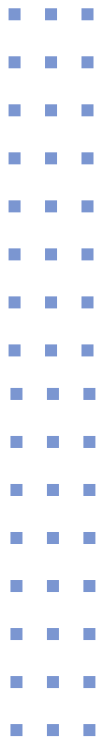


**MARCH
2025**

KSG

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**BUDGET SUMMARY 2025-26
& ECONOMIC SURVEY 2024-25**

WITH LOADED FEATURES

- **PRE-SHOTS** • **MAP CONNECT** • **PHILOSOPHY OF THE MONTH**
- **THEMATIC ESSAYS** • **CONTEMPORARY ETHICS CASE STUDIES**

"Get your Mains Answer Evaluated through this Copy"

MESSAGE FROM DR. KHAN

Dear Students,

Uncertainty is a pervasive aspect of our lives that influences our decisions, relationships, and overall well-being. It often **evokes feelings of anxiety, sadness, and even depression**. However, it can also serve as a catalyst for focus, determination, and creativity. Understanding how we respond to uncertainty is crucial in shaping our experiences and navigating life's challenges.

The Nature of Uncertainty: Uncertainty can manifest in various forms, from personal dilemmas like **career choices to global crises such as pandemics**. For instance, during the COVID-19 pandemic, many businesses faced unprecedented uncertainty. Companies that were able to pivot quickly—**such as BrewDog**, which shifted from brewing beer to producing hand sanitizer—demonstrated resilience and adaptability in the face of uncertainty. This ability to respond effectively highlights that it is not the uncertainty itself that defines our experience but our reaction to it.

Individual Responses to Uncertainty: Different individuals can **react distinctly to the same uncertain situation**. For example, during an earthquake, some people may panic while others remain calm and take action to protect themselves. This variation illustrates that our perceptions of uncertainty are shaped more by our individual responses than by the **external circumstances themselves**. In this context, the concept of "**meta-states**" becomes relevant; we are central figures capable of influencing our perspectives and emotional states.

Measuring Uncertainty: Uncertainty is inherently difficult to quantify. Traditional statistical tools may fail to capture its complexity. The 2008 financial crisis serves as a poignant example; despite sophisticated economic models, many did not foresee the impending collapse. This unpredictability underscores the importance of accepting uncertainty as a fundamental aspect of life rather than attempting to eliminate it.

Embracing Uncertainty for Growth: Embracing uncertainty can unlock creativity and resourcefulness. For instance, students preparing for exams often confront uncertainty about their performance. However, those who approach this challenge with preparation and a positive mindset tend to succeed despite the odds. Similarly, organizations facing extreme uncertainty must adapt their strategies continuously. **The New York City Fire Department's response after the September 11 attacks exemplifies this adaptability; they shifted from immediate response protocols to long-term recovery strategies.**

Strategies for Managing Uncertainty

To alleviate anxiety stemming from uncertainty, individuals can focus on shorter time frames. Breaking down larger uncertainties into manageable increments allows for greater control over outcomes. This approach empowers individuals to confront challenges with confidence and resilience. Moreover, engaging in self-soothing practices—such as **mindfulness or physical activity**—can **mitigate stress associated with uncertainty**.

Case Study: The Impact of Uncertainty on Business Decisions

A notable **case study** involves companies during the COVID-19 pandemic. Many organizations faced significant operational uncertainties due to lockdowns and changing consumer behaviors. Businesses like Zoom thrived by meeting emerging needs for remote communication, while others that failed to adapt struggled or closed down entirely. This illustrates how proactive responses to uncertainty can lead to success.

Conclusion

Uncertainty is an inevitable part of life that affects everyone. **Instead of succumbing to worry, embracing it as a shared human experience opens doors to new possibilities and opportunities.** By focusing on our responses and employing effective strategies for managing uncertainty—such as breaking down challenges into smaller parts—we **can navigate life's unpredictability with confidence and creativity.**

As you encounter uncertainties in your journey, remember that your response is key. Embrace these moments as opportunities for growth and innovation, recognizing that they are integral to the human experience. Your ability to decide how you approach uncertainty will ultimately shape your path forward.

**My best wishes are always with you.
Stay Blessed!**

GS CONNECT

It gives us immense pleasure to present an innovative approach to mastering current affairs. Current is a passing wind and diverse issues happen at the same time. It is to an extent chaotic. Newspapers, magazines, and various other sources report the chaos per se. With our experience of current affairs, we have tried to give "the current" a medium to travel. It is the syllabus of the UPSC with its components that are the medium through which the "Current is Passed" to the readers. **Ever since the new syllabus of the UPSC came into existence, the current has been gaining significance both at prelims as well as mains examination.** This book is meant to cover current affairs and related questions arising from those events. We have not only covered the current events for their factual contents but also presented them in such a way that any question asked from that topic gets covered. Moreover, topics are also "**peppered**" with the relevant facts/key concepts that are related to the theme.

