- **India is the world's largest milk producer**, producing **230.58 million tonnes of milk** in 2022-23.
- The national average for milk availability is **459 grams per day**, which is higher than the global average.
- However, milk yields (milk per animal) are low in some states, with efforts to improve them being part of the new plan.

5. Challenges and Opportunities





- While milk production has increased, the **growth rate** has slowed in recent years, going from **6.47%** to **3.83%**.
- The dairy sector is a significant part of the Indian economy, contributing **40%** of the value of output from agriculture, forestry, and fishing, and providing livelihoods to **8.5 crore people**.

HC's 'Fact Check Unit' order: IE Explained

Polity

Easy Explanation:

The **Bombay High Court** has ruled against a significant part of the **Information Technology (IT) Rules, 2021** that allowed the Indian government to identify and remove "fake news" about its own business on social media platforms. This part of the law gave the government the power to set up a **Fact Check Unit (FCU)**, which would decide what content was false or misleading. Once flagged by the FCU, social media companies like Facebook and Twitter would have to take down the content or lose their legal immunity from liability for posts made by users.

Several groups, including journalists and civil society, opposed this rule, arguing it was **unconstitutional** and violated **freedom of speech**. They said it was dangerous to let the government be the only entity deciding what is true or false, which could limit free expression and lead to censorship. The court agreed with these concerns, stating that the rule was too vague and broad and that it overstepped what the government should be allowed to do in a democracy. The judgment means the **Fact Check Unit** can no longer act in the way the rules originally intended.

Key Takeaways:

1. What the IT Rules and Fact Check Unit (FCU) Did

- The **Information Technology Rules, 2021** were amended to give the government power to form a **Fact Check Unit (FCU)**.
- The FCU was tasked with identifying "fake, false, or misleading" information related to **government business** on social media.
- Social media platforms were required to remove flagged content if they wanted to maintain their **legal immunity** for third-party content posted by users.

2. Why the Rules Were Challenged

- Critics, including **Kunal Kamra**, the **Editors' Guild of India**, and media associations, argued that the government shouldn't be the only entity deciding what information is **true or false**.
- They said this rule could lead to **censorship** and would violate the **right to freedom of speech and expression** guaranteed by the Indian Constitution.
- The rule also raised concerns about **transparency** and the possible **chilling effect** on free speech, where people might hesitate to express their views due to fear of government action.

3. The Court's Ruling



| Clear your doubts now.



- The court ruled that the **Fact Check Unit's powers were unconstitutional** because they went beyond the **reasonable restrictions** that could be placed on free speech under **Article 19(2)** of the Constitution.
- It noted that the terms "**fake, false, or misleading**" were **too vague and broad** and could be used to suppress free expression.
- The court emphasized that the **right to free speech includes the right to access information**, even if that information is incorrect, and it isn't the government's job to ensure only "truthful" information is shared.

4. Concerns Over Free Speech and Safe Harbour

- The court said that the **amended rule** put too much pressure on social media platforms by threatening their **safe harbour protections** if they didn't remove content flagged by the FCU.
- This could lead to social media companies **over-censoring content** to protect themselves, which would limit the diversity of opinions available online.
- The court also highlighted that the government can't make itself the **sole arbiter of truth** in a democracy, which could dangerously limit **open discourse**.

5. What Happens Next?

- The court's ruling is likely to be **appealed in the Supreme Court**, as similar cases regarding the IT Rules are still being heard in other courts like **Delhi** and **Madras High Courts**.
- The decision will impact how **social media** is regulated in India, particularly concerning **freedom of expression** and the **responsibility of platforms** like Facebook, Twitter, and Instagram.
- While the Fact Check Unit's powers have been struck down, other parts of the IT Rules, such as those requiring platforms to set up a **grievance redressal** mechanism, are still under review.

[Staunch the breach](#)

International Relations

Easy Explanation:

India has escalated its demand for renegotiating the **Indus Waters Treaty (IWT)**, which was originally signed in 1960 to manage the sharing of rivers between India and Pakistan. This marks the **fourth notice to Pakistan** since January 2023. The latest move involves **canceling all future meetings** of the **Permanent Indus Commission (PIC)** until Pakistan agrees to come to the negotiation table.

For decades, the **IWT** has been considered one of the most successful water-sharing agreements globally. India has won previous disputes under the treaty, such as issues over the **Baglihar Dam** and **Neelum project**. However, since 2016, disagreements over two Indian projects, **Kishenganga** and **Ratle**, have caused the situation to deteriorate. Pakistan wanted both a neutral expert and a court ruling on the matter, which led to a deadlock.



| Clear your doubts now.



The **World Bank**, which is also a guarantor of the treaty, mistakenly allowed both dispute resolution processes to run simultaneously. Pakistan avoided one of these processes, while India boycotted the other. The current situation has become more political, with both countries using strong rhetoric.

Now, all eyes are on India's response to Pakistan's invitation for the **SCO Heads of Government meeting** in October. This meeting could serve as a way to open dialogue about the treaty's future. Climate change and renewable energy needs might require changes to the **64-year-old treaty**, but resolving existing disputes will be crucial to saving the agreement.

Key Takeaways:

1. India's Latest Notice

- India has sent its **fourth notice to Pakistan** since January 2023, demanding renegotiation of the **Indus Waters Treaty (IWT)**.
- India has called off all **Permanent Indus Commission (PIC)** meetings until Pakistan agrees to participate in talks.

2. History of the Indus Waters Treaty

- Signed in **1960**, the IWT was initially seen as a **model for water-sharing agreements** globally.
- India has previously resolved disputes under the treaty, such as the **Baglihar Dam** in 2007 and the **Neelum project** in 2013.

3. Current Disputes

- The situation worsened in **2016** over disagreements regarding the **Kishenganga** and **Ratle** hydroelectric projects.
- **Pakistan** demanded both a neutral expert and arbitration, causing a **deadlock**.
- The **World Bank** mistakenly allowed two parallel dispute mechanisms, complicating the situation further.

4. Political and Diplomatic Concerns

- The treaty is no longer off-limits for political debates, and leaders from both sides have used **strong rhetoric**.
- Prime Minister **Modi's statement** after the **2016 Uri attack**—"blood and water cannot flow together"—exemplifies this shift.

5. Future of the Treaty

- Climate change and the need for **renewable energy** will likely require changes to the **64-year-old treaty**.
- India's decision on attending the **SCO Heads of Government meeting** in October could open the door for further talks.





- Resolving current disputes will be essential to saving the treaty, once praised as a bright spot in international relations.

22nd September 2024

[Wayanad's missing list: How forensic teams are using DNA clues to join the dots: IE Express Network](#)

Easy Explanation:

After a tragic **landslide** in Kerala, forensic experts in Kannur have been working hard to identify the bodies and body parts recovered from the disaster. **Severed limbs and body parts** were carried away by the Punnapuzha river and found kilometers away, adding to the challenge. A total of **231 bodies** were found, while **118 people** remain missing. To help grieving families get closure, forensic teams took **DNA samples** from body parts and compared them with samples from the families of the missing.

The forensic lab in **Kannur**, known for its advanced **DNA testing facilities**, played a crucial role in identifying the bodies. The process was extremely delicate, as many of the bodies were in **poor condition** after being carried by the river. Despite the challenges, including difficulties in extracting DNA from **bone** and **tissue samples**, the lab made progress in identifying the victims by grouping body parts with similar DNA and matching them to **family members**. Some families, like **Safad Kunnath**, are still waiting for the results, hoping to find closure and receive **death certificates** for their loved ones.

Key Takeaways:

1. Tragic Landslide and Recovery

- A **landslide** in Kerala resulted in 231 recovered bodies, with 118 people still missing.
- Many **severed limbs and body parts** were found far from the site, carried by the **Punnapuzha river**.

2. Forensic Efforts

- Forensic experts in **Kannur** are working on identifying the bodies through **DNA testing**.
- Over **421 samples** were taken and sent to the lab for testing, including from **bones, teeth, and tissues**.

3. Challenges in DNA Testing

- Extracting **DNA from bones** is a **time-consuming** and delicate process, taking up to four hours per sample.
- **Contamination** and **putrefied tissue samples** added complications, making DNA sequencing difficult.

4. Grouping and Identification

- Forensic teams grouped body parts with **similar DNA** into **60 groups**, representing different individuals.



| Clear your doubts now.



- These groups were then compared with **family members' DNA** to identify the victims.

5. Inbreeding Complication

- Due to possible **inbreeding** in the region, forensic experts found **similar chromosomes** among the victims, adding another layer of difficulty to the DNA testing process.

6. Family Stories and Waiting

- Families like **Safad Kunnath** are still waiting for DNA results to confirm the identities of their missing loved ones.
- Many are hoping for closure, either through identification or by knowing their loved ones were buried at the **common burial ground**.

7. Ongoing Process

- The forensic teams are still working on the final identifications, and once complete, **death certificates** will be issued to the families.

[Streamlining GST structure: The complications and the way ahead: IE Economy](#)

Economy

Easy Explanation:

The **Goods and Services Tax (GST)** in India, which was launched in July 2017, is a system of indirect taxes that businesses and consumers must follow. Now, seven years later, there's a push to make the GST **simpler**. Stakeholders and the government are asking: **Can GST be less complicated?**

GST currently has **different tax rates** (slabs) for various products, which sometimes creates confusion. For example, a **bun** has no GST, but if you add cream to it, the tax becomes **18%**. This has led to calls for a system where taxes are **simplified** and applied more consistently. Some stakeholders argue that this complexity leads to **classification disputes**, where it's hard to decide which tax category a product falls under. For instance, there's been confusion over whether items like **parathas** should be taxed at the same rate as **rotis**, or whether **shampoo** and **soap** should be taxed differently.

Over the years, the **GST Council** has worked to clarify these issues and make rates more uniform. However, more improvements are still needed to ensure the system is **fair** and **easy to follow**. While GST collections have stabilized, any changes to the tax system need to balance **simplification** with ensuring that the government continues to collect enough revenue.

Key Takeaways:

1. Current GST Complexity



| Clear your doubts now.



- GST has multiple tax slabs: **0%, 5%, 12%, 18%, and 28%**.
- Confusion arises when the same type of item (e.g., **paratha vs. roti**) is taxed differently, leading to **classification disputes**.

2. Efforts to Simplify

- The GST Council has worked over time to **clarify tax rates** for certain products, such as **shampoos, soaps, and cinema food**.
- Recent discussions have focused on **compressing the tax slabs** to reduce the complexity of the system.

3. Recent Discussions and Changes

- A proposal to reduce **GST rates on health and life insurance premiums** was discussed during a GST Council meeting in September 2023.
- The **Group of Ministers (GoM)** is reviewing the idea of reducing tax slabs further, with a report expected in **October**.

4. Challenges of Merging Rates

- A flat tax rate with **no exemptions** was considered during initial GST discussions but was deemed **too complicated** for India's diverse economy.
- Merging GST rates will require political consensus and careful consideration to avoid upsetting revenue streams for states and the central government.

5. Future Possibilities

- There is potential to compress the tax structure into just **three or four slabs**.
- Former Finance Minister **Arun Jaitley** suggested a GST with zero, 5%, and a **standard rate** for most goods, with **luxury** and **sin goods** (e.g., cigarettes, alcohol) taxed separately.
- Former CBIC Chairman **Najib Shah** suggested merging rates **chapter-wise** or finding ways to **converge tax categories**.

[Why was Hezbollah attacked through pagers?: TH FAQ](#)

International Relations

Easy Explanation:

On **September 17**, a series of **pager explosions** killed at least **nine people** in **Lebanon** and injured thousands, including the **Iranian envoy** to Beirut. The devices were believed to be used by the armed group **Hezbollah**. These explosions were followed by further blasts from **walkie-talkies**, killing more people. While **Hezbollah** blamed **Israel** for the attack, **Israel** has not confirmed or denied responsibility. This incident has heightened tensions in a region already on edge due to ongoing **Israel-Hezbollah** conflicts, especially after the **Gaza war** in **October**.



| Clear your doubts now.



The **unique aspect** of this attack is the use of **low-tech gadgets**, specifically **paggers**. Pagers are old communication devices, mostly replaced by mobile phones and smartphones in modern times. However, they are still **useful in certain situations**, particularly in **covert operations** because they are harder to **track** and **hack**. It is believed that **Israel** manipulated the pagers to **detonate explosives**, exploiting Hezbollah's trust in these older devices.

This attack highlights the possibility of using **simple technology** in modern conflicts, leveraging its **lack of sophistication** to bypass advanced surveillance systems.

Key Takeaways:

1. What Happened?

- **Pager explosions** across **Lebanon** on **September 17** killed at least **nine people** and injured thousands, including an **Iranian envoy**.
- **Hezbollah** blamed **Israel** for the attack, although **Israel** did not confirm involvement.
- This attack escalated tensions between **Israel** and **Hezbollah**, who have been exchanging fire since the **Gaza war** in **October**.

2. Why Use Pagers?

- **Pagers** are **simple communication devices** from the **mid-20th century**, less commonly used today.
- They use **radio signals** and don't have **GPS** or **internet connectivity**, making them less vulnerable to **hacking** and **surveillance**.
- **Hezbollah** trusted these devices because they believed them to be more secure than **modern technology** like mobile phones.

3. How Pagers Can Be Used in Covert Operations

- **Low-tech devices** like pagers are harder to track and can avoid modern **digital surveillance**.
- Pagers can be **modified** to include circuits that trigger **explosives** when a specific message is received.
- The **simplicity** of pagers makes them ideal for **covert operations**, where they are used to send **coded messages** without attracting attention.

4. How Did Israel Allegedly Pull Off the Attack?

- It's believed that **Israel** may have manipulated the pagers, possibly adding **explosives** like **PETN** to them.
- Reports suggest that Israel could have set up a **front company**, selling pagers to **Hezbollah** that were already tampered with.
- Similar modifications were likely made to **walkie-talkies**, which also detonated in the attack.

5. Will Pagers Be Used in Future Conflicts?



| Clear your doubts now.



- Pagers, though outdated, are now seen as useful tools in **modern armed conflicts** because of their **small size**, simplicity, and ability to **evade surveillance**.
- The **manipulation** of such devices highlights the **sophistication** in planning and executing the attack.
- **Israel's control** over the supply and distribution of these devices likely played a role in the success of the operation.

[What is the Nipah protocol in Kerala?: TH FAQ](#)

Science

Easy Explanation:

A **Nipah virus scare** emerged in **Malappuram**, Kerala, after a **24-year-old man** died from the virus on **September 9**. The virus is **deadly** and can cause **serious illness** like **respiratory infection** and **encephalitis**. The government responded by activating its **Nipah protocol**, forming **16 committees** to track contacts and enforce **containment measures** in affected areas. The **victim's contacts**, including his family and doctors, have been quarantined and monitored. This case is part of the **sixth outbreak** of Nipah in Kerala since 2018, highlighting that the virus could be a continuing threat in the region.

Nipah is primarily spread by **bats** and can pass to humans through **contaminated fruits** or direct **human-to-human contact**. The health authorities are still unclear how the **24-year-old man** got infected, and they are conducting investigations to trace the source.

Key Takeaways:

1. Recent Nipah Virus Outbreak:

- A **24-year-old man** from **Malappuram**, Kerala, died on **September 9** from the **Nipah virus**.
- The virus causes **serious respiratory illness** and **fatal encephalitis**.
- **Kerala's health authorities** quickly activated containment protocols, tracking contacts and monitoring affected areas.

2. Government Response:

- **Five areas** in **Malappuram** were declared **containment zones**, and schools, cinemas, and shops were temporarily closed.
- **267 contacts** of the victim, including his **family**, **friends**, and **healthcare workers**, were identified and quarantined.
- **Health workers** conducted a **survey** within a **three-kilometer radius**, monitoring **fever cases** and offering **psychological support**.

3. Nipah's History in Kerala:

- This marks the **sixth Nipah outbreak** in **Kerala** since **2018**, with **22 deaths** reported so far.
- The first case in **2018** claimed **17 lives**, while the **most recent** incidents took place within **two months** in **Malappuram**.



| Clear your doubts now.



4. Transmission of Nipah Virus:

- **Bats** are believed to be the primary carriers of the **Nipah virus**, passing it through **contaminated fruits** or **direct human contact**.
- There is still **uncertainty** about the exact cause of the **24-year-old's infection**, and experts are debating the role of bats in **Kerala**.

5. Public Health Measures:

- **Mask mandates** and restrictions on **social movement** have been imposed in **Malappuram** to prevent further spread.
- The government has opened a **Nipah control room** and is **monitoring developments** to ensure timely responses.

[Is the spike in India's trade deficit a worry?: TH FAQ](#)

Economy

Easy Explanation:

India's **exports** have slowed down after a positive start this financial year, while **imports** have surged, leading to a **widening trade deficit**. In **July and August 2024**, exports fell significantly, especially in major sectors like **oil** and **gems and jewellery**. Meanwhile, imports continued to rise, with India's import bill reaching **\$64.4 billion** in August. This resulted in a **trade deficit of \$29.7 billion**, one of the highest on record.