It is a collection covering myriad sources yet in a manageable size. To use this book, we recommend you to, master the components of the General Studies (GS) syllabus as broken into rows and columns (**provided on the subsequent page**). Each cell comprising the portion of GS becomes the connection for the current and every news subsequently covered guides the reader to the address of the syllabus. It is logical to expect that the same issue may be connected to more than one topic of the syllabus. Further, the news also has some additional vistas opened for the readers by adding a box with the title "**PEPPER IT WITH**" where we expect the students to build further around the theme. We are also trying to reach the remotest part of the country with our spirit and zeal of "**Mains Answer Writing**", which has been admired by students, CSE rank holders, and other scholars. Continuing in line with the effort, we have started **programs like KTP Mains Test Series, Destinaire, Navigator, NEEV, AWSDP plus, KOL, DL& MP, Advance Foundation Course, Weekend Courses as well as Optional Courses (PSIR, Sociology, History, and Geography).**

Scan the QR code to revise the previous month's current affairs and test yourself.

When it comes to evaluation, we are all together at a different level. We are also reaching every nook and corner with this expertise for the aspirants of CSE. Now you can write a Mains Answer and get it evaluated by our Expert Team and can get Feedback. Drop a mail at **evaluation@ksgindia.com** to register yourself in our race to perfection. Don't wait, it's your golden chance to crack this exam and fulfill your passionate dream.

Team KSG

S. No.	GS -I	GS- II	GS- III	GS-IV	Mis
1	Indian Culture-Art Forms, Literature and Architecture from ancient to modern times.	Indian constitution- Amendments, acts and bills.	Various measures to boost Indian economy- planning, policies, management	Ethical issues related to family society, education, Corruption etc.	
2	Indian History significant events, personalities, issues and the Freedom Struggle.	Legislative, executive and judicial processes.	Government budgeting and issues related to budget.	Ethics in public and private administration	
3	Post independence issues, National boundary and disputes.	Constitutional, non-constitutional, judicial, quasi-judicial, administrative and other types of bodies.	Agriculture, animal husbandry and transport	Issues	
4	Indian society features, issues, globalization and diversity	Federal structure and local bodies. Their powers and functions.	Food security- measures to boost food security and food processing. Issues related to land- land reforms	Related laws and rules	
5	Women - issues and developments	Government policies and various governance issues like transparency, accountability and – governance	Industries and infrastructure- their growth and investment model	Governance/e- Governance	
6	Urbanization – problems and remedies	Committees and schemes.	Space and technology, IT space, robotics and computer	Ethics in international issues	
7	Distribution of industries and resources – India and world	Non-government issues, self-help groups and role of civil society	Disease, biotechnology and human welfare	Personalities and their teachings	
8	Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc	Vulnerable sections of our society and social sector issues like Poverty, Hunger, Education, and their initiatives.	Innovations, intellectual property, Awards, POI and other important aspects of S&T	Other important topics	
9		International Relation- India and other countries, various Indian and international agreements, effects of other countries on India and international institutions.	Environment; government initiatives, various judgment, pollution, degradation and conservation efforts		
10			Disaster & Disaster Management		
11			Challenges to internal security, Various Security forces and agencies and their mandate. Cybersecurity; money laundering and its prevention.		

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POLITY

Manipur Under President's Rule: A Case Study of Constitutional Failure and Political Turmoil

News Excerpt:

The state of Manipur has been engulfed in violence and unrest over the past several months, culminating in political instability and social turmoil.

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With over 250 lives lost and thousands displaced, the turmoil has raised serious questions about the effectiveness of state governance and the constitutional mechanisms available to restore order. Legal experts and political commentators alike are calling for the invocation of Article 356 of the Indian Constitution, which allows the central government to assume control of a state's administration in the event of a constitutional failure.

Introduction: The Breakdown of Constitutional Machinery

Manipur's ethnic faultlines: Kuki-Meitei divide & recent unrest

There are 16 districts in Manipur, but the state is commonly thought of as divided into 'valley' and 'hill' districts.

In these hill areas, which comprise the bulk of Manipur's geographical area, live 15 Naga tribes and the Chin-Kuki-Mizo-Zomi group.

Imphal (East and West)
Kukis and Nagas point out that tribal areas are 90% of state's geographical area, but the bulk of its budget and development work is focused on the Meitei-dominated Imphal valley.

The Manipur valley is encircled by skirts of low hills that spread into Nagaland and Mizoram.

While tribals can buy land in the valley, Meiteis are prohibited from buying land in the hills

The imposition of President's Rule in Manipur on February 13, 2025, marks a significant moment in the state's history, reflecting a perceived failure of the constitutional machinery. This decision, made after months of ethnic violence and political instability, raises critical questions about governance, security, and the role of the central government in managing crises in federal states.

- **Article 356 Invoked:** The President of India invoked Article 356 of the Constitution, allowing the central government to take direct control of the state's administration.

- **Suspended Animation:** The Manipur Assembly was placed under suspended animation, indicating a temporary suspension of its functions, with the potential for revival depending on future circumstances.
- **Root Causes:** The decision followed months of ethnic violence, political uncertainty, and the resignation of Chief Minister N. Biren Singh.

Factors Leading to President's Rule

The situation in Manipur deteriorated over nearly two years due to a confluence of factors:

- **Ethnic Violence:** The primary catalyst was the prolonged ethnic conflict between the Meitei and Kuki-Zo communities, resulting in over 250 deaths and the displacement of more than a lakh people. The violence exposed deep-seated social divisions and a breakdown of law and order.

Repeating history

Manipur is among States with highest instances of President's Rule

- This marks the **11th time** President's Rule has been imposed
- The latest instance was **277 days** from June 2, 2001, to March 6, 2002
- The first was for **66 days** from January 12 to March 19, 1967
- The longest was for **2 years and 157 days** from October 17, 1969, to March 22, 1972
- **Rishang Keishing** of the Congress became the first Chief Minister to complete his full term. **Okram Ibobi Singh** of Congress was the first Chief Minister to finish not one but three terms

- **Failure of State Government:** The state government, led by N. Biren Singh, was widely criticized for its inability to control the violence, maintain impartiality, and effectively address the grievances of the affected communities. Allegations of Singh championing the cause of chauvinists from one community further eroded confidence in his leadership.
- **Central Government Intervention (Article 355):** The Union Government had, de facto, used the provisions of Article 355 to seize control over law and order without declaring its imposition.
- **Loss of Public Confidence:** The ruling BJP and its allies lost both Lok Sabha seats in the 2024 general election, signaling widespread dissatisfaction with the state government's performance.
- **Leaked Audio Tapes:** The Supreme Court's examination of "leaked audio tapes" allegedly featuring Mr. Singh as an instigator of the ethnic conflict exacerbated the situation.
- **Human Rights Violations:** As indicated by the Supreme Court, the state has witnessed gross violations of human rights, necessitating urgent action to safeguard the lives and dignity of its residents. The invocation of Article 356 would permit the central government to address these human rights concerns directly.

These factors collectively created a situation where the state government was perceived as incapable of functioning in accordance with the Constitution, prompting the invocation of Article 356.

Counterarguments and Challenges

While the case for invoking Article 356 strengthens with the growing unrest, there are counterarguments posed by political leaders and civil society:

- **Federalism and Autonomy:** Critics argue that imposing President's rule undermines the principles of federalism and local governance, as it can lead to a long-term centralization of power without addressing the root causes of unrest.
- **Potential for Abuse:** Given historical precedents of misuse, there are concerns about the potential for Article 356 to be used as a political weapon, undermining democratic processes even further.
- **Community Mistrust:** The intervention may exacerbate existing tensions among community groups in Manipur, especially if perceived as imposing external authority without local representation.

Constitutional and Legal Dimensions

The imposition of President's Rule in Manipur raises several constitutional and legal issues:

- **Article 356: Failure of Constitutional Machinery:** Article 356 empowers the President to take over the administration of a state if the government cannot be carried on in accordance with the Constitution.
- **Safeguards Against Abuse:** The Supreme Court has, over time, outlined safeguards to prevent the misuse of Article 356.
- **Suspended Animation vs. Dissolution:** Placing the Assembly under suspended animation allows for its potential revival, distinguishing it from complete dissolution, which would necessitate fresh elections.

Political Reactions and Commentary

The imposition of President's Rule has elicited varied reactions from political parties and community leaders:

- **Congress:** The Congress party characterized the imposition of President's Rule as a belated admission of the BJP's inability to govern Manipur and demanded an apology from Prime Minister Narendra Modi.
- **CPI(M):** The CPI(M) called for the immediate revocation of President's Rule and the holding of fresh elections.
- **Indigenous Tribal Leaders Forum (ITLF):** The ITLF expressed hope that President's Rule would bring relief to the Kuki-Zo community, although they remained wary of a Meitei Chief Minister.
- **BJP:** The Manipur BJP president asserted that the Assembly had been put under suspended animation in accordance with the constitutional process.

Potential Pathways Forward

The imposition of President's Rule presents an opportunity for the central government to address the underlying issues and restore stability in Manipur. Potential strategies include:

- **Identifying a New Leader:** The BJP central leadership faces the challenge of finding a new leader who is unburdened by the past and capable of fostering reconciliation among the communities.
- **Involving Civil Society:** Accelerating the process of involving civil society leaders in talks to address immediate issues such as the rehabilitation and return of displaced people.
- **Addressing Grievances:** Taking measures to address the grievances of both the valley and hill regions to foster confidence-building measures.
- **Strengthening Security:** Beefing up security measures to prevent any unwanted activities and maintain law and order.

Security Measures and Current Scenario

- **Increased Security Deployment:** Security forces are on high alert in Imphal and other sensitive areas to prevent any untoward incidents.
- **Focus on Raj Bhavan and CM Secretariat:** Security has been particularly intensified around key government installations.
- **Precautionary Measures:** The police have increased deployment of personnel in strategic locations to prevent miscreants from taking advantage of the situation.