One key reason for the higher imports in August was a sharp rise in **gold imports**, which hit a record **\$10.1 billion**, driven by a **reduction in gold import duties** and **domestic demand** for the festive season. **Oil imports**, however, fell due to lower global oil prices, helping reduce the **petroleum deficit**.

Despite the growing deficit, officials argue that it is not a major concern because India's economy is growing faster than the global average. Moreover, **foreign exchange reserves** are strong, and **services exports** have been growing, providing a cushion.

However, global challenges remain, including **slow demand in developed markets**, ongoing **geopolitical tensions**, and **trade barriers** like the European Union's new regulations. These factors could pose difficulties for India's target of boosting both goods and services exports to **\$1 trillion each by 2030**.

Key Takeaways:

1. Export Slowdown and Trade Deficit

- **Exports fell by 9.3%** in August 2024, following a decline in July, marking an **eight-month low** in outbound shipments.



| Clear your doubts now.



- Imports rose to a **record \$64.4 billion**, leading to a **trade deficit of \$29.7 billion**, the second-highest on record.
- Major sectors like **oil** and **gems and jewellery** contributed to the export decline, with oil exports down by **37.6%** and jewellery by over **20%** in August.

2. Gold Imports Surge

- **Gold imports more than doubled** in August, reaching a record **\$10.1 billion**, driven by reduced **import duties** and demand from **domestic jewellery players** stocking up for the festive season.
- In contrast, gold imports had fallen by **10.7%** in July and had been in the **\$3 billion to \$3.4 billion** range in previous months.

3. Factors Behind the Trade Deficit

- The deficit was mainly driven by **increased imports** of gems, jewellery, and **electronics**.
- **Oil imports** decreased by almost **one-third** in August due to a **drop in global oil prices**, reducing India's **petroleum deficit** to a **three-year low**.
- The increase in imports is partly due to India's **growing economy** and higher demand for **global products**.

4. Government's View on the Deficit

- Commerce Secretary **Sunil Barthwal** emphasized that the **trade deficit is not a major concern** for a **developing economy** like India with strong growth.
- India's **foreign exchange reserves** reached a record **\$675 billion** in August, providing cover for **11.6 months of imports**.

5. Global Trade Challenges

- Global trade is expected to **grow faster in 2024**, but demand remains weak in **developed markets**.
- **Geopolitical tensions** and the upcoming **U.S. election** pose risks to trade, especially with the potential for further **tariff hikes on Chinese goods**.
- **China's economic slowdown** could lead to **cheaper Chinese goods flooding non-U.S. markets**, adding competitive pressure on India's exports.

6. Long-Term Trade Outlook

- India's government aims to boost both **goods and services exports to \$1 trillion each by 2030**, but the path forward is expected to be difficult.
- Challenges include **global economic slowdown**, increasing **tariff and non-tariff barriers**, and new trade regulations like the **EU's Carbon Border Adjustment Mechanism**.
- **Chief Economic Adviser V. Anantha Nageswaran** noted that while there may be short-term opportunities, the **long-term outlook for India's exports** is challenging.

[‘Commercialisation of health services can be a recipe for disaster’: TH Science](#)





Easy Explanation:

Former Union Secretary of Health, **Sujatha Rao**, recently quit the **Lancet Citizens' Commission** due to concerns about the increasing **privatization of healthcare** in India. The **Indian government** has been promoting **public-private partnerships (PPP)** in the healthcare sector, where **private medical colleges** are linked to **public district hospitals**. This strategy aims to improve healthcare infrastructure while ensuring healthcare remains **free for the poor**. However, Ms. Rao highlights several challenges and potential risks associated with this approach.

One of the major issues is that **privatization** could lead to **dual control**, where government staff run the hospital while private medical colleges use it for their own purposes. This model has not been very effective, as seen in other states. Additionally, India's **health system** is already heavily privatized, leading to **inequalities in access to care**. Rao warns that further privatization without proper **regulation** could worsen the healthcare system, especially for the **poor**. She points out that over **60 million people** are already pushed into **poverty** due to high medical bills.

Key Takeaways:

1. Privatization of District Hospitals in PPP Mode

- Madhya Pradesh is leasing 10 district hospitals to private players with 25% of beds reserved for paying patients.
- The scheme offers private operators **60% of project costs** and allows for full cost recovery.
- There are concerns that **private parties** may find it difficult to provide free care without charging high fees in medical colleges.

2. Challenges of Attaching District Hospitals to Private Medical Colleges

- Dual control between private medical colleges and government hospitals can lead to confusion and inefficiency.
- Government hospitals could lose control over their facilities, and poor patients might lose access to quality care.
- Lack of strong **contract management** could lead to public assets being controlled by private entities, reducing the government's ability to offer affordable care.

3. Problems with the U.S. Managed Care Model for India

- The U.S. system is based on **insurance**, where access to healthcare depends on one's ability to pay.
- Such a model could increase inequality in India, where the primary healthcare system is already chaotic.
- India lacks the **regulatory capacity** to manage the complexities and challenges of a managed care model.

4. Privatization and Lack of Social Security





- India already has one of the most **privatized health systems** in the world, leading to poor access to care for the **economically weaker sections**.
- Insufficient **budget allocations** for healthcare and the absence of strong **regulations** have allowed for-profit healthcare to thrive, often leading to exploitation.
- Nearly **20% of India's population** is unable to access medical care due to inability to pay, and about **60 million people** are driven to poverty by medical expenses.
- Rao warns that unregulated **for-profit healthcare** could be disastrous for the country's health system, especially in the absence of social security.

[Are antibiotics responsible for bowel diseases?: TH Science](#)

Science

Easy Explanation:

A recent study has shown that antibiotics, while helping fight infections, can also harm the body's own defense systems. In particular, the study found that antibiotics can damage the **mucus barrier** in the intestines, which protects the immune system from harmful bacteria. When this barrier is broken, bacteria can come into direct contact with the body's tissues, potentially causing **inflammation** and increasing the risk of conditions like **Inflammatory Bowel Disease (IBD)**.

In experiments with mice, researchers used four types of antibiotics and found that all of them could break down this protective mucus. One antibiotic, **vancomycin**, was found to significantly reduce mucus production, not by affecting the bacteria in the gut, but by directly acting on the cells responsible for producing mucus. This is a major concern because it shows that antibiotics can have harmful effects on the body, even when they are not targeting bacteria.

Researchers were also able to reverse some of the damage caused by vancomycin using a treatment that reduces stress in the cells that produce mucus. This discovery suggests that there may be ways to protect the body from the negative side effects of antibiotics in the future.

Key Takeaways:

1. Antibiotics and Mucus Barrier Damage

- Antibiotics can harm the **mucus barrier** in the intestines, which normally keeps harmful bacteria away from immune cells.
- Damage to this barrier can lead to bacteria coming into close contact with the body's tissues, causing **inflammation** and potentially contributing to conditions like **Inflammatory Bowel Disease (IBD)**.

2. Types of Antibiotics Studied

- Four antibiotics were tested: **ampicillin**, **metronidazole**, **neomycin**, and **vancomycin**.



| Clear your doubts now.



- All of these antibiotics were found to break down the mucus barrier, with **vancomycin** having the most significant impact by directly reducing mucus production from specialized cells called **goblet cells**.

3. Direct Effects on Host Cells

- Vancomycin not only targets bacteria but also directly affects **goblet cells** in the intestine, reducing their ability to produce mucus.
- This effect is **independent of gut bacteria**, meaning it acts directly on the body's cells, leading to **endoplasmic reticulum (ER) stress**, which hinders mucus production.

4. Potential Reversal of Damage

- Researchers found that treating mice with **TUDCA (tauroursodeoxycholic acid)** could reverse the damage caused by vancomycin by reducing **ER stress** in the mucus-producing cells.
- This discovery shows a potential way to mitigate the harmful effects of antibiotics on the mucus barrier.

5. Implications for IBD and Gut Health

- Repeated antibiotic use, combined with genetic factors, may increase the risk of developing **IBD** by eroding the protective mucus barrier over time.
- This study highlights the need for careful use of antibiotics and the exploration of treatments to protect against their side effects.

23 September 2024

[EARTH MAY ONCE HAVE HAD A RING COMPRISING ASTEROID DEBRIS:STUDY-Indian Express Explained](#)

Science

Easy Explanation

A recent study published in the journal *Earth and Planetary Science Letters* suggests that Earth may have once had a ring system similar to those of Saturn, Jupiter, Neptune, and Uranus. Approximately 466 million years ago, an asteroid passed too close to Earth and was torn apart by gravitational forces, forming a debris-laden ring around Earth's equator. Over tens of millions of years, this ring gradually dispersed, with smaller debris burning up in the atmosphere and larger pieces impacting the Earth's surface near the equator.

Key Takeaways:

- **Formation of Earth's Ring:** An asteroid's close encounter with Earth led to its disintegration, creating a ring of debris orbiting the planet's equator.



| Clear your doubts now.



- **Evidence from Impact Craters:** Analysis of 21 impact craters dating between 488 million and 443 million years ago—all located near the equator—supports the existence of the ring. This clustering is statistically unlikely if impacts were random.
- **Global Cooling Effects:** The ring may have acted like a giant parasol, shading parts of the Earth and contributing to global cooling. This could explain the dramatic temperature drop during the Hirnantian Ice Age, the coldest period in the past 500 million years.
- **Future Research:** Further mathematical modeling is needed to understand how such a ring would evolve over time and its precise impact on Earth's climate.
- **Significance:** The study offers a potential explanation for certain geological puzzles from Earth's past, particularly the clustering of equatorial impact craters and significant climatic shifts.

[Why Azerbaijan's new climate fund may not be enough to plug finance gap-Indian Express](#) [Explained](#)

International relations

Easy Explanation

Azerbaijan, the host of this year's COP29 climate change conference scheduled from November 11 to 22 in Baku, has proposed the creation of a new climate fund for developing countries. This fund is intended to be financed through voluntary contributions from fossil-fuel-producing countries and companies. The proposal emerges amidst ongoing and stalled negotiations on a new climate finance agreement, which aims to increase the current obligation of developed countries to mobilize at least \$100 billion annually for developing nations—a target they have consistently failed to meet. While well-intentioned, Azerbaijan's fund is viewed as unlikely to substantially bridge the climate finance gap due to its voluntary nature and questions about its potential impact.

Key Takeaways:

- **Azerbaijan's Proposed Climate Fund:**
 - Aims to support developing countries through voluntary contributions from fossil-fuel producers.
 - Introduced as COP29's host initiative to enhance climate finance availability.
- **Stalled Climate Finance Negotiations:**
 - Central agenda for COP29 is finalizing a new finance agreement to supersede the \$100 billion annual commitment post-2025.
 - Developed countries have not met the existing \$100 billion target, raising doubts about their commitment to increased funding.
- **Challenges in Defining Climate Finance:**
 - Disagreements persist over the exact definition and scope of climate finance.
 - Developing nations demand clarity to ensure accurate accounting and effective allocation.
- **Mitigation vs. Adaptation Funding Imbalance:**
 - Majority of funds are directed towards mitigation projects with global benefits.



| Clear your doubts now.



- Developing countries seek at least 50% of climate finance for adaptation projects that offer local benefits.
- **Calls for Increased Funding:**
 - Proposals suggest raising annual climate finance to between \$1 trillion and \$1.5 trillion.
 - The New Collective Quantified Goal on Climate Finance (NCQG) is expected to reflect the escalating costs of climate action.
- **Expanding the Donor Base Controversy:**
 - Developed countries advocate for emerging economies like China and Gulf nations to contribute.
 - Developing countries view this as a tactic by developed nations to evade their historical responsibilities.
- **Skepticism About Azerbaijan's Fund Impact:**
 - The voluntary nature raises concerns about its effectiveness in addressing the finance gap.
 - Seen more as a legacy initiative by the host nation rather than a solution emerging from collective negotiation.

[In our defence-Indian Express Editorial](#)

Internal security

Easy Explanation

Defence Minister Rajnath Singh's establishment of the Joint Commanders' Conference (JCC) is a positive development, creating a dedicated platform for in-depth discussions on national security between the Defence Minister and top military commanders. This complements the Combined Commanders' Conference (CCC) chaired by the Prime Minister, which has faced criticism for politicization and irregular meetings. The article emphasizes the urgent need for a comprehensive review of India's military capabilities, highlighting issues such as outdated equipment—with 68% classified as vintage according to a 2018 report—modernization shortfalls, equipment shortages, and significant manpower deficits exacerbated by schemes like Agnipath. Economic constraints, like the depreciating rupee, hinder modernization efforts. Recent security challenges, including the Galwan clash and increased cross-border terrorism, underscore the necessity for genuine preparedness and modernization rather than relying on superficial measures.

Key takeaways

Establishment of the Joint Commanders' Conference (JCC):

- Defence Minister Rajnath Singh has initiated the JCC, a new forum that brings together top military commanders for comprehensive discussions on national security directly with the Defence Minister.

Complementing the Combined Commanders' Conference (CCC):

- The JCC complements the CCC, which is chaired by the Prime Minister but has faced criticism for political overtones and irregular convening in recent years.

Urgent Need for Military Modernization:



| Clear your doubts now.



- India's armed forces require significant modernization due to outdated equipment and capability gaps across all three services—Army, Navy, and Air Force.

Outdated Equipment and Capability Gaps:

- A 2018 report highlighted that 68% of the Army's equipment is classified as vintage, with only 8% being state-of-the-art, underscoring the critical need for upgrades.

Economic Constraints Impacting Defense Procurement:

- The declining value of the Indian rupee against the US dollar has reduced purchasing power for foreign military acquisitions, hindering modernization efforts due to shrinking capital expenditure funds.

Manpower Shortages and Recruitment Challenges:

- There is a significant personnel deficiency of approximately 155,000 in the armed forces, with the Army accounting for the majority. The implementation of the Agnipath scheme has complicated recruitment patterns, necessitating a macro-level review.

Necessity for Genuine War Preparedness:

- Recent security challenges, such as the Galwan Valley clash in 2020 and increased cross-border terrorism, emphasize that peace cannot be assumed, highlighting the need for genuine preparedness and credible defense capabilities rather than relying on superficial measures.

[QUAD'S LIGHT TOUCH-Indian Express Editorial](#)

International relations

Easy Explanation

The Quadrilateral Security Dialogue (Quad), comprising Australia, India, Japan, and the United States, recently held its sixth summit in Wilmington, Delaware. Despite criticisms that its initiatives are modest, the Quad has achieved significant progress by focusing on providing public goods in the Indo-Pacific region, such as healthcare collaborations, cybersecurity, and technological advancements. This approach has allowed the Quad to avoid being labeled as an "Asian NATO" and has made it more acceptable to regional players like ASEAN. While the Quad maintains that it is not directed against any country, it indirectly addresses concerns about China's growing assertiveness. The forum's light-touch strategy has enabled India to deepen regional cooperation without compromising its non-aligned stance, and it may also open diplomatic channels for engagement with China.

Key Takeaways:

- **Strategic Evolution of the Quad:**



| Clear your doubts now.



- The Quad has expanded its agenda to include non-military initiatives like healthcare, cybersecurity, and technology cooperation.
- This broader focus helps avoid the perception of the Quad as a military alliance against China.
- **Avoiding the "Asian NATO" Label:**
 - By not centering solely on military cooperation, the Quad has become more acceptable to other regional entities like ASEAN.
 - The forum's approach reduces regional tensions and promotes collaboration.
- **India's Role and Non-Alignment:**
 - India participates in the Quad without compromising its traditional non-aligned foreign policy.
 - The Quad provides India with a platform for regional cooperation alongside the U.S. and its allies.
- **Indirect Response to China's Assertiveness:**
 - While not explicitly targeting China, the Quad addresses regional concerns about China's expanding influence.
 - Member countries are enhancing bilateral and trilateral military cooperation outside the Quad framework.
- **Opportunities for Diplomatic Engagement:**
 - The Quad's nuanced strategy may facilitate diplomatic dialogues with China.
 - Upcoming international forums could provide venues for leaders like India's Prime Minister Narendra Modi to engage with China's President Xi Jinping.
- **Significance of the Quad's Approach:**
 - The "light touch" strategy balances the need for regional security cooperation with the desire to maintain stable relations with China.
 - The Quad's achievements, though seemingly modest, contribute to regional stability and collaboration.

[Vancomycin may not be able to treat MRSA infections for long-The Hindu Science](#)

Science

Easy Explanation

A recent study published in *PLoS Pathogens* on August 29 indicates that vancomycin, a frontline antibiotic used for over 40 years to treat methicillin-resistant *Staphylococcus aureus* (MRSA), may not remain effective indefinitely. While MRSA rarely develops resistance to vancomycin—only 16 cases reported in India—the study found that *S. aureus* can adapt to vancomycin without incurring the usual fitness costs associated with resistance. Researchers observed that vancomycin-resistant *S. aureus* (VRSA) strains, when exposed to the antibiotic over extended periods, developed additional mutations that allowed them to grow faster and maintain resistance even in the absence of vancomycin. This adaptation could lead to VRSA strains that are both highly resistant to treatment and capable of spreading more readily in the population, posing a significant challenge to public health.

Key Takeaways:



| Clear your doubts now.



1. Vancomycin Resistance in MRSA is Increasing:

- Methicillin-resistant *Staphylococcus aureus* (MRSA) has been treatable with vancomycin for over 40 years, with resistance being rare.
- A new study indicates that MRSA can develop resistance to vancomycin without the usual fitness costs, threatening its long-term effectiveness.

2. Adaptation Mechanism Identified:

- MRSA acquires vancomycin resistance through the transfer of the vanA operon genes from other bacteria, becoming vancomycin-resistant *S. aureus* (VRSA).
- Prolonged exposure to vancomycin leads to genetic mutations that help VRSA strains overcome initial fitness deficits, allowing them to grow efficiently.

3. Persistent Resistance Even Without Vancomycin:

- Evolved VRSA strains maintained their resistance even after being cultured in vancomycin-free environments.
- This suggests that once VRSA overcomes the fitness cost, it can remain resistant and spread more readily.

4. Implications for Antibiotic Treatment:

- The study underscores the urgent need to develop new antibiotics and treatment strategies to combat VRSA and other antibiotic-resistant pathogens.
- Immediate cessation of vancomycin use upon detection of VRSA is recommended to prevent further resistance development.

5. Potential Loss of Resistance to Other Antibiotics:

- Evolved VRSA strains showed reduced resistance to other antibiotics like oxacillin, although they might regain it through other mechanisms.
- This highlights the complex dynamics of antibiotic resistance in bacteria.

6. Need for Further Research:

- The study did not assess how the evolved VRSA strains behave in living hosts, indicating a need for in vivo studies.
- Exploring other mechanisms of vancomycin resistance is essential for comprehensive understanding and management.

7. Public Health Concerns:

- Antimicrobial resistance is a significant global health crisis, with MRSA responsible for over 100,000 deaths in 2019.
- The potential increase in VRSA strains could exacerbate the challenge of treating MRSA infections worldwide.

[Judicial appointments and disappointments-The Hindu Text and Context](#)

Polity

Easy Explanation

The article addresses concerns about the current system of judicial appointments in India, particularly focusing on the shortcomings of the collegium system. It emphasizes the necessity of balancing judicial independence with accountability to prevent potential undemocratic practices and abuses of power. The



| Clear your doubts now.



author argues that without clear principles and transparency in the selection process, the judiciary risks being influenced by class biases and may not fully represent democratic values. To remedy this, the article advocates for the establishment of a Judicial Appointments Commission through a constitutional amendment. This commission would be responsible for selecting judges based on well-defined criteria, ensuring they uphold the Constitution's ideals and remain insulated from political and corporate pressures. Public involvement and scrutiny are highlighted as crucial components to enhance the legitimacy and trust in the judiciary.

Key Takeaways

Balancing Judicial Independence with Accountability:

- Judicial independence is essential but must be paired with accountability to prevent undemocratic practices and misuse of power.

Critique of the Collegium System:

- The current system for appointing judges lacks transparency, clear selection principles, and public involvement, leading to potential biases and an unrepresentative judiciary.

Proposal for a Judicial Appointments Commission:

- Advocates replacing the collegium system with an independent commission established through a constitutional amendment, chaired by the Chief Justice of India, to ensure a fair and transparent selection process.

Transparent and Principled Selection Process:

- Calls for clear criteria and thorough investigation into candidates' qualifications, character, and potential biases by an independent agency under the commission's control.

Public Participation Enhances Trust:

- Involving the public in the appointment process increases transparency, legitimacy, and trust in the judiciary.

Independence from Political and Corporate Influence:

- Emphasizes that the judiciary and the proposed commission must remain free from external pressures to ensure impartiality and uphold constitutional values.

Necessity of Constitutional Amendment and Parliamentary Action:

- Establishing the commission requires a constitutional amendment and parliamentary action to define its structure, powers, and guiding principles, ensuring it operates independently and aligns with democratic ideals.





On the pitfalls of estimating GDP-The Hindu Text and Context

Economy

Easy Explanation

The article highlights concerns regarding the methods used by India's National Statistical Office (NSO) in estimating Gross Domestic Product (GDP), especially with the upcoming revision of the GDP base year to 2020-21. The NSO is considering replacing the current Ministry of Corporate Affairs' MCA-21 database with Goods and Services Tax (GST) data to estimate value addition in the Private Corporate Sector (PCS), which constitutes about 38% of GDP. Previously, the adoption of the MCA-21 database in the 2011-12 base year revision led to significant discrepancies and skepticism due to overestimation of GDP figures, particularly in the manufacturing sector. Critics argue that using untested datasets like GST without proper validation could repeat past mistakes. The article urges the NSO to conduct thorough pilot studies and validations before implementing GST data for GDP estimation to ensure accuracy and maintain public trust.

Key takeaways

Importance of Accurate GDP Estimation:

- Gross Domestic Product (GDP) is a crucial measure of a country's economic size and is essential for international comparisons, policy decisions, and economic planning.
- Accurate GDP figures are vital for assessing tax burdens, welfare expenditures, and economic performance.

Upcoming Revision of GDP Base Year:

- India's National Statistical Office (NSO) plans to revise the GDP base year to 2020-21 to reflect changes in relative prices and output composition.
- Such revisions are necessary every 5-10 years to keep GDP calculations current and relevant.

Proposal to Use GST Data:

- The NSO is considering replacing the Ministry of Corporate Affairs' MCA-21 database with Goods and Services Tax (GST) data for estimating value addition in the Private Corporate Sector (PCS), which accounts for about 38% of GDP.
- GST data is extensive and up-to-date but remains untested for GDP estimation purposes.

Concerns from Previous Data Usage:

- The adoption of the MCA-21 database in the 2011-12 GDP revision led to significant discrepancies and overestimations, particularly in the manufacturing sector.
- For example, in 2013-14, the manufacturing growth rate was revised from a decline of 1.9% to a growth of 5.4%, causing skepticism about the new GDP figures.

Risks of Using Untested Datasets:



| Clear your doubts now.



- Relying on unverified data like GST without proper validation could lead to inaccuracies similar to those experienced with the MCA-21 database.
- Inaccurate GDP estimates can mislead policymakers, affect economic credibility, and result in inappropriate policy decisions.

Need for Thorough Validation and Transparency:

- The NSO should conduct pilot studies to verify the GST data's suitability for estimating value addition across industries, sectors, and states.
- Transparency in methodology and allowing independent scrutiny are essential to ensure the reliability and integrity of GDP estimates.

Recommendation to Consider Alternative Data Sources:

- The article suggests reconsidering the use of the Annual Survey of Industries (ASI) for estimating manufacturing GDP, as it is now available with shorter time lags.
- ASI data may provide more consistent and reliable estimates compared to untested datasets like GST.

[India needs a 'National Security Strategy'-The Hindu Editorial](#)

International relations

Easy Explanation

India urgently needs a National Security Strategy (NSS) to address growing external threats, rising global complexities, and its own economic ambitions. A robust NSS would integrate defence, economic priorities, and foreign policy into a coherent framework, helping India navigate challenges like its tense relations with China and manage alliances such as the Quad and BRICS. The strategy should prioritize threat identification, allocation of resources, and the development of key military capabilities. However, such a strategy should remain confidential to avoid exposing India's vulnerabilities. It would also provide a clear direction for aligning defence and economic policies, ensuring the country's overall security and growth objectives are achieved efficiently.

Key Takeaways:

- 1. Need for an NSS:**
 - India requires a National Security Strategy to bring together defence, economy, and foreign policy in a unified framework amid growing threats and global instability.
- 2. Economic Strength is Key:**
 - A strong economy is crucial for national security, as it ensures the country's sovereignty and ability to engage in international relations independently.
- 3. Importance of Confidentiality:**
 - The NSS should be kept secret to avoid exposing India's weaknesses, especially regarding its ability to defend against stronger adversaries like China.
- 4. Multialignment Approach:**



| Clear your doubts now.



- India follows a “multialignment” strategy, balancing between various global groupings (e.g., Quad, BRICS) to safeguard its interests while avoiding formal alliances.
5. **Need for Military Modernization:**
 - India must prioritize upgrading its military capabilities, especially in areas like submarine and ship-building, to counter threats in the Indo-Pacific region.
 6. **Public vs. Internal Messaging:**
 - While public chest-thumping may appeal to social media, the NSS must avoid overstatements and instead focus on realistic, strategic objectives for both internal and external security.
 7. **Integration of Defence and Economy:**
 - A well-formulated NSS will link national security with economic policies, helping industries and financial institutions align with the country’s long-term strategic goals.

24 September 2024

[How SC strengthened child pornography law-Indian Express Explained](#)

Polity

Easy Explanation

The Supreme Court of India has broadened the definition of "possession" of child pornography, expanding it to include viewing, displaying, or possessing such content without sharing it. The ruling strengthens the law under the Protection of Children from Sexual Offences (POCSO) Act. Section 15 of the Act, which originally covered possession for commercial purposes, now punishes those who fail to report or delete child pornographic material. The court's ruling includes the concept of "constructive possession," where control over the content, even without physical possession, could lead to criminal liability. The judgment emphasized that even viewing child pornography without downloading or sharing could be punishable.

Key Takeaways

1. **Expanded Definition of Possession:** Even viewing or controlling child pornography content without downloading is now punishable.
2. **Increased Punishments:** Penalties include fines and imprisonment, with stricter consequences for repeated offenses.
3. **Focus on Reporting:** Failure to report child pornography is an offense, even if the content is deleted.
4. **Constructive Possession:** Control or access to child pornography is enough for liability, not just physical possession.
5. **Judgment:** The ruling overturned a previous Madras High Court decision and reinforced the need for strict interpretation of child pornography laws.



| Clear your doubts now.



Drought, deforestation, climate change: Why South America is burning - Indian Express Explained

Environment

Easy Explanation

South America is experiencing its worst forest fire season in nearly two decades, with a record-breaking number of fire hotspots detected across the continent. Brazil leads the devastation, accounting for 60% of the fires, followed by Bolivia, Peru, Argentina, and Paraguay. The fires have severely impacted key ecosystems such as the Amazon rainforest, Cerrado savanna, and Pantanal wetlands, burning over 11 million hectares of land. The widespread smoke has deteriorated air quality across multiple countries, causing health crises and increasing premature deaths. The severity of this year's fires is attributed to extreme drought conditions exacerbated by deforestation and climate change, particularly the lingering effects of the El Niño event. The situation remains precarious as the wildfire season continues, with uncertainty surrounding upcoming rainfall that could mitigate the fires.

Key Takeaways

- **Record-Breaking Fire Season:** South America has surpassed previous records with 346,112 fire hotspots detected this year, the highest since 2007.
- **Brazil's Dominance:** As the largest country in the continent, Brazil is the hardest hit, responsible for 60% of the current fires, burning over 11 million hectares.
- **Severe Ecosystem Damage:** Critical ecosystems like the Amazon rainforest, Cerrado savanna, and Pantanal wetlands are extensively damaged, threatening biodiversity.
- **Health Impacts:** Toxic smoke has spread over 10 million square kilometers, deteriorating air quality in cities across southern Brazil, northern Argentina, Bolivia, Paraguay, and northeastern Uruguay. This has led to poor visibility, black rain, respiratory issues, and an increase in premature deaths.
- **Contributing Factors:**
 - **Extreme Drought:** The continent is facing one of its worst droughts, with 59% of Brazil experiencing drought conditions and rivers in the Amazon basin at historic lows.
 - **Deforestation:** High levels of deforestation, particularly in the Amazon, have altered weather patterns, exacerbating drought and making forests more susceptible to fires.
 - **Climate Change:** Rising temperatures due to climate change have made droughts 30 times more likely, leading to higher temperatures and reduced rainfall.
- **Human Activities:** Farmers burning land for cultivation often unintentionally ignite wildfires that spread into forests.
- **Uncertain Future:** It is unclear whether the number of wildfires will continue to rise, as the onset of the rainy season in October remains uncertain.
- **Long-Term Projections:** Climate models predict that extreme weather events like droughts and wildfires will become more frequent and severe in the coming years as global temperatures continue to rise.
- **Urgent Need for Action:** The crisis underscores the urgent need for sustainable land management, stricter deforestation controls, and robust climate action to mitigate future wildfire risks.



| Clear your doubts now.



THE DISCONNECTED CITIZEN-Indian Express Editorial

Sociology

Easy Explanation

The recent communal tensions in Himachal Pradesh highlight a deeper governance issue rather than being purely a Hindu-Muslim conflict. These tensions stem from a lack of effective local governance and the disconnect between citizens and decision-making authorities. Governance has become centralized, with state governments and remote officials controlling local matters, leaving residents without a voice in their own communities. Local bodies, weakened by state governments despite constitutional amendments, have little power to manage basic services like cleanliness, public order, and infrastructure. This disconnect fosters public frustration, which sometimes manifests in communal or caste-based conflicts. Good governance, based on subsidiarity, should empower local citizens, but in India, the people are often reduced to passive recipients of government "manna" rather than active participants.

Key Takeaways

1. **Governance Disconnect:** Local governance is detached from citizens, leading to frustration and social tension.
2. **Lack of Local Power:** Despite constitutional amendments, local self-government bodies have limited authority, as state governments control most matters.
3. **Subsidiarity Principle Ignored:** Decisions should be made at the local level closest to the people, but this is lacking in India.
4. **Citizens as Passive Recipients:** People are seen as beneficiaries of government largesse rather than active participants in governance.
5. **Underlying Cause of Conflicts:** Tensions arise due to governance failures rather than religious or communal issues.

Maldives model in Lanka-Indian Express Editorial

International relations

Easy Explanation

The year 2024 has been challenging for India's "Neighbourhood First" policy, especially with recent political changes in Sri Lanka. Anura Kumara Dissanayake, from the left-wing Janatha Vimukthi Peramuna (JVP), won Sri Lanka's presidential election, marking a shift away from traditional political parties. His victory reflects public frustration with past governments that were seen as corrupt and ineffective. Although the JVP has a radical history, it now claims to focus on economic recovery, but Dissanayake's policies, like reviewing Sri Lanka's agreements with the IMF and India's Adani group, could destabilize the economy. India must navigate this situation carefully, considering its strong economic ties with Sri Lanka, similar to its handling of hostile relations in the Maldives. Overall, India needs a unified South Asia strategy to manage its relationships with neighbors like Bangladesh, Pakistan, and Nepal, focusing on regional economic integration and leadership in addressing challenges like climate change.



| Clear your doubts now.

Key Takeaways

1. Sri Lanka's new president comes from a radical background but has shifted to economic issues.
2. His policies might disrupt Sri Lanka's fragile economic recovery and affect ties with India.
3. India needs a clear South Asia policy to handle the growing instability in its neighborhood.
4. Economic interdependence with Sri Lanka, like with the Maldives, can help stabilize relations.
5. India's regional strategy should also focus on economic integration and cooperation on big issues like climate change.

[How to enable transit oriented development-The Hindu Text and Context](#)

Economics

Easy Explanation

India is investing ₹3 trillion (2022-2027) in metro rail projects across 27 cities, aiming to improve urban mobility and unlock economic potential. Transit-Oriented Development (TOD) is key to maximizing the benefits of this investment, focusing on creating compact, mixed-use communities near public transport systems to reduce congestion, promote sustainable transport, and improve access to jobs. A case study of Bengaluru shows the need for integrated planning to bring jobs closer to metro stations, which would enhance workforce productivity and economic growth.

Bengaluru's job density is highest near metro stations, particularly in service sectors, but many job clusters remain poorly connected. Challenges include lack of suitable properties, high real estate costs, and regulatory barriers. The report recommends setting targets for job densities near transit, providing incentives for businesses, improving infrastructure, and fostering public-private partnerships. Globally, cities like Hong Kong have succeeded with TOD, boosting economic growth while reducing emissions.

Key Takeaways

1. **Investment in Metro Projects:** India is heavily investing in metro rail systems to improve urban mobility and unlock economic potential.
2. **Importance of Transit-Oriented Development (TOD):** TOD focuses on creating compact, mixed-use communities near transit stations, promoting sustainable transportation and reducing congestion.
3. **Boosting Productivity in Bengaluru:** Bringing jobs closer to metro stations in Bengaluru can enhance workforce productivity and participation.
4. **Challenges to TOD Implementation:**
 - Lack of suitable properties near transit stations.
 - High property prices and market saturation.
 - Unfavorable development regulations and infrastructure deficiencies.
5. **Recommendations for Improvement:**
 - Set targets for job densities near transit in city planning.
 - Provide incentives for businesses to locate near transit stations.
 - Upgrade infrastructure and enhance last-mile connectivity.