Conclusion

The situation in Manipur presents a significant challenge for both governance and civil rights in India. While the case for invoking Article 356 is compelling given the ongoing violence and challenges to law and order, it is imperative that any such intervention be coupled with a clear plan for restoring local governance, addressing community grievances, and upholding human rights. The responsibility now lies with the central government to act decisively and judiciously to reestablish peace and harmony in Manipur while ensuring that the principles of democracy and federalism are upheld. This moment calls for reflection on the balance between immediate action in crisis situations and the longer-term commitment to empowering local governance for sustainable peace.

PEPPER IT WITH:
NE trouble with internal conflicts, Regional and Internal security.

EC's new rule for Political parties

News Excerpt

The **Election Commission of India (EC)** has introduced a new rule requiring all political parties to prominently label AI-generated, digitally enhanced or synthetic campaign content. This step is part of the EC's broader effort to ensure **transparency, accountability, and informed voter choices** amid the rising influence of Artificial Intelligence in shaping public opinion.

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Key Highlights of the Advisory:

- **Mandatory Labelling:**
 1. All political parties, candidates, and star campaigners must label AI-generated content as:
 1. "AI-generated"
 2. "Digitally enhanced"
 3. "Synthetic content"
 2. The labelling must be **prominent and easily discernible** across all media platforms, including **social media** and campaign advertisements.
- **Reason for the Rule:**
 1. AI-generated content, such as **videos, images, and audio**, can significantly influence voter perception.
 2. Transparent labelling will ensure voters are aware when content is digitally altered, fostering **responsible campaigning**.
- **Previous Guidelines:**
 1. In May 2024, during the Lok Sabha elections, the EC urged parties to curb the use of **deep fakes** and **distorted content**.
 2. The current advisory expands on those guidelines to address the **growing role of AI in campaigns**.
- **Importance of Transparency:**
 1. The EC emphasized that clear disclaimers for AI-generated content are crucial to maintaining **fairness** and **credibility** in elections.
 2. This ensures voters are not misled by synthetic media or manipulated narratives.

Implications:

- **For Political Parties:**
 1. Parties must audit their campaign content for AI-generated material and integrate **labelling processes** into their communication strategies.
 2. Failure to comply may lead to scrutiny and potential action by the EC.
- **Impact on Campaigning:**

While AI tools can enhance campaign creativity, the mandatory labelling could mitigate concerns about the **misuse of synthetic media** for disinformation.
- **Empowered Voters:**

The rule aims to equip voters with the knowledge to differentiate between authentic content and **AI-enhanced media**, encouraging **informed decision-making**.
- **Ethical Use of Technology:**

This move promotes the **ethical application of AI** in politics, setting a precedent for accountability in the use of emerging technologies globally.

Challenges:

- **Compliance Monitoring:**

Monitoring and verifying compliance across the vast volume of digital content generated during campaigns could be challenging.

- **Technological Expertise:**

Political parties may require **technical expertise** to identify and label AI-generated content effectively.
- **Public Awareness:**

Educating voters about AI-generated content and its implications is crucial for the rule's success.

Conclusion:

The EC's decision to mandate labelling of AI-generated campaign material reflects its commitment to **preserving electoral integrity** in the digital age.

PEPPER IT WITH:
Political Party reforms, RPA Act provisions etc.

As AI continues to influence political campaigns, the new rule provides a framework to ensure **transparent and fair practices** while promoting voter awareness. However, its effectiveness will depend on robust enforcement and public education efforts.

SC Ruling on Abetment of Suicide Charges

News Excerpt

The Supreme Court's recent observations on abetment of suicide under Section 306 of the IPC (Indian Penal Code) underscore the importance of careful application of the law to prevent misuse and unnecessary prosecutions.

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What Did the Supreme Court Say?

- **Need for Sensitisation:** Investigation agencies and courts need to be educated on the legal thresholds for abetment of suicide to prevent the misuse of Section 306 IPC.

CAN YOU PROVE ABETMENT TO SUICIDE?

WHILE RHEA CHAKRABORTY HAS BEEN CHARGED WITH ABETMENT TO SUICIDE, HERE ARE SOME CASES WHERE COURTS STRUCK DOWN SIMILAR CHARGES

◆ In 1993, the Supreme Court quashed abetment to suicide charges against the husband and mother-in-law of a woman from Bengal who set herself on fire

◆ In 2002, the SC said the wife and brother-in law of a man who killed himself were not guilty of abetting suicide despite one of their names being on the suicide note

◆ In 2010, the apex court let off a farmer from Andhra Pradesh, who was charged with harassing a labourer and accusing him of stealing gold ornaments. The farm labourer had killed himself "in shame"

◆ In 2010, in a case from Gujarat where an employee killed himself after the employer berated him for not doing his work properly, the court noted that the accused had never intended for the deceased to die

◆ In 2011, the Bombay High Court acquitted several persons, including journalists, who were accused of "harassment" of a government official with corruption allegations against him, leading him to kill himself

DiU Graphic: KESHAV KAPIL

- **Avoiding Mechanical Invocation:** The provision should not be invoked to satisfy emotional or societal pressures without proper evidence.
- **High Standard for Proof:** The court emphasized that casual or hyperbolic exchanges cannot constitute abetment unless there is direct evidence of instigation or encouragement to commit suicide.