- Foster public-private partnerships to facilitate development.
6. **Global Examples:** Cities like Hong Kong demonstrate the success of TOD in boosting economic growth while reducing carbon emissions.
 7. **Need for Integrated Planning:** Coordinated efforts between government, private sector, and communities are essential to shape inclusive, sustainable urban growth.

[What is California's new anti-deepfake bill and can it stop manipulated political ads?-The Hindu text and Context](#)

Science and technology

Easy Explanation

In September 2024, California Governor Gavin Newsom signed three bills to regulate deepfakes in political campaign advertisements, prompted by a controversial deepfake video of Vice President Kamala Harris shared by Elon Musk. This incident raised significant concerns about misinformation and its potential to manipulate voters.

The legislation, known as the Defending Democracy from Deepfake Deception Act of 2024, includes AB 2655, which requires large online platforms to block or label materially deceptive election-related content during specific periods; AB 2839, which extends the timeframe for prohibiting deceptive AI-generated content in election ads; and AB 2355, which mandates disclosure in electoral ads that contain AI-generated or altered content.

These measures aim to protect electoral integrity and enhance transparency in political advertising, with Newsom emphasizing the need to maintain public trust in democracy. However, challenges remain regarding enforcement and potential legal pushback from tech companies. Critics, including Musk, argue that these laws may infringe on free speech rights. Ultimately, the effectiveness of this legislation will depend on compliance from major tech platforms as the political landscape evolves.

Key Takeaways

1. **Legislation Overview:** Governor Gavin Newsom signed three bills in September 2024 to regulate deepfakes in political ads, collectively known as the Defending Democracy from Deepfake Deception Act of 2024.
2. **Motivation:** The legislation was prompted by a controversial deepfake video of Vice President Kamala Harris shared by Elon Musk, raising concerns about misinformation and voter manipulation.
3. **Key Bills:**
 - AB 2655: Requires large online platforms to block or label materially deceptive election-related content during specific periods.
 - AB 2839: Extends the timeframe for prohibiting deceptive AI-generated content in election ads.
 - AB 2355: Mandates disclosure in electoral ads containing AI-generated or altered content.
4. **Objectives:** The laws aim to protect electoral integrity and enhance transparency in political advertising, emphasizing the need for public trust in democracy.



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5. **Challenges:** While some AI companies are complying, enforcement and potential legal pushback from tech platforms remain concerns, with critics arguing these laws may infringe on free speech.
6. **Impact:** The effectiveness of this legislation will depend on enforcement and compliance from major tech companies as the political landscape evolves.

[Massive Greenland landslide sent seismic waves around earth for 9 days-The Hindu science](#)

Geography

Easy Explanation

On September 16, 2023, seismic stations globally detected an unusual signal, lasting nine days. Initially classified as an unidentified seismic object (USO), the source was eventually identified as a massive landslide in Greenland's Dickson Fjord. The landslide, caused by the collapse of the Hvide Støvhorn peak, displaced 25 million cubic meters of rock and ice, leading to a 200-meter-high mega-tsunami. The tsunami's waves reverberated within the fjord, creating a phenomenon known as a "seiche" — back-and-forth wave motions that caused the Earth to ring like a bell. The event's cause was linked to glacier melting due to global warming, as the ice at the glacier's foot could no longer support the rocky slopes. Scientists warn that such landslide-induced mega-tsunamis may become more frequent due to continued climate change.

Key Takeaways:

1. **Global Seismic Event:** Seismic waves from a landslide in Greenland caused the Earth to ring for nine days, detected worldwide.
2. **Mega-Tsunami:** The landslide resulted in a 200-meter-high tsunami, although no human casualties were reported.
3. **Seiche Phenomenon:** The waves oscillated in the fjord, creating a unique seismic pattern detected across the globe.
4. **Link to Climate Change:** The landslide was triggered by melting glaciers, highlighting the growing impact of global warming on Earth's geological stability.
5. **Future Risks:** Scientists predict that landslide-induced mega-tsunamis may become more frequent as climate change accelerates glacier and permafrost melt.
6. **Collaboration in Research:** Over 68 researchers from 15 countries worked together to unravel the mystery using seismic data, satellite imagery, and simulations.

[Number of rhinos slightly increases, but so does threat of poaching-The Hindu Science](#)

Environment

Easy Explanation

The global rhinoceros population has seen a slight increase, particularly in white rhinos, which grew from 15,942 in 2022 to 17,464 in 2023. However, poaching remains a significant threat, with 586 rhinos killed in Africa in 2023, mainly in South Africa. Black and greater one-horned rhino populations have remained stable, but the northern white rhino is nearly extinct, with only two females left. Conservation efforts, such as



| Clear your doubts now.



protected sanctuaries and the use of technology to track rhinos, have helped increase populations in certain regions, including Kenya, where rhino numbers rose from 380 in 1986 to 1,000 in 2022. Despite these efforts, poaching driven by demand for rhino horns for medicinal use continues to be the greatest threat to rhinos.

Key Takeaways:

1. **Population Increase:** The white rhino population has increased slightly, but the overall rhino population remains under 28,000 worldwide.
2. **Poaching Still a Major Threat:** Despite conservation efforts, poaching, especially in South Africa, increased from 551 killings in 2022 to 586 in 2023, largely driven by demand for rhino horns.
3. **Northern White Rhino on Brink of Extinction:** Only two female northern white rhinos remain, with conservationists working on developing embryos for future survival.
4. **Conservation Successes in Kenya:** Rhino populations in Kenya have grown significantly due to strict protection and the establishment of sanctuaries.
5. **Environmental Importance:** Rhinos contribute to ecosystems by dispersing seeds and shaping habitats for other species.
6. **Need for Education and Technology:** Experts emphasize the importance of ending the demand for rhino horns through education and improving protection through technology.
7. **Urgent Conservation:** Preservation efforts for species like the northern white rhino serve as a reminder of the importance of proactive conservation.

25 September 2024

[Why ISRO's planned mission to Venus is important-Indian Express Explained](#)

Science and technology

Easy Explanation

ISRO plans to launch its first mission to Venus in **March 2028**, following the success of the Mars Orbiter Mission. The spacecraft will orbit Venus, studying its **surface, atmosphere, and ionosphere**. Venus, often called Earth's "twin" due to its similar size and mass, has extreme conditions like **462°C** temperatures and thick atmospheric pressure. Scientists believe Venus may have once had liquid water, making it crucial for understanding planetary evolution.

The mission will carry **100 kg** of instruments to study the planet's atmosphere and surface. ISRO will use **aero-breaking** to adjust the spacecraft's orbit, allowing detailed research. The mission will help explain Venus's evolution and offer insights into Earth's climate future.

Key Takeaways

1. **First ISRO Mission to Venus:** ISRO aims to launch its first Venus mission in **March 2028**.



| Clear your doubts now.



2. **Venus-Earth Similarities:** Venus is Earth's "twin" in size and mass but has extreme temperatures and thick atmospheric pressure.
3. **Scientific Goals:** The mission will study Venus's **surface, atmosphere, and ionosphere** to understand its evolution.
4. **Aero-breaking Technique:** ISRO will use **aero-breaking** to reduce the spacecraft's orbit, conserving fuel for detailed research.
5. **Importance for Earth:** Studying Venus may offer insights into Earth's climate and why Venus became uninhabitable despite its similarities to Earth.

[WHEN DID HUMANS FIRST RIDE HORSES? THE COMPLEX ANSWER IN NEW STUDY-Indian Express Explained](#)

History

Easy Explanation

A new study has questioned the long-held **Kurgan hypothesis**, which suggests humans started riding horses around **3500 BC**. This theory links horse domestication with the spread of Indo-European languages by the **Yamnaya** people near the Black Sea. The study, published in *Science Advances*, found that while **horseback riding** can leave subtle marks on human skeletons, these changes are not definitive proof of riding. Similar skeletal alterations can result from other activities, such as prolonged sitting or cart riding, making it difficult to confirm early horse riding solely from human remains. Researchers argue that to fully understand the timeline of horse domestication, skeletal evidence must be combined with **genetic, archaeological, and horse remains** findings.

Key Takeaways

1. **Kurgan Hypothesis:** Suggests horse domestication started around **3500 BC** by the Yamnaya people, spreading Indo-European languages.
2. **New Study:** Found that skeletal changes thought to indicate horse riding could also result from other activities like cart riding.
3. **Skeletal Evidence Limitations:** Human remains alone can't confirm early horse domestication.
4. **Broader Approach:** Researchers suggest combining **genetics, archaeology, and horse remains** for a clearer understanding of when horse riding began.

[Tech Diplomacy 4.0-Indian Express Editorial](#)

International relations

Easy Explanation

India's technology diplomacy has reached a new peak under **Prime Minister Narendra Modi**, with technology cooperation central to India's relations with the **United States**. Modi's recent US visit emphasized partnerships in **semiconductors, biotechnology, telecom, AI, clean energy, quantum computing**, and



| Clear your doubts now.



nuclear technologies. This reflects India's broader engagement with countries like **France, Germany,** and **Japan** to modernize its tech base.

India has had three previous phases of tech diplomacy, starting with **Jawaharlal Nehru's** efforts in the 1950s. However, internal and external challenges, including geopolitics and non-proliferation regimes, hindered progress. Today, **Washington's rivalry with China** and global supply chain shifts have created favorable conditions for **India-US tech collaboration.** Modi's government, since 2014, has expanded its focus to include **AI, semiconductors,** and **green tech.**

The US-India **iCET initiative** highlights a growing strategic and technological partnership, with **Indian talent** playing a key role. However, for India to fully benefit, **domestic reforms** in science and technology sectors are necessary.

Key Takeaways

1. **India-US Tech Partnership:** A major focus of Modi's US visit, covering areas like semiconductors, AI, and quantum computing.
2. **Historic Tech Diplomacy:** India has seen three earlier phases of tech diplomacy, starting with Nehru's focus on nuclear and space technology.
3. **Favorable Geopolitics:** US rivalry with China and shifting global supply chains have boosted India's role as a tech partner.
4. **Domestic Reforms Needed:** For sustained progress, India must reform its **science and technology sectors.**
5. **iCET Initiative:** India-US collaboration on **critical and emerging technologies** is central to their growing defense and tech partnership.

[Why the 'fact-checking' unit was invalidated-The Hindu text and Context](#)

Polity

Easy Explanation

On **September 20, 2024,** the **Bombay High Court** struck down the amended **Information Technology (IT) Rules, 2021,** which enabled the Union government to set up a **Fact-Checking Unit (FCU)** to label content about the government as "fake, false, or misleading." The court ruled that the rules were **unconstitutional** and **vague,** violating the freedom of speech under **Article 19(2)** of the Constitution. The ruling followed a split verdict earlier in 2024. While one judge viewed the amendments as **ensorship,** the other argued the government should combat misinformation. The **Supreme Court** had previously stayed the FCU's notification due to serious constitutional concerns. The Union government is expected to appeal the decision.

Key Takeaways

1. **Bombay High Court Ruling:** The **FCU provisions** in the amended IT Rules were struck down as **unconstitutional** due to vagueness and arbitrariness.
2. **Freedom of Speech Violation:** The court ruled that the rules imposed **unreasonable restrictions** on free speech, beyond what is allowed under **Article 19(2).**



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3. **Vagueness in Definitions:** The terms "**fake, false, or misleading**" were deemed **vague**, allowing potential misuse by the government.
4. **Future Appeal:** The Union government is likely to **appeal** the decision before the **Supreme Court**.
5. **Wider Impact:** The ruling may affect similar **fact-checking units** in **Tamil Nadu** and **Karnataka**.

[What are retractions and why do they matter?-The Hindu text and Context](#)

Science and technology

Easy Explanation

Retractions are the process by which scientific papers are removed from academic literature when they are found to be flawed due to honest errors or deliberate manipulation. Retractions are increasing globally, often due to plagiarism, image manipulation, and the influence of **paper mills**—companies that produce fake or low-quality papers for profit. India has faced a growing problem of research misconduct, with several researchers being retracted for fraudulent practices. Retractions help protect the integrity of scientific literature, but challenges like the "**publish or perish**" culture and academic pressures contribute to the rise of falsified research.

The **retraction index** measures how often papers are retracted, particularly from high-impact journals. This metric is important because retractions are more common in journals with higher **impact factors**.

Efforts to combat fraud include improving the peer-review process and developing tools to detect fake papers. However, deeper reforms in research evaluation systems are needed to prioritize **quality over quantity** and reduce misconduct.

Key Takeaways

1. **Retraction Definition:** A scientific paper is retracted when it is found to contain serious flaws, either due to error or fraud.
2. **Retraction Index:** Measures the ratio of retracted papers to total published papers in a journal, highlighting issues in high-impact journals.
3. **Causes of Retraction:** Common reasons include plagiarism, data manipulation, and the use of **paper mills** to generate fake research.
4. **Paper Mills:** These enterprises sell fake or poor-quality papers, driven by academic pressures and university rankings.
5. **Publish or Perish:** The culture of prioritizing paper counts for promotions and academic success encourages research misconduct.
6. **Impact on Science:** Misconduct erodes trust among scientists and undermines the credibility of scientific research.

[How BMI is becoming an inadequate measure for health-The Hindu Text and Context](#)

Science

Easy Explanation



| Clear your doubts now.



BMI (Body Mass Index) is a widely used metric to assess health based on a person's weight and height, but it has several limitations. It does not distinguish between fat, muscle, or water, nor does it show fat distribution in the body. Athletic individuals or different ethnic groups may have misleading BMI scores. **BRI (Body Roundness Index)**, introduced in 2013, incorporates waist circumference and offers a better prediction of health risks by measuring body fat distribution, especially around the abdomen, which is more linked to conditions like **diabetes** and **heart disease**.

Recent studies indicate BRI may be more reliable than BMI for identifying **metabolic syndrome** and other health risks. While BRI shows promise, it is subject to human error in measurement and lacks extensive data compared to BMI. Waist-to-height ratio is also recommended as a simple method to assess health risks.

Key Takeaways

1. **Limitations of BMI:** BMI does not account for muscle mass, fat distribution, or ethnic differences, leading to potential inaccuracies.
2. **BRI (Body Roundness Index):** A newer index that includes waist circumference, providing better insights into health risks, particularly related to fat distribution.
3. **Health Risks:** BRI is more accurate in predicting **diabetes**, **heart disease**, and **metabolic syndrome** by focusing on abdominal fat.
4. **Human Error in BRI:** Measuring waist circumference manually can lead to errors, making BRI less reliable if not done carefully.
5. **Waist-to-Height Ratio:** A simple, effective method for monitoring health risks, especially related to obesity and abdominal fat.

[Beads on the moon suggest it had volcanoes more recently than thought-The Hindu Science](#)

Science

Easy Explanation

Recent research, based on samples collected by China's **Chang'e-5 mission**, challenges the belief that volcanic activity on the moon ceased a billion years ago. A study published in **Science** on September 5, 2024, found evidence that the moon might have had active volcanoes as recently as **120 million years ago**. Researchers analyzed **lunar glass beads**, small glassy pieces formed by volcanic eruptions or asteroid impacts. Through **sulphur isotope analysis** and radiometric dating, they discovered that some of the beads were of volcanic origin, dating them between **116 and 135 million years**. This discovery raises questions about how volcanic activity persisted on the moon for so long, which future missions like **Chandrayaan-4** may help answer through further sampling and analysis of lunar materials.

Key Takeaways

1. **Volcanic Activity on the Moon:** Evidence suggests that the moon had volcanic activity as recently as **120 million years ago**, much later than previously thought.
2. **Lunar Glass Beads:** Researchers analyzed glass beads formed by volcanic or impact events, finding three samples that originated from volcanic eruptions.



| Clear your doubts now.



3. **Sulphur Isotope Analysis:** This method, rarely used for lunar materials, helped confirm the volcanic origins of the beads.
4. **Chandrayaan-4 Mission:** Future missions, like **Chandrayaan-4**, could further explore lunar volcanic history by conducting on-site analysis of moon materials.
5. **New Questions:** The discovery raises questions about how volcanic activity continued on the moon even after its interior cooled and lithosphere thickened.

[Navigating cross-border insolvency-The Hindu Editorial](#)

Internal security

Easy Explanation

The integration of **cross-border insolvency** laws into a country's legal system is vital for supporting **international trade** and ensuring the stability of businesses with global operations. The **UNCITRAL Model Law** on cross-border insolvency, established in the late 1990s, provides a framework based on **access, recognition, cooperation, and coordination**, but only 60 countries have adopted it. India has not yet fully implemented this Model Law, relying instead on **ad hoc bilateral agreements**, which are seen as inadequate.

Despite India's growing participation in **Free Trade Agreements (FTAs)** and more integrated agreements like **CECA/CEPA**, cross-border insolvency provisions are largely absent. Scholars suggest that while adopting the Model Law is crucial, FTAs and similar agreements can also integrate insolvency clauses to strengthen trade relations. Given the increasing complexity of international commerce, incorporating insolvency provisions into trade agreements would benefit both India's trade framework and its legal system.

Key Takeaways

1. **Importance of Cross-Border Insolvency:** It strengthens international trade by providing legal certainty for businesses with global operations.
2. **UNCITRAL Model Law:** Provides a global framework, but India has not yet adopted it despite its potential benefits.
3. **Current Indian Approach:** India relies on **bilateral insolvency agreements**, which are considered inadequate for addressing complex cross-border insolvency issues.
4. **FTAs and Insolvency:** While FTAs and CEPAs cover many trade-related aspects, they mostly ignore **cross-border insolvency** provisions.
5. **Recommendation:** Integrating **insolvency clauses** in FTAs and similar agreements could provide India with a more robust framework for international trade and business stability.



| Clear your doubts now.



26th September 2024

[Two years of Project Cheetah: Status report and the road ahead-Indian Express Explained](#)

Environment

Easy Explanation

Project Cheetah, which aimed to introduce African cheetahs to India, completed two years on September 17. The goals were to establish a stable cheetah population and restore open natural ecosystems. While 24 cheetahs remain, including 12 adults and 12 cubs, the project has faced challenges. Eight cheetahs have died from issues like infections, while five cubs have also perished. Most cheetahs are still kept in enclosures due to concerns about their ability to survive in the wild. The prey population in Kuno National Park has also decreased, affecting the cheetahs' chances of thriving. There is criticism over the delay in releasing cheetahs into the wild, and the lack of a proper prey base has raised questions about the project's management. Authorities plan to release more cheetahs after the monsoon, but restoring the necessary habitat and addressing prey shortages will be difficult tasks ahead.

Key Takeaways

1. **24 cheetahs survive:** 12 adults and 12 cubs remain after two years.
2. **8 cheetahs and 5 cubs died:** Due to various reasons like infections and attacks.
3. **Most cheetahs still in enclosures:** Delays in releasing them into the wild.
4. **Prey shortage problem:** Declining prey numbers in Kuno National Park impacting cheetah survival.
5. **Challenges ahead:** Restoring habitats, boosting prey base, and managing cheetah movements across large areas.

[WHY SRI LANKA'S NEW PRESIDENT HAS DISSOLVED COUNTRY'S PARLIAMENT-Indian Express Explained](#)

International relations

Easy Explanation

Sri Lanka's new President, Anura Kumara Dissanayake, dissolved Parliament a day after assuming office and announced a snap election for November 14. He argued that the current Parliament no longer reflected the will of the people and that he needed a fresh mandate to implement his policies. Dissanayake, from the National People's Power (NPP) party, rose to power after leading protests in 2022 against economic mismanagement and corruption, which led to the ousting of the powerful Rajapaksa family. The current Parliament, elected in 2020, was dominated by the Sri Lanka Podujana Peramuna (SLPP) party, allied with former President Gotabaya Rajapaksa. The NPP, previously on the political fringe, gained significant popularity due to the 2022 protests. With the upcoming elections, the NPP is expected to make major gains.



| Clear your doubts now.



For now, Dissanayake has appointed Harini Amarasuriya as interim Prime Minister, and a new government will be formed after the November election.

Key Takeaways

1. **New President Dissolves Parliament:** Anura Kumara Dissanayake dissolved Sri Lanka's Parliament a day after taking office and called for snap elections on November 14.
2. **Seeking a Fresh Mandate:** He aims to form a new Parliament that aligns with his policies and the desires of the people.
3. **Rise of the NPP:** The National People's Power alliance grew from a fringe party to prominence after leading mass protests in 2022 against economic mismanagement and corruption.
4. **Rajapaksa Family Ousted:** The protests led to the fall of the Rajapaksa family's influence and President Gotabaya Rajapaksa fleeing the country.
5. **Interim Government Established:** Harini Amarasuriya was appointed interim Prime Minister to head the government until the elections.
6. **Presidential Powers in Sri Lanka:** The President holds significant executive authority, including the power to dissolve Parliament, and the Prime Minister serves as their deputy.

[Clause 6 of Assam Accord-Indian Express Explained](#)

Polity

Easy Explanation

The Assam government has started implementing 52 recommendations from the Justice Biplab Sarma Committee on Clause 6 of the Assam Accord, a provision aimed at safeguarding the identity of Assamese people. The Accord, signed in 1985, ended protests against illegal migration from Bangladesh and promised protections for the Assamese. However, 15 key recommendations, including political reservations and the introduction of an Inner Line Permit, need constitutional changes and remain under the central government's domain. The report, finalized in 2020, defines "Assamese people" as those living in Assam before 1951, along with indigenous tribes. Some recommendations being implemented include land ownership restrictions for Assamese people, keeping Assamese as the official language, and promoting cultural heritage. However, major demands like 80-100% reservations in Parliament, jobs, and local bodies remain unresolved. The Assam government plans to implement the 52 recommendations by April 2025 and will ask the central government to act on the remaining issues.

Key Takeaways:

1. **Implementation Begins:** Assam government starts implementing 52 of the Justice Biplab Sarma Committee's recommendations on Clause 6 of the Assam Accord, which aims to safeguard the cultural, social, and linguistic identity of Assamese people.
2. **Major Issues Unaddressed:** 15 critical recommendations, including those requiring constitutional amendments, remain pending and need central government intervention.
3. **1951 as Cut-Off:** The state has accepted 1951 as the cut-off year to define "Assamese people" for the purpose of implementing these safeguards.



| Clear your doubts now.



4. **Focus on Language and Culture:** Recommendations include making Assamese the official language, restricting land ownership to Assamese people in certain areas, and promoting cultural heritage.
5. **Timeline Set:** The Assam government plans to fully implement the 52 recommendations by April 2025 and will present a roadmap by October this year.

[The Job lags and gaps-Indian Express Editorial](#)

Economy

Easy Explanation

India's job market is facing challenges despite some growth in employment. While job growth increased by 6% in FY24, unemployment remains high, with estimates showing a need for 1.2 crore new jobs annually to meet demand, but only 80-90 lakh are being created. Major issues include a skills gap, where workers lack the necessary training for available jobs, and a mismatch between job opportunities and workers' aspirations, especially in sectors like IT.

Technological advances, such as AI, are reducing the demand for labor, particularly in middle management. To address this, India needs significant educational and skill development reforms to prepare the workforce for future job requirements. The focus should be on industrializing labor-absorbing sectors, like textiles and food processing, while improving global competitiveness in technology-driven sectors.

A two-pronged strategy is required to balance economic growth with employment generation, targeting labor-intensive industries and high-tech sectors with appropriate incentives. A comprehensive policy framework is needed to ensure both job creation and economic growth.

Key Takeaways:

1. **Job Growth vs Unemployment:** India needs to create 1.2 crore jobs annually but falls short by 30-40 lakh jobs.
2. **Skills Gap:** Poor training and lack of skills are key challenges in matching job seekers with available positions.
3. **Technology Impact:** Advances in AI and automation are reducing demand for certain types of labor, especially middle management.
4. **Educational Reforms Needed:** The current education system fails to meet industry needs, leading to high unemployment among educated youth.
5. **Two-Pronged Strategy:** Focus on labor-absorbing industries like textiles and food processing while boosting global competitiveness in technology sectors.
6. **Comprehensive Policy Required:** A detailed policy framework with targeted incentives is essential for job creation and economic growth.



| Clear your doubts now.



[What the dismissal of the Gino suit for defamation means to science-The Hindu Science](#)

Science

Easy Explanation

Francesca Gino, a prominent behavioral scientist, was accused by independent researchers from the blog 'Data Colada' of data manipulation in some of her published papers. In response to these allegations, Harvard University placed her on unpaid leave and began proceedings to revoke her tenured position. Prof. Gino filed a \$25 million defamation lawsuit against both Harvard and the 'Data Colada' authors, maintaining her innocence and suggesting that any errors could have been made by research assistants or unknown parties. Recently, a U.S. District Court judge dismissed her defamation case against the 'Data Colada' researchers and partially dismissed her case against Harvard University, allowing her to continue only on claims related to breach of employment contract.

The verdict underscores the importance of robust policies for handling research misconduct and highlights the role of independent scrutiny in maintaining scientific integrity. Dismissing the defamation claims against researchers who investigate and report potential misconduct reinforces trust in science as a community effort. The case also suggests that even prestigious institutions may need to review and strengthen their procedures for dealing with allegations of misconduct to ensure due process and legal soundness.

Key Takeaways:

1. **Defamation Case Dismissed:** A U.S. judge dismissed Francesca Gino's defamation lawsuit against the 'Data Colada' researchers who alleged data manipulation in her work.
2. **Partial Lawsuit Against Harvard Continues:** Gino's case against Harvard University for alleged breach of employment contract is allowed to proceed.
3. **Need for Robust Misconduct Policies:** The situation highlights the necessity for institutions to have clear and legally sound policies for handling research misconduct allegations.
4. **Importance of Independent Scrutiny:** The dismissal reinforces the legitimacy of independent researchers investigating and reporting on potential scientific misconduct.
5. **Trust in Scientific Community Strengthened:** The case fortifies trust in science as a self-correcting community enterprise that values transparency and accountability.

[Leaders at UN urge world's wealthiest to do more on climate-The Hindu Science](#)

Environment

Easy Explanation

On September 23, leaders from developing nations, especially small island states, urged wealthy countries to take stronger action on climate change at the U.N. General Assembly. Small island nations like Samoa, represented by Minister Cedric Schuster, stressed that major economies, particularly the G20, are responsible for over 80% of greenhouse gas emissions and need to lead efforts in reducing emissions and providing



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climate finance. These nations, at the highest risk from rising sea levels, feel that wealthy countries are offering only "lip service" without taking meaningful action.

The call for climate justice underscores the growing disparity between countries that contribute most to global warming and those that suffer its worst effects. Leaders from Malawi echoed the demand for industrialized nations to take the lead. In parallel, scientists warned that humanity has severely damaged several natural systems, and the situation is worsening. Businesses like Amazon and energy companies also urged governments to follow through on commitments to increase renewable energy, while some U.S. banks are pledging more investments in clean energy.

Key Takeaways:

1. **Developing Nations Plead for Action:** Small island states and developing nations urge wealthy countries to do more about climate change.
2. **G20 Responsible for 80% Emissions:** The world's richest economies are called upon to lead emissions cuts and climate finance efforts.
3. **Climate Justice Issue:** Climate change is framed as a global justice issue, with vulnerable nations facing the worst impacts.
4. **Scientists Warn of Damage:** Research shows severe damage to at least six natural systems, with ocean acidification also a growing concern.
5. **Business and Banks Push for Renewables:** Companies and banks are urging governments to increase investments in renewable energy and nuclear power.

[How global warming affects forecasting-The Hindu text and Context](#)

Geography

Easy Explanation

Global warming is making weather and climate predictions increasingly difficult. In 2023-2024, record-high temperatures led to extreme weather like heatwaves, floods, and wildfires, with scientists surprised by the intensity of warming. Climate models, which help predict natural events such as monsoons, hurricanes, and El Niño, are now struggling to make accurate forecasts. For example, while the El Niño of 2023 was predicted, its effects were more intense than expected, and the behavior of monsoons and cyclones has become erratic.

The article highlights the limitations of current models in forecasting these natural climate patterns, especially under rapid warming. It stresses the need to improve climate models and data collection to understand how warming affects natural variability. As long-term projections remain uncertain, focusing on short-term forecasts, over the next decade or two, may be more practical. Strengthening these predictive tools is critical for disaster preparedness, especially as extreme weather events become more frequent and severe due to global warming.

Key Takeaways:



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1. **Global Warming Complicates Forecasting:** Increased warming in 2023-2024 has made weather and climate predictions more difficult and less reliable.
2. **Limitations of Current Models:** Existing climate models struggle to accurately reproduce natural climate patterns and trends, especially under ongoing global warming.
3. **Uncertainty in Natural Climate Events:** Scientists are unsure how global warming is impacting natural phenomena like monsoons, hurricanes, El Niño, and La Niña.
4. **Need for Model Improvement:** There is a critical need to enhance climate models and data networks to better predict weather and climate changes.
5. **Short-Term Projections Preferred:** Focusing on forecasts for the next decade or two may be more effective due to the high uncertainties in long-term climate predictions.
6. **Importance of Understanding Variability:** Addressing how climate change affects natural climate variability is essential for improving forecasts and disaster preparedness.

[Taking stock of global nuclear disarmament-The Hindu Editorial](#)

International relations

Easy Explanation

On September 26, the UN observes the International Day for the Total Elimination of Nuclear Weapons, with a focus on the Treaty on the Prohibition of Nuclear Weapons (TPNW). The treaty, effective since 2021, aims to ban the development, use, and stockpiling of nuclear weapons. However, major nuclear powers, including India, have not signed the treaty, viewing it as unrealistic or discriminatory. The ongoing conflicts, like the Ukraine war and rising nuclear risks from Russia, China, Iran, and North Korea, have intensified the discussion around nuclear disarmament.

Supporters of the TPNW hope to expand its influence and delegitimize nuclear weapons, similar to the global bans on chemical and biological weapons. While the treaty lacks enforcement mechanisms, its potential to shift international norms is significant, especially if nuclear-armed nations do not actively oppose it.

Key Takeaways:

1. **TPNW Prohibits Nuclear Weapons:** It bans the development, use, and stockpiling of nuclear weapons, but nuclear-armed nations have not joined.
2. **Global Division:** Nuclear-armed nations oppose the treaty, while smaller nations push for disarmament.
3. **Rising Nuclear Risks:** Recent global conflicts have reignited concerns about nuclear escalation.
4. **India's Neutral Stance:** India hasn't signed the TPNW, viewing it as discriminatory but remains neutral.
5. **Potential for Change:** The TPNW could gradually shift global norms against nuclear weapons despite lacking enforcement.



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[China's warning shots with minerals that run the world-The Hindu editorial](#)

International relations

Easy Explanation

China's recent restriction on the export of antimony, a critical mineral used in military equipment, signals its willingness to use its dominant position in the global mineral supply chain as a strategic tool. China controls the majority of the world's production and processing of critical minerals, giving it significant influence over global markets. This latest move, part of a series of actions since 2023, highlights China's growing use of minerals as a foreign policy weapon, especially in response to U.S. actions like semiconductor export controls. China's restrictions on other key minerals like gallium, germanium, and graphite have further heightened tensions with the West.

India, like many countries, remains highly dependent on China for critical minerals like lithium, nickel, and cobalt. As global demand for these resources increases, India's vulnerability grows, making it essential for the country to diversify its supply chains and form strategic partnerships with other nations.

Key Takeaways:

1. **China's Export Restrictions:** China restricted antimony exports, citing national security concerns, part of a broader strategy to control the global critical mineral supply chain.
2. **Weaponization of Minerals:** China is increasingly using critical minerals as a foreign policy tool, especially in response to U.S. export controls on semiconductors.
3. **Global Impact:** Countries like the U.S., EU, and India are vulnerable due to their reliance on China for essential minerals in defense and high-tech industries.
4. **India's Vulnerability:** India's dependence on China for critical minerals like lithium and cobalt raises concerns, especially as demand grows.
5. **Call for Diversification:** India must urgently diversify its supply chains and form partnerships to reduce its strategic dependency on China.

27th September 2024

[Challenge for oil PSUs: how to get \\$900 mn dividends out of Russia-Indian Express Explained](#)

Economy

Easy Explanation

Indian public sector oil companies—ONGC Videsh, Oil India, Indian Oil Corporation, and Bharat PetroResources—are facing a challenge in repatriating approximately \$900 million in dividends from their investments in Russian oil and gas projects. The funds have been accumulating for over two years due to complications arising from Western sanctions on Russia, particularly restrictions on international payment systems like SWIFT. The dividends, held in rubles in Russian accounts, cannot easily be used for further



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investments or payments due to operational expenses and complex international legal and tax considerations. Finding a workable solution requires diplomatic efforts and commercial negotiations with Russian and international stakeholders.

Key takeaways

1. Indian oil companies have \$900 million in dividends stuck in Russia from oil and gas investments.
2. The dividends have accumulated for over two and a half years due to Western sanctions on Russia.
3. The funds are held in rubles in Russian accounts, earning minimal interest.
4. Restrictions on international payment systems like SWIFT make it difficult to repatriate the money.
5. The dividends cannot easily be used for further investments or payments in Russia due to legal and tax complications.
6. Indian oil companies are seeking expert advice on accounting and legal issues to explore solutions.
7. Any resolution will likely require a mix of diplomacy and commercial negotiations with Russian and international stakeholders.