Legal Definition of Abetment

The term "abetment" is defined under **Section 107 IPC** and includes:

- **Instigation:** Actively provoking or encouraging someone to commit suicide.
- **Conspiracy:** Planning with others to push the deceased toward suicide.
- **Intentional Aid:** Providing support, knowingly or otherwise, to facilitate the act.

Under Section 306 IPC, abetment to suicide carries up to 10 years of imprisonment and a fine.

The Case Before the SC

- **Background:** A bank manager was accused of abetment after a borrower died by suicide, leaving a note alleging harassment over loan recovery.
- **Lower Court Rulings:** The trial court and Madhya Pradesh High Court upheld the charges, citing prima facie evidence of harassment.
- **SC's Ruling:** The apex court discharged the accused, stating that:
 - There was no direct or intentional instigation.
 - Harassment for loan recovery, while stressful, does not meet the threshold for abetment.

Legal Standards Set by the SC

The SC has laid out strict conditions for prosecuting abetment of suicide cases:

- **Direct Instigation Required:** There must be a clear and intentional act to provoke or compel the deceased to end their life.
- **Higher Bar in Official Relationships:** In cases involving workplace or professional disputes, proof of deliberate incitement is essential.
- **Context Matters:** Courts must consider real-life contexts and avoid framing charges based on societal or emotional pressures.

Previous SC Judgments

The SC has consistently upheld the need for stringent proof in abetment cases:

- **M Mohan v State (2011):** Abetment requires an active or direct act that leaves the deceased with no option but suicide.
- **Ude Singh v State of Haryana (2019):** Continuous conduct by the accused creating a "no-option" situation can qualify as abetment, but clear evidence is mandatory.

- **Workplace Cases (2024):** For workplace-related suicides, casual harassment or professional disputes do not automatically qualify as abetment unless coupled with clear intent.

Implications

For Investigation Agencies:

- Must avoid filing charges without clear evidence of intent, instigation, or aid.
- Ensure detailed and unbiased investigations to determine the mental state of the accused and the deceased.

For the Judiciary:

- Courts must not "play it safe" by framing charges in all cases without scrutinizing evidence.
- Focus on balancing justice for the deceased's family with the rights of the accused.

For Society:

- Recognize that distressing situations like loan recovery or workplace disputes, while challenging, do not inherently imply criminal abetment.
- Avoid undue pressure on investigating authorities to initiate prosecutions based on emotional reactions.

PEPPER IT WITH:
Gender neutral Laws, Suicide as social evil.

Conclusion

- The Supreme Court's observations reinforce the principle that abetment of suicide charges cannot be used as a tool for emotional appeasement or indiscriminate prosecution.
- By setting a high bar for evidence and intent, the court aims to uphold the integrity of the legal process while preventing the misuse of a serious legal provision.

In Five Years, Lokpal Probe

News Excerpt

Twelve years since the Lokpal Act was passed and five years after Lokpal– the country's first anti-corruption body – started to function, it ordered investigation in just 24 cases and granted prosecution sanction in six cases.

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Introduction to the Lokpal

- The Lokpal, India's apex anti-corruption body, was established under the Lokpal and Lokayuktas Act, 2013 to investigate corruption allegations against public officials, including the Prime Minister, ministers, MPs, and bureaucrats.
- Operational since March 2019, it serves as a critical institution for ensuring accountability in governance.

The Lokpal and Lokayuktas Act, 2013 established a framework for combating corruption in India through the creation of the Lokpal at the national level and Lokayuktas at the state level. Here are the salient features of the Lokpal:

Structure

- **Composition:** The Lokpal consists of a chairperson and up to eight members. Half of these members must have judicial experience, while the other half should possess expertise in public administration, finance, law, or anti-corruption.
- **Representation:** At least 50% of the members must come from Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes (OBC), minority communities, and women.

Jurisdiction

- **Scope:** The Lokpal has jurisdiction over the Prime Minister, Ministers, Members of Parliament, and public servants across various government levels. It also covers entities receiving foreign donations exceeding ₹10 lakh per year.
- **Exclusions:** Allegations against Members of Parliament regarding their speeches or votes in Parliament are excluded from Lokpal's jurisdiction.

Powers

- **Investigative Authority:** The Lokpal can investigate complaints of corruption against public officials and has powers similar to those of a civil court.
- **Superintendence over CBI:** It has the authority to supervise and direct investigative agencies like the Central Bureau of Investigation (CBI) for cases referred to them.
- **Asset Confiscation:** The Lokpal can provisionally attach assets acquired through corrupt means and recommend their confiscation.