[KEFFIYEH-Indian Express Explained](#)

Sociology

Easy Explanation

The keffiyeh, a traditional Palestinian scarf, has evolved into a symbol of Palestinian national identity and resistance against Israeli occupation. Recently, Indian-American author Jhumpa Lahiri declined an award from New York's Noguchi Museum after it fired three employees for wearing keffiyeh scarves, which the museum deemed political symbols. The keffiyeh has a long history, initially used as protection from the desert sun in West Asia, and later becoming a symbol of Palestinian unity during British rule and post-1948 displacement. In modern times, the scarf is seen as a statement of support for Palestine and has faced bans, particularly in Western contexts.

Key Takeaways:

1. The keffiyeh is a traditional Palestinian scarf symbolizing nationhood and resistance.
2. Jhumpa Lahiri declined an award after a museum fired employees for wearing keffiyehs.
3. The museum banned political symbols, including the keffiyeh.
4. Historically, the keffiyeh was used for protection from the desert sun in West Asia.
5. It became a symbol of Palestinian unity in the 1930s and resistance post-1948.
6. Yasser Arafat popularized the keffiyeh in the 1970s.
7. The scarf has been banned in various Western countries due to its association with pro-Palestine activism.

[Biden and India-US ties-Indian Express Explained](#)

International relations



| Clear your doubts now.

Easy Explanation

President Joe Biden's tenure has significantly strengthened India-US relations, building on his long-standing support for closer ties between the two nations. Under his leadership, the partnership has advanced in areas such as technology cooperation, defense, and strategic alignment, particularly in countering China's influence. Key initiatives include the elevation of the Quad grouping to the leaders' level and the launch of the Initiative for Critical and Emerging Technology (iCET), fostering collaboration in artificial intelligence, quantum computing, and semiconductor manufacturing. Despite some challenges, such as concerns over pro-Khalistan activities, both countries continue to work towards deepening their relationship. As the US approaches its next presidential election, India is closely monitoring the political landscape to anticipate future developments in bilateral ties.

Key Takeaways:

1. **Strengthened Bilateral Relations:** Under President Biden, India-US ties have reached unprecedented levels, with enhanced cooperation across various sectors.
2. **Biden's Historical Support:** Joe Biden has advocated for strong India-US relations for decades, including his role in the 2008 nuclear deal approval.
3. **Elevation of the Quad:** Biden elevated the Quad (India, US, Australia, Japan) to the leaders' level, emphasizing its importance in international diplomacy.
4. **Initiative for Critical and Emerging Technology (iCET):** Launched in 2023, iCET aims to facilitate strategic technology collaborations in areas like AI, quantum computing, and defense technologies.
5. **Semiconductor Collaboration:** Agreements have been made to establish a semiconductor fabrication plant in India, marking a significant step in tech diplomacy.
6. **Addressing Challenges:** Issues such as pro-Khalistan activities have presented challenges, but both nations are working to address and mitigate these concerns.
7. **Future Outlook:** With upcoming US elections, India is keenly observing the potential impact on India-US relations, depending on the election outcome.

[Why Pakistan needed another bail out from IMF, what this will entail-Indian Express Explained](#)

International relations

Easy Explanation

Pakistan has secured a \$7 billion Extended Fund Facility (EFF) from the International Monetary Fund (IMF) to address its severe balance of payments issues and ongoing economic challenges. This marks the 25th IMF program in Pakistan's history and the sixth under the current borrowing framework. The need for another bailout stems from persistent poor governance, fiscal mismanagement, and external shocks such as the COVID-19 pandemic, the Russia-Ukraine war, and devastating floods in August 2022. Despite some economic improvements, including a reduced inflation rate and increased foreign exchange reserves supported by allies like China, Saudi Arabia, and the UAE, Pakistan remains burdened with substantial external debt. The EFF aims to implement medium-term structural reforms, including tax reforms, fiscal discipline, and rebuilding forex reserves. However, the program comes with stringent conditions that have raised concerns about their feasibility and political support within Pakistan.



| Clear your doubts now.



Key Takeaways

1. **\$7 Billion IMF Bailout:** Pakistan secured a \$7 billion Extended Fund Facility (EFF) from the IMF to address its economic challenges, marking its 25th IMF program.
2. **Economic Mismanagement:** Poor governance, fiscal mismanagement, and external shocks like COVID-19, the Russia-Ukraine war, and floods have worsened Pakistan's economy.
3. **High Debt Burden:** Pakistan faces a massive external debt of \$130 billion, with \$90 billion due in the next three years.
4. **IMF Conditions:** The IMF bailout is conditional on implementing tax reforms, raising electricity prices by 51%, and maintaining fiscal discipline between federal and provincial governments.
5. **Inflation and Currency Issues:** Pakistan's inflation rate hit 38% in 2023, and the Pakistani rupee fell by 20% against the US dollar, exacerbating economic instability.
6. **External Financial Support:** Allies like China, Saudi Arabia, and the UAE provided financial support, helping Pakistan meet the IMF's conditions for the bailout.
7. **Skepticism on Reforms:** Experts criticize the IMF conditions as harsh, and there are concerns that tax reforms will target existing taxpayers rather than broadening the tax base effectively.

[DIS/AGREE THE BEST OF BOTH SIDES-Imagine the world beyond your office-Indian Express](#)

Editorial

Sociology

Easy Explanation

In light of the tragic death of 26-year-old Anna Sebastian Perayil in Pune, allegedly due to work stress, a teacher and corporate executive offer advice to young professionals navigating today's demanding workplace culture. The letter highlights the need to rethink the notion of productivity and success, emphasizing that overwork, consumerism, and corporate culture can dehumanize employees. They encourage young people to prioritize their mental and emotional well-being, find work that is meaningful, and draw boundaries in the workplace. The focus should be on a balanced life, rather than just career achievements and financial success. Additionally, they warn against toxic work environments that prioritize profit over people.

Key Takeaways:

1. **Tragic Example:** The death of Anna Perayil highlights the dangers of extreme work stress and overwork in modern corporate environments.
2. **Rethinking Productivity:** Productivity should not just serve corporate profits but also foster personal growth and life balance.
3. **Importance of Boundaries:** Young professionals should set boundaries at work to protect their well-being, refusing excessive hours and unrealistic expectations.
4. **Challenging Consumerism:** The drive for material success can trap individuals in endless work cycles, alienating them from a meaningful life.
5. **Health Consequences:** Overwork can lead to serious health issues, and burnout is a widespread problem in high-pressure jobs.



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6. **Corporate Responsibility:** Many companies treat employees as resources, focusing on short-term gains at the expense of long-term well-being.
7. **Balanced Life Approach:** The letter urges young workers to live aesthetically and creatively, finding joy in life outside of work, such as spending time with loved ones and pursuing personal interests.

[DIS/AGREE THE BEST OF BOTH SIDES- Draw redlines your boss cannot cross-Indian Express](#) [Editorial](#)

Sociology

Easy Explanation

In response to the tragic death of Anna Sebastian Perayil, allegedly due to work stress, the letter highlights the importance of drawing personal boundaries at work and not compromising mental and physical well-being for career success. The corporate world often prioritizes profits over employee health, treating workers as expendable resources. CEOs focus on short-term results, which can create toxic work environments. Young professionals are urged to challenge bad work culture, prioritize their well-being, and speak up against excessive work demands. The letter emphasizes that no job is worth sacrificing one's health, and quitting toxic environments may be the best decision for long-term happiness.

Key Takeaways:

1. **Toxic Work Culture:** Corporations often prioritize profits over employees, leading to stress and burnout.
2. **Personal Boundaries:** Employees must set firm boundaries at work, protecting their mental and physical well-being.
3. **Challenge the System:** Young workers should not accept bad work culture and should speak up against unreasonable demands.
4. **Corporate Hypocrisy:** CEOs and companies often focus on short-term gains, ignoring the impact on employees' health.
5. **Mental Health Matters:** The toll on mental health from a toxic workplace is significant, and employees should not compromise on this.
6. **Know When to Quit:** If a job crosses personal boundaries or compromises values, quitting may be the best option.
7. **Long-Term Well-Being:** It's essential to ensure that a job offers respect, balance, and doesn't come at the expense of personal values and health.

[A LEGAL VOID-Indian Express Editorial](#)

Economy

Easy Explanation

India's regulations on foreign direct investment (FDI), particularly targeting Chinese investments, lack a comprehensive legislative framework addressing national security concerns. The introduction of Press Note 3



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(PN3) in April 2020, aimed at curbing opportunistic takeovers by countries sharing land borders with India, particularly China, during the pandemic, highlights this legal gap. PN3 is enforced through the Foreign Exchange Management Act (FEMA), which doesn't directly address national security risks. In contrast, other countries like Canada and Australia have dedicated legal provisions allowing FDI screening for national security threats. The absence of such laws in India creates a legal vacuum, making the country vulnerable to challenges in international courts. Experts suggest that India should create a dedicated law for managing national security risks related to FDI and international trade in line with global best practices.

Key Takeaways:

1. **FDI Regulation Gap:** India lacks a dedicated law addressing national security concerns related to FDI, relying instead on FEMA, which isn't designed for such risks.
2. **PN3 Implementation:** Introduced in 2020, PN3 targets FDI from land-bordering countries, particularly China, but doesn't explicitly mention "national security."
3. **Global Practices:** Countries like Canada and Australia have specific legal frameworks for managing FDI risks to national security.
4. **International Treaty Differences:** India's international agreements, like the 2015 Model Bilateral Investment Treaty, include provisions for national security, unlike domestic laws.
5. **Customs and Security:** India has used economic laws like the Customs Tariff Act to address national security issues, but these laws aren't designed for such purposes.
6. **Legal Vulnerability:** The absence of a domestic law on FDI and trade security exposes India to potential challenges in international tribunals.
7. **Call for Reform:** Experts argue for a national debate and the creation of a dedicated law to manage national security risks associated with FDI and international trade.

[Storms brewing in East, South China seas-The Hindu Text and Context](#)

International relations

Easy Explanation

Tensions in the East and South China Seas have escalated as China continues to assert its territorial claims, particularly over the Senkaku/Diaoyu Islands in the East China Sea and various regions in the South China Sea. China views its actions as defensive, protecting its sovereignty and national security, but neighboring countries and the U.S. see them as provocative. The region is of immense strategic and economic importance due to critical maritime trade routes, undersea cables, and significant reserves of oil and natural gas. Regional countries, including Japan and the Philippines, are responding by bolstering their defense capabilities and enhancing cooperation with the U.S. Despite these efforts, concerns remain about the potential for miscalculation and conflict, particularly given China's aggressive tactics.

Key Takeaways:



| Clear your doubts now.



1. **China's Territorial Claims:** China asserts control over the Senkaku/Diaoyu Islands and key areas in the South China Sea, seeing these as part of its national sovereignty.
2. **Strategic Importance:** The East and South China Seas are vital for global trade, undersea cables, and have vast reserves of oil and natural gas.
3. **China's Military Expansion:** China has built military infrastructure and artificial islands, using aggressive maritime tactics to push back regional countries' claims.
4. **Grey Zone Tactics:** China employs 'grey zone' operations, such as ramming vessels and harassing neighboring countries, avoiding direct war but escalating tensions.
5. **Regional Defense Response:** Countries like Japan and the Philippines are strengthening their defense capabilities and aligning more closely with the U.S. to counter China.
6. **U.S. Involvement:** The U.S. is deeply involved due to defense treaties with Japan, South Korea, and the Philippines, expanding military cooperation in the region.
7. **Potential Risks:** Rising tensions and China's assertive actions increase the risk of miscalculation, which could lead to larger conflicts in the region.

[World Rabies Day: tracing the journey from myths to modern medicine-The Hindu Science](#)

Science

Easy Explanation

World Rabies Day, observed on September 28, commemorates Louis Pasteur's pioneering efforts in developing the first rabies vaccine in 1885. Despite this scientific breakthrough, rabies remains a significant global health issue, particularly in regions like India, where it causes thousands of preventable deaths annually, mostly from dog bites. Historical misconceptions about rabies, such as superstitious cures, persisted for centuries until the advent of germ theory, which shifted medical understanding. Pasteur's vaccine transformed rabies treatment, but modern efforts still focus on awareness, education, and vaccination. To achieve zero rabies deaths by 2030, a collaborative "One Health" approach involving medical, veterinary, and environmental sectors is critical.

Key Takeaways:

1. **World Rabies Day:** Observed on September 28, commemorating Louis Pasteur's contributions to rabies treatment.
2. **Modern Threat:** Despite advances, rabies remains deadly, with a nearly 100% fatality rate once symptoms develop.
3. **Historical Misconceptions:** Ancient and superstitious treatments for rabies persisted until the advent of germ theory in the 19th century.
4. **Pasteur's Breakthrough:** Louis Pasteur developed the first successful rabies vaccine in 1885, a milestone in modern medicine.
5. **Rabies in India:** India accounts for 33% of global rabies deaths, highlighting the need for better vaccination programs.
6. **One Health Approach:** Collaboration between veterinary, medical, and environmental sectors is crucial for effective rabies management.



| Clear your doubts now.



7. **Goal for 2030:** India aims to eliminate rabies deaths by 2030 through improved surveillance, vaccination drives, and public education campaigns.

[Is India's growth story benefiting only big capital?-The Hindu editorial](#)

Economy

Easy Explanation

India's impressive post-pandemic economic growth, which reached 8.2% in 2023-24, has mostly benefited large businesses, raising concerns about uneven growth. Experts Himanshu and Ritesh Kumar Singh highlight that while big companies thrive due to favorable policies, small and medium enterprises (SMEs) face high costs of capital, heavy compliance burdens, and lack of government support. Two key man-made shocks—demonetization and the rollout of the Goods and Services Tax (GST)—disproportionately hurt SMEs. To create more inclusive growth, experts suggest reforms like reducing the regulatory burden on small businesses, improving rural development spending, and ensuring equitable tax policies. A focus on boosting demand in the rural economy could help SMEs become growth drivers and address income disparities across the population.

Key Takeaways:

1. **Uneven Growth:** India's growth has been K-shaped, benefiting big businesses while small businesses struggle.
2. **High Compliance Costs:** SMEs face heavier compliance burdens and higher interest rates compared to large corporations.
3. **Impact of Policies:** Demonetization and the GST rollout favored big businesses at the expense of SMEs.
4. **Tax Inequity:** Large corporations enjoy lower effective tax rates compared to smaller businesses, which pay more.
5. **Reforms for SMEs:** Reducing regulatory burdens and improving credit access for small businesses are key to broad-based growth.
6. **Boosting Demand:** Increasing rural spending and demand can help SMEs grow and improve incomes for the bottom half of the population.
7. **Political Will:** Achieving inclusive growth requires political willingness to prioritize the needs of smaller enterprises and lower-income workers.

28th September 2024

[How SC deals with errant judges, works around limitations-Indian Express explained](#)

Polity



| Clear your doubts now.

Easy Explanation

The Supreme Court of India expressed concerns over Karnataka High Court Justice V Srishananda's inappropriate remarks. Although he apologized, the incident points to the difficulties in disciplining judges due to constitutional limitations.

Impeachment is the only formal mechanism for judge removal, which is rare and difficult due to its political nature. Consequently, the Supreme Court has developed alternatives, such as judicial intervention and the transfer policy, though both have their limitations. Judicial intervention, like in the 2017 case of Justice CS Karnan, allows the court to take direct action. The transfer policy moves judges to different courts but has been criticized for merely shifting issues instead of resolving them.

Key Takeaways:

1. **Impeachment is difficult:** It requires a high threshold of proof and political consensus.
2. **Rare use of impeachment:** Only five judges have faced impeachment, and none were removed this way.
3. **Judicial intervention as an alternative:** The Supreme Court can take direct action, like holding a judge in contempt.
4. **Transfer policy for discipline:** The SC Collegium can transfer judges as a form of discipline, though this may not solve underlying issues.
5. **Need for better mechanisms:** More effective ways to address judicial misconduct without compromising independence are needed.

[Tackling Air pollution-Indian Express Explained](#)

Environment

Easy Explanation

India faces a severe air pollution crisis, particularly during the post-monsoon season as temperature inversion traps pollutants at ground level, exacerbating air quality issues. Quick fixes like smog towers and cloud seeding are increasingly popular but fail to address the root causes of pollution. These methods not only provide limited relief but also divert focus from essential systemic changes needed for long-term improvement. Moreover, the effectiveness of these solutions is limited geographically and can potentially contribute to further environmental and ethical issues.

The air pollution problem is compounded by economic disparities, where wealthier communities can mitigate their exposure to pollution through purifiers or relocation, leaving poorer communities more vulnerable. This issue extends beyond a mere environmental challenge; it reflects deep-seated political and social inequities.