Procedures

- **Timelines for Investigations:** The Act mandates clear timelines for preliminary inquiries (three months), investigations (six months), and trials (one year), with provisions for extensions under specific circumstances.
- **Special Courts:** Special courts are to be established to expedite trials related to corruption cases.

Accountability and Transparency

- **Asset Declarations:** Public officials are required to declare their assets and liabilities, along with those of their dependents, ensuring transparency in governance.
- **Removal and Complaints:** Provisions exist for the removal of the chairperson or members based on complaints, ensuring accountability within the Lokpal itself.

Key Statistics (2019–2024)

- **Probes ordered:** 24 cases involving corruption complaints.
- **Prosecution sanctioned:** Only 6 cases received approval for legal action.
- **Pending cases:** A significant backlog due to procedural delays and limited resources.

Reasons for Low Numbers

- **Limited complaints:** Despite its mandate, the Lokpal receives few actionable complaints, partly due to public unawareness or distrust in the process.

- **Procedural delays:** Complex bureaucratic processes and requirements for filing complaints (e.g., affidavit mandates) deter citizens.
- **Narrow jurisdiction:** The Lokpal cannot initiate suo moto investigations and relies on complaints meeting strict criteria.
- **Resource constraints:** Staff shortages and infrastructural limitations hinder efficient functioning.

Operational Challenges

- **Dependence on agencies:** The Lokpal relies on external agencies like the CBI for investigations, leading to delays.
- **Political and bureaucratic resistance:** Alleged non-cooperation from government departments in sharing documents or expediting probes.
- **Legal ambiguities:** Overlap with other anti-corruption bodies (e.g., Central Vigilance Commission) creates confusion in mandate.

Public and Expert Reactions

- **Criticism:** Civil society groups and activists argue the Lokpal's impact has been underwhelming, citing low prosecution rates and delays.
- **Defense:** Officials highlight procedural rigor, emphasizing that thorough investigations take time to ensure fairness.
- **Calls for reform:** Experts demand simplification of complaint procedures, greater autonomy, and enhanced public outreach.

Comparison with Other Anti-Corruption Mechanisms

- **Lokayukta:** State-level anti-corruption bodies face similar challenges, with uneven performance across states.
- **CVC (Central Vigilance Commission):** Handles lower-level bureaucrats but lacks the Lokpal's authority to probe politicians.

Future Steps and Recommendations

- **Strengthening infrastructure:** Increasing staffing, funding, and technological tools for faster processing.
- **Public awareness campaigns:** Educating citizens on filing complaints and building trust in the system.
- **Legal reforms:** Allowing suo moto proceedings and streamlining jurisdiction to avoid overlap.
- **Transparency:** Regular public reporting of case statuses to enhance accountability.

Conclusion:

Five years since its operationalization, the Lokpal's performance reflects systemic challenges in India's anti-corruption framework. While it has initiated probes in high-profile cases, low prosecution rates and procedural

PEPPER IT WITH:

Lokpal and Lokayuktas, Anti-corruption Movement.

bottlenecks underscore the need for structural reforms. For the Lokpal to fulfill its mandate as a robust accountability mechanism, addressing resource gaps, legal ambiguities, and public engagement will be critical. The institution's effectiveness remains a litmus test for India's commitment to combating corruption.

Governor as the Chancellor of State Universities

News Excerpt

The role of the Governor as the Chancellor of state universities in India has been a long-standing tradition, but it has increasingly become a contentious issue, leading to debates over governance, autonomy, and political influence in higher education. While the Governor's role as Chancellor is meant to ensure impartial oversight, recent political and administrative conflicts have raised concerns about whether this arrangement should continue or be reformed.

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Governor's Role as Chancellor:

Responsibilities & Rationale: By convention, the Governor serves as the ex-officio Chancellor of state universities, a role that includes several key responsibilities:

Appointment of Vice-Chancellors:

The Chancellor has the authority to appoint Vice-Chancellors (VCs), who act as the academic and executive heads of universities.

This power is seen as a safeguard against excessive political interference from the state government in university affairs.

Oversight of University Affairs: The Governor, in the capacity of Chancellor, approves statutes, regulations, and policies proposed by the university's governing bodies.

Presides over convocations, university council meetings, and key academic functions.

Upholding University Autonomy:

The Governor is expected to act independently of the state government to protect universities from undue political influence.

The role is intended to ensure that academic and administrative decisions are made in the best interest of education, rather than being dictated by political considerations.

Concerns and Criticism

Despite these intended benefits, several issues and criticisms have emerged regarding the Governor's role as Chancellor:

Potential Political Conflicts:

- The Governor is appointed by the Central Government and often holds different political affiliations from the state government.

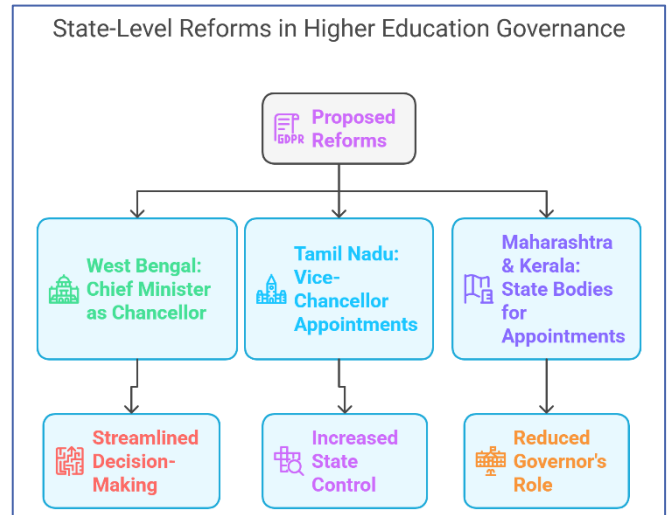
- This has led to power struggles over university appointments and policy decisions, as seen in states like West Bengal, Maharashtra, and Tamil Nadu.

Delays in Decision-Making:

- Due to political standoffs, the appointment of Vice-Chancellors and other key officials is often delayed, affecting university governance.
- In some cases, Governors have rejected or stalled recommendations made by state governments, leading to legal disputes.

Autonomy vs. State Control:

- While the Governor's role is meant to protect autonomy, critics argue that state governments should have greater control over universities.
- Some states believe that transferring these powers to the Chief Minister or an academic body would ensure more efficient governance.



Arguments for and Against the Governor's Role

Arguments in Favor of Retaining the Governor as Chancellor

Ensures Impartiality:

- The Governor, as an independent constitutional authority, provides a buffer against state-level political interference.
- Keeps universities focused on academic priorities rather than state government agendas.

Maintains Higher Standards in Appointments:

- The Governor's involvement ensures that Vice-Chancellors and other university officials are selected based on merit rather than political loyalty.

Prevents Administrative Misuse:

- If state governments have complete control, universities could be used for political patronage, favoritism, or ideological control.

Arguments Against the Governor's Role as Chancellor

Political Conflicts and Delays:

- The tussle between the Governor and state government often disrupts university administration.

- In some cases, Governors have been accused of delaying appointments to assert political dominance.

State Governments Should Have Control Over State Universities: Since higher education falls under the purview of state governments, they should have the authority to manage their universities without interference from the Governor.

Lack of Accountability: Governors are not directly accountable to the public or state legislature, raising concerns about lack of transparency in decision-making.

PEPPER IT WITH:
 Role of governor, Centre -State Relations.

A possible middle-ground solution could be:

- Establishing an independent academic body (comprising educationists, former Vice-Chancellors, and other experts) to oversee university appointments and governance, reducing both state and gubernatorial control.
- Clearly defining the Governor’s role in university affairs through constitutional or legal amendments to prevent unnecessary interference while ensuring proper checks and balances.

The Way Forward

The debate over whether Governors should continue as Chancellors of state universities is not just a political issue, but also an administrative and academic one. While some argue that the Governor’s role ensures neutrality and prevents excessive political interference, others believe that state governments should have full control over university administration.

SOCIAL ISSUES

Gender Disparities in Childhood Cancer Treatment on the Decline in India

News Excerpt

Doctors at the State-run Kidwai Memorial Institute of Oncology (KMIO) in Bengaluru, India, have observed a positive trend in recent years: an increasing number of girls are registering for cancer treatment.

This shift indicates a reduction in gender disparities that previously affected access to cancer treatment for girls. Increased awareness campaigns, especially around World Cancer Day in February, have played a significant role in this improvement.

Factors Contributing to Reduced Disparities

Several factors have contributed to the decline in gender disparities in childhood cancer treatment:

- **Increased Awareness:** Heightened awareness about cancer and the availability of effective treatments has

encouraged more families to seek medical care for their daughters.

- **Gender Sensitization:** Growing gender sensitization within communities and healthcare systems has helped address social norms that previously hindered girls' access to treatment.
- **Financial Support:** Efforts to reduce financial constraints have made treatment more accessible to families, regardless of the child's gender.
- **Comprehensive State Policies:** Initiatives like the comprehensive State childhood cancer management policy in Karnataka aim to ensure that every child with suspected or diagnosed cancer has immediate access to pediatric oncology healthcare delivery systems.

Current Statistics and Observations

- **Incidence in Karnataka:** Approximately 975 children are diagnosed with cancer annually in Karnataka, with 505 being girls and 470 being boys.