Key Takeaways:

1. **Complex Nature of Air Pollution:**



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- Air pollution in India is a complex issue influenced by various sources like biomass burning, industrial emissions, and vehicular traffic, intensified by meteorological conditions like temperature inversion.
2. **Ineffectiveness of Quick Fixes:**
 - Solutions such as cloud seeding and smog towers are temporary and often fail to substantially improve air quality. They also pose potential environmental risks and generally treat symptoms rather than causes.
 3. **Need for Comprehensive Action:**
 - Effective air quality management requires a coordinated approach across multiple sectors and levels of government, transcending regional boundaries to address the issue comprehensively.
 4. **Building Capacity and Fostering Collaboration:**
 - Strengthening institutional frameworks and fostering critical thinking and collaboration among stakeholders are essential for developing effective, sustainable solutions.
 5. **Beyond Technological Solutions:**
 - While technological interventions can assist, they are not sufficient on their own. Addressing air pollution requires a broader, multi-decadal effort that is scientifically driven and politically supported to tackle the underlying causes and ensure equitable improvements in air quality.

The fight against air pollution in India is as much a political and social challenge as it is a technical one, necessitating a sustained, science-based, and socially equitable approach.

[Israel and Hezbollah: A short history of a long conflict in Lebanon-Indian Express Explained](#)

International relations

Easy Explanation

The Israel-Hezbollah conflict is deeply rooted in the history of southern Lebanon, beginning in the aftermath of Israel's formation in 1948. Tensions escalated as Palestinian militants launched attacks from Lebanon, prompting Israel's invasions in 1978 and 1982. The 1982 invasion led to Israel's extended occupation of southern Lebanon, sparking the rise of Hezbollah, a Shiite militant group backed by Iran, which aimed to resist Israeli occupation and establish a theocratic state.

Hezbollah's influence grew, particularly among Lebanon's marginalized Shiite population, through social services and military campaigns. The conflict continued through various skirmishes, including the 2006 war, which resulted in heavy casualties on both sides but left Hezbollah intact. Israel withdrew from southern Lebanon in 2000 but has continued to engage with Hezbollah through airstrikes and short-term military actions.

The current escalation began after the October 2023 Hamas attacks, with Israel preparing for a potential ground invasion of Lebanon. Hezbollah's rise has shaped both Israeli and regional military strategies, becoming a key player in Iran's regional influence.

Key Takeaways:



| Clear your doubts now.



1. Historical Roots of the Conflict:

- The Israel-Hezbollah conflict stems from the aftermath of Israel's creation in 1948 and the rise of Palestinian militancy in southern Lebanon.

2. Emergence of Hezbollah:

- Hezbollah formed in the 1980s, with backing from Iran, to resist Israeli occupation and promote Islamic revolution ideals.

3. Key Wars and Skirmishes:

- Major conflicts include Israel's invasions in 1978 and 1982, with Hezbollah's resilience leading to Israel's withdrawal from Lebanon in 2000 and the 2006 war, which saw heavy casualties.

4. Hezbollah's Influence and Strategy:

- Hezbollah has gained substantial support through social services and guerrilla warfare tactics, becoming a dominant force in Lebanon and a key player in Iran's regional strategy.

5. Current Tensions:

- The conflict has reignited following the 2023 Hamas attacks, with Israel preparing for a possible ground invasion of Lebanon as tensions rise with Hezbollah.

[RANDOM CHECK FINDS 'NSQ' DRUGS IN MARKET:HERE'S WHAT TO KNOW-Indian Express](#)

[Explained](#)

Science

Easy Explanation

A routine check by India's top drug regulator, the Central Drugs Standard Control Organisation (CDSCO), found that around 50 medicines, including common ones like paracetamol, metformin, and pantoprazole, were either spurious or not of standard quality (NSQ). These random checks are conducted monthly, and a list of failed medicines, along with the reasons, is made public. Drugs can fail quality tests for being spurious (fake), of poor quality, or adulterated with harmful substances. However, finding a non-standard sample does not mean every pill of that medicine is dangerous. The goal is to alert manufacturers and regulators to ensure corrective action.

Key Takeaways:

1. **Routine Drug Checks:** CDSCO conducts monthly random checks on medicines, publishing a list of those found to be of non-standard quality (NSQ).
2. **Categories of Failed Drugs:**
 - **Spurious Drugs:** Fake medicines, not manufactured by the genuine company.
 - **Poor Quality:** Medicines that do not dissolve or contain incorrect ingredients.
 - **Adulterated Drugs:** Contaminated with harmful substances.
3. **Alerts for Manufacturers:** The findings serve as warnings for companies to self-correct and for regulators to take action.
4. **No Need for Panic:** Not all medicines in the market are dangerous, even if one sample fails, but consumers should remain cautious.



| Clear your doubts now.



Some hard land questions-Indian Express Editorial

Economy

Easy Explanation

India's land governance is hindered by complex and conflicting laws that limit economic and social development. The Economic Survey 2023-24 highlighted issues such as unclear titles, insecure tenure, and limited access to economically viable land. The government has proposed digitization of land records to address these challenges, but this approach does not tackle the root causes embedded in India's legal and institutional framework. Land laws are often conflicting, outdated, and hinder land consolidation and use. The current system of fragmented land records, informal tenancy, and poor land management contributes to inefficiency and inequality. While digitization can modernize land administration, meaningful reform requires comprehensive legal and institutional changes to ensure effective land use, gender equity, and improved access to land for various sectors.

Key Takeaways:

1. **Complex Land Governance:** India's land laws are conflicting and complex, affecting economic growth and social development.
2. **Digitization Alone is Insufficient:** While digitizing land records helps, it does not resolve the deeper legal and institutional challenges.
3. **Need for Comprehensive Legal Reforms:** Reforming property rights, land tenure, and use regulations is essential to improve efficiency and equity in land management.
4. **Challenges in Land Use:** Fragmentation, informal tenancy, and gender inequality in land ownership limit agricultural productivity and development.
5. **Holistic Approach Needed:** A multi-pronged approach, including legal reform and modernization of land records, is crucial for unlocking the potential of India's land resources.
6. **Systematic Evaluation of Technological Solutions:** States need to systematically evaluate technological solutions before adopting them to address the variations in state capacities.

Russia's geopolitical pivot to Asia, a new India chapter-The Hindu Editorial

International relations

Easy Explanation

In 2022, Russia strategically pivoted towards Asia, significantly reducing its economic dependency on Europe. This geopolitical shift was underscored by the intensification of Russia-India relations, as Moscow sought new economic partnerships following the sanctions and economic isolation from the West triggered by the Ukraine conflict. The bilateral trade between Russia and India blossomed rapidly, exceeding past decades of slow growth, with trade figures reaching \$7.5 billion by May 2024, up from \$3.5 billion in June 2022. Key trade components include Russian oil, fertilizers, and sunflower oil, which help India mitigate its costs and inflation. Despite the burgeoning economic ties, the relationship faces substantial hurdles including economic non-complementarity, sanctions affecting payment mechanisms and investment flows, and a lack



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of substantial technological and educational cooperation outside the military sphere. The leaders of both nations have set an ambitious bilateral trade target of \$100 billion by 2030, which will require overcoming these challenges through enhanced political and economic collaboration.

Key Takeaways:

1. Strategic Economic Pivot:

- Russia has redirected its focus from Europe to Asia, with India becoming a central economic partner, partly as a response to Western sanctions and the need for diversified economic relationships.

2. Significant Growth in Bilateral Trade:

- Russia-India trade has grown dramatically since the onset of the Ukraine conflict, indicating a rapid enhancement of their economic ties.

3. Challenges in Economic Integration:

- The relationship faces challenges such as the lack of economic complementarity, sanctions impacting financial transactions and investments, and limited technological collaboration outside defense.

4. Potential Areas for Cooperation:

- Opportunities for future growth include the military industry, agricultural machinery, construction equipment, and technology sectors like digital processing units and smartphones.

5. Need for Enhanced Collaboration:

- Achieving the \$100 billion trade target by 2030 will require addressing key issues such as investment protection, stable payment systems, and increased integration in production and technology.

The realignment towards more pragmatic and multifaceted economic interactions between Russia and India illustrates a significant shift in global trade dynamics, highlighting the potential for greater economic independence from traditional Western markets.

29th September 2024

[How will Nasrallah's killing impact West Asia?: TH FAQ](#)

International Relations

Easy Explanation:

The story revolves around the escalating conflict between Israel and Hezbollah, especially after the death of Hassan Nasrallah, the Secretary-General of Hezbollah, during Israeli airstrikes in Lebanon. Israel has shifted its focus from Gaza to Lebanon, targeting Hezbollah, a powerful Shia militant group that was formed in 1982 with Iranian support. The conflict between Israel and Hezbollah, rooted in a long history of violence and territorial disputes, has intensified with rocket attacks, airstrikes, and Hezbollah's retaliation.



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Israel's goal is to eliminate threats from Hezbollah, which has been launching rockets into Israel in solidarity with the Palestinians in Gaza. The death of Nasrallah is seen as a significant blow to Hezbollah, but it remains uncertain how Hezbollah will respond and whether this conflict will spiral into an all-out war involving more countries in West Asia.

Key Takeaways:

1. Background of Hezbollah and Israel's Conflict

- **Hezbollah**, a Shia militant group formed in 1982, was created with support from Iran after Israel's invasion of Lebanon.
- The group's primary goal is the resistance against Israel, with the destruction of the "Zionist entity" being part of its manifesto.
- Hezbollah is a political, social, and military organization in Lebanon, deeply entrenched in the country's structure.

2. Recent Escalation

- The escalation began with Hezbollah firing rockets into Israel in solidarity with Palestinians in Gaza after Israel's retaliation against Hamas.
- Israel responded with airstrikes, and tensions increased after the killing of Fuad Shukur, a top Hezbollah commander.
- The latest airstrikes killed **Hassan Nasrallah**, Hezbollah's Secretary-General, a significant blow to the group.

3. Hezbollah's Capabilities

- Hezbollah possesses a variety of missiles and rockets, including **Fateh ballistic missiles** (range: 250 km), **Sayyad surface-to-surface missiles** (range: 100 km), and **C-802 anti-ship missiles** (range: 120 km).
- Though Israel remains the most powerful military in West Asia, Hezbollah's asymmetric warfare tactics pose a significant challenge.

4. Israel's Objectives

- Israel aims to **degrade Hezbollah's military capabilities** and prevent attacks from Lebanon while continuing its operations in Gaza.
- Prime Minister Netanyahu has rejected calls for a ceasefire, seeking "**total victory**" against both Hamas and Hezbollah.

5. What's Next?

- The killing of Nasrallah marks a turning point in the conflict, and it remains uncertain whether Hezbollah will escalate the war or regroup and continue its strategy of limited engagement.





- The situation could either escalate into a full-scale war or remain a prolonged conflict between Hezbollah and Israel, with the involvement of regional powers like **Iran** further complicating the situation.

[Why has the SC clarified POCSO provisions?: TH FAQ](#)

Polity

Easy Explanation:

The Supreme Court of India recently clarified that viewing, downloading, or storing online content involving children in sexual acts is a criminal offense under the POCSO Act (Protection of Children from Sexual Offences Act), not just creating or sharing such content. This decision came after the Madras High Court had quashed charges against a man who had viewed and stored child sexual abuse material on his mobile phone, ruling that mere possession or viewing was not an offense. The Supreme Court overturned this, explaining that possessing such material, even without sharing it, is punishable, as it represents a criminal act that could lead to further exploitation of children. The court also suggested using the term "Child Sexual Exploitative and Abuse Material" (CSEAM) instead of "child pornography" to better reflect the seriousness of the issue.

Key Takeaways:

1. Supreme Court's Verdict on Child Exploitative Material

- The Supreme Court ruled that viewing, downloading, and storing child sexual abuse content are offenses under the POCSO Act.
- The decision overturned a Madras High Court ruling, which stated that only transmitting or creating such content is punishable, not mere possession.

2. How the Case Reached the Supreme Court

- Non-government organizations appealed against the Madras High Court ruling after a man was charged with storing and viewing videos of child sexual exploitation.
- The Madras High Court had quashed charges against him, leading the organizations to approach the Supreme Court.

3. Clarification of Offenses Under Section 15 of POCSO

- The Supreme Court explained that the 2019 amendment to Section 15 of POCSO penalizes three main offenses related to child sexual abuse material:
 1. Failing to delete, destroy, or report stored child pornographic material.
 2. Sharing or distributing child pornographic content.
 3. Storing such material for commercial purposes.

4. Concept of 'Constructive Possession'



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- The Court introduced the idea of **constructive possession**, which extends beyond physical possession.
- This means if someone has control over child sexual abuse material, even if they don't physically store it, they can still be considered in possession under the law.

5. Court's Recommendations

- The Supreme Court recommended using the term '**Child Sexual Exploitative and Abuse Material (CSEAM)**' instead of '**child pornography**', as the former better reflects the seriousness of exploitation.
- The Court emphasized that the POCSO Act is meant to punish aggravated forms of child abuse and exploitation.

[Pigs may be transmission route of rat hepatitis E to humans: TH Science](#)

Science

Easy Explanation:

New research has found that pigs may play a role in spreading a type of hepatitis E virus (HEV) usually found in rats, which has recently started infecting humans. This strain is called "rat HEV" because rats are the main carriers of the virus. The first human case of this virus was reported in 2018 in Hong Kong, and since then, at least 20 people have been infected, including some with healthy immune systems.

What's surprising is that people who got infected with rat HEV did not have any contact with rats, which left scientists wondering how they got sick. Since eating raw pork is already a common way people get infected with other types of hepatitis E, researchers began to suspect that pork could also be responsible for spreading rat HEV to humans.

To test this idea, scientists used a strain of rat HEV that had been found in humans and tried to infect pigs with it. The virus successfully infected the pigs, and it even spread from one pig to another, just like how infections spread on farms. This shows that pigs could catch rat HEV from rats and then pass it on to other pigs, and possibly even to humans, especially in pork production environments where rats are commonly found. The study, which was published in *PNAS Nexus*, highlights the potential risk of humans catching this virus through pork consumption.

Hepatitis E is a major cause of liver infections worldwide, especially in poorer areas where sanitation is lacking. This research points out that even though rat HEV is new to humans, it might spread more easily than previously thought, with pigs possibly acting as a link between rats and humans.

Key Takeaways:

1. Discovery of Rat HEV in Humans

- **First human case** of rat HEV was reported in Hong Kong in 2018.
- So far, **20 cases** of humans being infected with rat HEV have been reported, including people with normal immune systems.



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- Most patients **had no contact with rats**, leaving researchers puzzled about how the virus spread to humans.

2. Suspected Link Between Rat HEV and Pork

- **Eating raw pork** has been linked to other hepatitis E infections, so scientists suspect pork might also spread rat HEV.
- Rats are common in places where pigs are raised, which may allow the virus to spread from **rats to pigs** and then to humans through pork consumption.

3. Study on Pig Infection

- Scientists **infected pigs** with a cloned version of the rat HEV strain found in humans.
- The virus successfully spread among pigs living together, showing that it can spread through the **fecal-oral route** (when fecal matter contaminates food or water).

4. Concerns About Human Infection

- **Pigs could act as a bridge** between rats and humans, potentially spreading the virus through pork.
- This poses a **public health risk** because people could get infected by consuming contaminated pork products.

5. Global Concern

- **Hepatitis E** is a leading cause of liver infections worldwide, especially in areas with poor sanitation.
- This study raises awareness of a **new potential source of infection** that could affect both pig farms and the pork industry.

[Can Kerala's policy to limit antibiotics misuse reduce AMR?: IE Science](#)

Science

Easy Explanation:

Kerala has taken a major step in fighting the misuse of antibiotics with its **Operation Amrith** initiative, aiming to stop the over-the-counter (OTC) sale of antibiotics without prescriptions by the end of 2024. This move has significantly reduced the sale of antibiotics in the state by ₹1,000 crore in the past year. Kerala became the first state in India to fully ban OTC antibiotic sales, enforcing the 2011 national H1 rule that prohibits the sale of all types of antibiotics without a doctor's prescription.

However, Kerala's efforts face challenges. Other states haven't enforced similar rules, and Kerala imports a lot of food from neighboring states that don't regulate antibiotic use. As a result, antibiotic-resistant bacteria from these states could still pose a threat, even with Kerala's strict policies. Experts suggest that Kerala should either become self-sufficient in food production or encourage neighboring states to adopt similar antibiotic control measures to ensure long-term success in combating antimicrobial resistance (AMR).



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Key Takeaways:

1. Operation Amrith and Kerala's Ban on OTC Antibiotics

- Kerala launched **Operation Amrith** to completely stop the sale of antibiotics without prescriptions by the end of 2024.
- The state fully enforces the **2011 H1 rule**, which prohibits selling all antibiotics without a prescription.
- Kerala's efforts have led to a significant drop in antibiotic sales, reducing the state's antibiotic use by ₹1,000 crore in a year.

2. Challenges of Other States Not Following Similar Rules

- Most other Indian states have not enforced the 2011 or even the modified **2013 H1 rule**, which allows OTC sales of first-line antibiotics.
- Without similar efforts from neighboring states, Kerala's progress could be undermined because **antibiotic-resistant bacteria** can still spread through imported food.

3. Dependence on Food Imports

- Kerala imports about **60% of its broiler chicken, eggs, and vegetables** from neighboring states, where antibiotics are often used in farming without regulation.
- These imported products may contain **antibiotic residues and drug-resistant bacteria**, which could continue to spread antimicrobial resistance in Kerala.

4. Suggestions to Address the Issue

- Kerala could either work toward becoming **self-sufficient** in food production or push neighboring states to adopt **AMR policies** similar to its own.
- Experts recommend enforcing the modified **2013 H1 rule** (which only restricts second and third-line antibiotics) in neighboring states as a more achievable first step before introducing stricter regulations.

[Surviving in India's salt desert: TH Science](#)

Environment

Easy Explanation:

The Rann of Kutch, a vast area of salt flats in Gujarat, India, was once part of the Arabian Sea millions of years ago. Over time, geological shifts created a landmass that cut off the Kutch basin from the sea, leaving behind a unique landscape that turns into wetlands during the monsoon season. The **Little Rann of Kutch** covers around 5,000 sq. km and is home to the **Indian wild ass**, known as **khur**, which is a remarkable survivor in this harsh environment. With a population of around 6,000, the khur is the last of its kind and can run at speeds of up to 70 km/h.



| Clear your doubts now.



Historically, the khur faced threats from diseases like African Horse Sickness, but conservation efforts have helped its population recover. However, human activities like salt farming and agriculture in the area threaten the delicate ecosystem. The khur is sometimes wrongly blamed for crop damage, even though other animals cause more harm. A better separation between the sanctuary and human settlements could help protect both the wildlife and the people in the region.

Key Takeaways:

1. Evolution of the Rann of Kutch

- Millions of years ago, the **Rann of Kutch** was part of the **Arabian Sea**.
- Geological changes created the **Little Rann of Kutch**, now a vast salt flat covering 5,000 sq. km.
- During the monsoon, it transforms into a wetland, with several islands, called **bets**, appearing in the area.

2. Habitat of the Indian Wild Ass (Khur)

- The **Indian wild ass** (khur) is the main species living in the **Wild Ass Sanctuary** in the Little Rann of Kutch.
- **Khur** are highly adaptable, capable of surviving on sparse vegetation, and are strong runners, reaching speeds of up to 70 km/h.
- They live in stable groups, with females and their young, while males tend to be solitary.

3. Khur's Near-Extinction and Recovery

- The khur population was severely reduced by diseases like **African Horse Sickness** and **Surra** in the 1960s.
- Conservation efforts have helped the population recover from just a few hundred to about **6,000** today.
- Genetic diversity remains low due to past population bottlenecks caused by these diseases.

4. Human Impact on the Little Rann of Kutch

- The area produces **30% of India's salt**, attracting around 5,000 families seasonally for salt farming, increasing human and vehicle activity.
- Extensive **cattle grazing** and **irrigation canals** are affecting the ecosystem by increasing soil salinity and leading to the **dispersal of khur**.
- Khur are sometimes unfairly blamed for crop damage, though other animals cause more destruction.

5. Need for Better Wildlife Protection

- A clear separation between the **Wild Ass Sanctuary** and human-dominated areas is crucial for better protection of both wildlife and human activities.





30th September 2024

[A rice variety to curb farm fires-Indian Express Explained](#)

Economy

Easy Explanation

The article addresses the issue of stubble burning in Punjab and Haryana, a major contributor to air pollution in northern India, by highlighting the introduction of a new rice variety, Pusa-2090. Traditionally, farmers in these regions have favored the Pusa-44 rice variety due to its high yield of 35–36 quintals per acre. However, Pusa-44 requires 155–160 days to mature, leading to late harvesting in end-October. This tight schedule leaves insufficient time for farmers to prepare their fields for the timely sowing of the winter wheat crop, prompting them to burn the leftover straw and stubble for quick field clearance.

Pusa-2090, developed by the Indian Agricultural Research Institute (IARI), offers a solution with a shorter maturation period of 120–125 days, similar to the PR-126 variety but with yields comparable to Pusa-44 (34–35 quintals per acre). Early harvesting of Pusa-2090 in early to mid-October provides farmers ample time to prepare for the next crop without resorting to stubble burning. Initial trials by farmers indicate promising results, suggesting that Pusa-2090 could be a viable replacement for Pusa-44, especially as the Punjab government has banned the cultivation of Pusa-44.

Key Takeaways:

- Stubble Burning Issue:** Delayed harvesting of the long-duration Pusa-44 rice variety leads to stubble burning in Punjab and Haryana, significantly contributing to air pollution.
- Pusa-44 Limitations:** While Pusa-44 offers high yields, its 155–160 day maturation leaves little time for sowing wheat, prompting farmers to burn crop residues for quick field preparation.
- Introduction of Pusa-2090:** Developed by IARI, Pusa-2090 matures in 120–125 days and yields 34–35 quintals per acre, nearly matching Pusa-44 but with a shorter growth cycle.
- Benefits of Pusa-2090:** The variety reduces the need for stubble burning, saves water by requiring fewer irrigations, has strong stems to prevent lodging, and responds well to fertilization.
- Positive Farmer Reception:** Farmers trialing Pusa-2090 report promising yields and earlier harvests, making it a viable replacement for Pusa-44 amid government bans.
- Policy Influence and Market Acceptance:** With Pusa-44 banned and milling quality issues with PR-126, Pusa-2090 meets procurement standards, influencing farmer adoption.
- Environmental Impact:** Widespread use of Pusa-2090 could significantly reduce stubble burning, aiding environmental conservation and promoting sustainable farming practices.
- Adoption Challenges:** Successful adoption depends on seed availability, farmer education, and ensuring grain quality meets industry standards for milling and procurement.

[Cadaver donations: need, rules and challenges-Indian Express Explained](#)

Science



| Clear your doubts now.



Easy Explanation

Cadaver donation is essential for medical education and research in India, providing hands-on experience for students and aiding medical advancements. However, donations are rare, leading to shortages in medical colleges. This forces institutions to rely on unclaimed bodies, raising ethical concerns, as these often come from marginalized individuals.

Anyone over 18 can donate their body, but there's no national system to oversee this process. Public awareness is low, and cultural beliefs further discourage donations. Bodies of organ donors or those with infectious diseases are typically not accepted.

To improve donations, public education, a national registry, and stronger ethical policies are needed. Increasing voluntary donations is key to enhancing medical education and healthcare in India.

Key Takeaways:

1. **Importance of Cadaver Donations:** Essential for medical education and research, providing hands-on training for students and aiding medical advancements.
2. **Shortage of Donations:** India faces a significant shortage of cadavers in medical colleges, leading to reliance on unclaimed bodies, which raises ethical concerns.
3. **Donation Eligibility:** Anyone over 18 can donate their body, but there's no national system overseeing the process. Bodies of organ donors or those with infectious diseases are usually not accepted.
4. **Challenges:** Low public awareness, cultural beliefs, and reliance on unclaimed bodies hinder cadaver donations.
5. **Solutions Needed:** Public education, a national donation registry, and ethical policies are required to boost voluntary cadaver donations and improve medical training in India.

[HOW MARS' ATMOSPHERE WENT MISSING:NEW STUDY OFFERS CLUES-Indian Express](#) [Explained](#)

Science

Easy Explanation

Mars, now a cold and barren desert, once had water flowing on its surface, indicating the presence of a thick carbon dioxide (CO₂)-rich atmosphere billions of years ago. About 3.5 billion years ago, this atmosphere thinned, and the water dried up. A new study published in *Science Advances* suggests that the interaction between water and the Martian surface rock olivine may have caused this change. Geologists from MIT propose that water reacted with olivine, forming smectite clay, which trapped CO₂ and converted it into methane over time. This reaction gradually depleted Mars' atmosphere. The smectite clay acted as a long-term carbon trap, storing methane for billions of years. This methane, trapped on Mars' surface, may become a valuable resource for future missions and potential colonization of the Red Planet.

Key Takeaways:



| Clear your doubts now.



1. **Past Mars Climate:** Mars once had a thick CO₂-rich atmosphere and flowing water, but both disappeared around 3.5 billion years ago.
2. **Cause of Atmospheric Loss:** The interaction of water with olivine rock on Mars' surface gradually removed CO₂ from the atmosphere, trapping it in smectite clay and converting it into methane.
3. **Methane Storage:** Smectite clay on Mars stored methane, a process that cooled the planet over billions of years.
4. **Future Utility:** The methane trapped on Mars could serve as a potential energy resource for future human missions and colonization.

[HOW SCIENTISTS USED STEM CELLS TO 'REVERSE' DIABETES FOR FIRST TIME-Indian Express Explained](#)

Science

Easy Explanation

For the first time, researchers have successfully used stem cells to reverse Type 1 diabetes in a 25-year-old woman. This autoimmune disease destroys insulin-producing cells in the pancreas, but after a transplant of reprogrammed stem cells, the woman began producing her own insulin within three months. The treatment involved converting the patient's cells into pluripotent stem cells, which were then developed into 3D clusters of insulin-producing islets. After the transplantation, the woman no longer required insulin injections and has maintained this insulin production for over a year. While the results are promising, scientists caution that further testing in more patients is necessary, and long-term effects need to be monitored before this can be considered a definitive cure.

Key Takeaways:

1. **Stem Cell Breakthrough:** A 25-year-old woman with Type 1 diabetes began producing insulin after receiving a stem cell transplant, marking a significant breakthrough.
2. **Treatment Process:** The woman's cells were reprogrammed into pluripotent stem cells, developed into insulin-producing islets, and transplanted into her abdominal muscles.
3. **Early Success:** Within three months, the woman produced sufficient insulin without injections and sustained it for over a year.
4. **Future Potential:** The success raises hopes for patients with Type 1 diabetes to avoid lifelong insulin use, but long-term results and replication in more patients are needed.
5. **Ongoing Research:** Further trials and monitoring are essential to ensure sustained insulin production and to evaluate the broader application of this treatment.

[The rankings trap-Indian Express Editorial](#)

Economy

Easy Explanation



| Clear your doubts now.



Global indices and rankings, such as the Global Competitiveness Index and the Global Hunger Index, have become widespread tools for assessing countries, but they often have methodological flaws and biases. Some rankings are well-constructed, like the Human Development Index, while others exclude important data or perspectives, especially from the Global South. India, for instance, saw a rapid and unexplained drop in the Global Gender Gap Index in 2024, raising questions about data accuracy.

Rankings often influence governments and organizations, but they may not accurately reflect ground realities or national progress. To make these rankings more credible, the article suggests three steps: 1) requiring indices to include clear methodological explanations and data sources, 2) encouraging critical analysis and fact-checking before media coverage, and 3) urging governments to prioritize national goals over global rankings. While rankings may have some value, using them more cautiously and responsibly is essential.

Key Takeaways:

1. **Global Indices Issues:** Many global rankings are flawed, often lacking proper data from the Global South and reflecting biases in their construction.
2. **Methodological Transparency Needed:** Indices should include detailed explanations of their methodology, data sources, and sample sizes to ensure accuracy.
3. **Critical Examination:** Media should allow time for fact-checking rankings before reporting, to avoid promoting misleading results.
4. **Government Response:** Governments should focus on their national goals and progress rather than fixating on global rankings.
5. **Alternative to Rankings:** If rankings can't be avoided, clear parameters should be established to ensure their sensible and accurate use.

[UNLOCKING THE RETAIL ADVANTAGE-Indian Express Editorial](#)

Economy

Easy Explanation

India is on the brink of a retail revolution, driven by a growing middle class, increased disposable income, and digitalization. E-commerce is projected to grow significantly, playing a key role in this transformation. However, the success of retail and e-commerce heavily depends on the efficiency of logistics and supply chain infrastructure. Currently, India's logistics costs are 11-14% of its GDP, higher than the global average. Reducing these costs is essential for competitive pricing, improved profit margins, and affordable products for consumers.

To achieve this, India must focus on improving logistics through infrastructure development, digitalization, and sustainability. The National Logistics Policy (NLP) aims to reduce costs, improve efficiency, and encourage innovation, while the Gati Shakti Master Plan focuses on skilling the workforce to manage advanced systems. Adopting global best practices, particularly from countries like Germany, can help India enhance warehousing, transportation, and inventory management. By leveraging technology and developing skilled labor, India can unlock the full potential of its retail sector, contributing to its goal of becoming a \$5 trillion economy by 2030.



| Clear your doubts now.



Key Takeaways:

1. **Retail Growth:** India's retail sector is projected to reach \$2 trillion by 2033, with e-commerce playing a significant role.
2. **Logistics and Supply Chain:** The success of retail depends on reducing logistics costs, which are currently higher than the global average, and improving infrastructure.
3. **National Logistics Policy (NLP):** The NLP focuses on reducing costs, digitizing processes, and promoting eco-friendly practices in logistics.
4. **Technology and Innovation:** Adopting global best practices like AI, IoT, and automation can improve warehousing and logistics efficiency.
5. **Skilled Workforce:** Investment in training logistics professionals is essential to manage advanced systems and technologies.
6. **Economic Imperative:** A robust logistics system is crucial for India's economic growth, improving competitiveness, and creating job opportunities.

[Not just nothing, dark matter quests close in on dire 'neutrino fog'-The Hindu Science](#)

Science

Easy Explanation

Scientists are narrowing down the possible identities of dark matter particles, although they have yet to identify them. The LUX-ZEPLIN (LZ) experiment, conducted deep underground in South Dakota, has placed the tightest restrictions so far on what these particles could be, ruling out certain possibilities. Dark matter, which makes up most of the universe's mass, is an invisible substance that doesn't interact with light. The challenge is to detect dark matter's interaction with visible matter, if it happens at all. A common approach is to place metal detectors underground to catch any recoil of atomic nuclei when dark matter particles hit them. However, as experiments become more sensitive, they are facing increasing noise from neutrinos, making it harder to distinguish dark matter signals. Despite setbacks, scientists continue to explore new approaches, including detecting lighter dark particles.

Key Takeaways:

1. **Dark Matter Identity Quest:** LUX-ZEPLIN experiment set new limits on what dark matter could be, but the exact particle remains unidentified.
2. **Dark Matter's Role:** It constitutes most of the universe's mass, with stars, planets, and gas accounting for only 15%.
3. **Detection Challenges:** Dark matter doesn't interact with photons, making it hard to detect, but experiments try to observe its interaction with atomic nuclei.
4. **Neutrino Fog:** Increasing detector sensitivity brings noise from neutrinos, complicating the search for dark matter particles.
5. **Ongoing Research:** Scientists are exploring new methods, such as detecting lighter dark particles, in the hope of making breakthroughs.
6. **Future Outlook:** Despite challenges, the search for dark matter continues, using increasingly advanced technology and methods.



| Clear your doubts now.



Common Practice Standards must have India outlook-The Hindu Editorial

Environment

Easy Explanation

India's agroforestry sector presents a significant opportunity for carbon finance projects like Afforestation, Reforestation, and Revegetation (ARR). With a potential expansion of agroforestry from 28.4 million hectares to 53 million hectares by 2050, the sector can contribute over 2.5 billion tons of CO₂ equivalent by 2030. However, global carbon standards like Verra's Verified Carbon Standard (VCS) and Gold Standard often deem common agricultural practices in India as not qualifying for carbon credits due to the "common practice" criteria, which don't account for India's small, fragmented landholdings.

To unlock the potential of agroforestry in India, the "common practice" criteria should be revised to reflect the unique agricultural landscape of smallholder farmers. An India-centric approach to carbon standards would allow more farmers to participate in ARR projects, providing additional income streams while contributing to India's climate goals. Such projects offer sustainable solutions for challenges in agriculture like low productivity and environmental degradation, benefiting farmers through carbon sequestration and environmental sustainability. Revising international carbon finance standards is crucial to fully realizing the potential of agroforestry in India.

Key Takeaways:

1. **Agroforestry Potential:** India's agroforestry sector can expand to 53 million hectares by 2050, contributing significantly to carbon sequestration and climate goals.
2. **Current Carbon Standards Challenge:** Global carbon standards exclude many Indian farmers due to "common practice" criteria, as they don't reflect India's small, fragmented landholdings.
3. **Need for India-centric Standards:** Revising carbon standards to align with India's agricultural landscape would enable more farmers to participate in ARR projects.
4. **Economic and Environmental Benefits:** ARR projects offer additional income, improve soil fertility, and enhance environmental sustainability for small and marginal farmers.
5. **Call for Global Standard Reform:** Platforms like Verra and Gold Standard must update their guidelines to include India's agroforestry practices for broader participation and greater impact.



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