Challenges in Low and Middle-Income Countries (LMICs)

Despite these advancements, challenges persist in low and middle-income countries (LMICs) like India. These include:

- **Delayed Diagnosis:** Late detection of cancer reduces the chances of successful treatment.
- **Access to Specialized Care:** Hurdles in accessing specialized medical facilities impede timely and effective treatment.
- **Treatment Toxicity:** Deaths due to the toxic effects of treatment remain a concern.
- **Treatment Abandonment:** Families discontinuing treatment due to various reasons, including financial constraints and lack of awareness, negatively impacts outcomes.
- **Sub-Optimal Treatment:** Inadequate or inappropriate treatment protocols can lead to poorer results.
- **Relapse:** Cancer recurrence after initial treatment poses a significant challenge.

The Importance of Early Diagnosis and Intervention

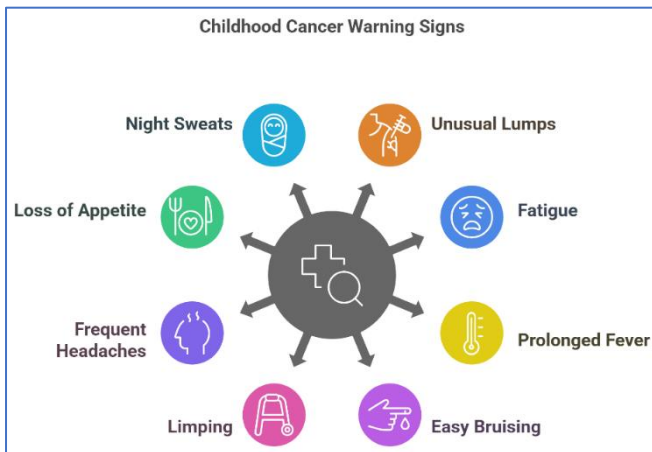
Early diagnosis and intervention are crucial for improving treatment outcomes and reducing mortality rates in childhood cancer. Doctors advise against using alternative systems of medicine, as they can delay the initiation of proper cancer treatment.

Call to Action

While progress has been made in reducing gender disparities and improving childhood cancer treatment in India, continued efforts are needed to enhance awareness, ensure early diagnosis, and provide accessible, affordable, and effective care to all children. Addressing societal biases and strengthening healthcare systems are essential steps in this ongoing journey.

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Understanding the One Health Joint Plan of Action (2022-2026)



The One Health Joint Plan of Action (2022-2026): A Collaborative Approach to Global Health

The **One Health (OH)** approach has gained significant momentum in public health discussions, especially following the COVID-19 pandemic. It represents an integrated and collaborative effort to achieve optimal health for people, animals, and the environment by recognizing their interconnectedness. Globally, this initiative is spearheaded by the 'Quadripartite' – a collaboration between the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP), the World Health Organization (WHO), and the World Organisation for Animal Health (WOAH).

Historical Context of One Health

The concept of One Health has deep roots in history:

- **Early Connections:** Veterinary medicine and human medicine were intertwined until the 19th century, with overlapping research in both fields.
- **Divergence:** The 20th century saw a specialization of medicine, leading to a divergence between human and veterinary medicine.
- **Revival of the Concept:** Sir William Osler coined the term 'One Medicine' in the 19th century, and Calvin Schwabe later sought to revive this concept.
- **Rudolf Virchow's Influence:** Rudolf Virchow, through his work on *Trichinella spiralis*, coined the term "zoonosis" and advocated for no dividing line between animal and human medicine.

The Rise of One Health

Several factors have contributed to the re-emergence and prominence of One Health:

- **Decline of Epidemics:** The emergence of welfare states led to a decline in communicable diseases but a rise in non-communicable diseases (NCDs).
- **Emerging Infectious Diseases:** Globalization in the 1980s and 90s led to the emergence of novel diseases

such as SARS, Ebola, Nipah, and MERS, highlighting the need for integrated approaches.

- **Zoonotic Links:** Many emerging pathogens have been linked to animal sources, particularly wild animals, emphasizing the importance of understanding zoonotic diseases.
- **Interdisciplinary Collaboration:** The term 'One Health' emerged to promote interdisciplinary collaboration, leading to conferences and resolutions emphasizing the need for integration and collaboration.

The Indian Scenario

India has actively embraced the One Health approach:

- **National Expert Group:** During the COVID-19 pandemic, the Department of Biotechnology announced a National Expert Group on One Health in May 2020.
- **State Initiatives:** Kerala formulated a One Health Scheme focusing on zoonotic diseases.
- **Pilot Projects:** The Department of Animal Husbandry and Dairying (DAHD) supported pilot projects in Karnataka and Uttarakhand to develop a national One Health Framework, focusing on early prediction and detection of zoonotic diseases.
- **One Health Mission:** The Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC) recommended a 'One Health Mission' to coordinate and integrate all existing One Health activities in the country.
- **G20 Presidency:** India's G20 Presidency (2022-23) further emphasized One Health, with the Health Track focusing on health emergencies, prevention, preparedness, and response.

Expanded Scope of One Health

One Health extends beyond zoonosis and pandemics, encompassing a wide range of issues:

- **Sustainable Development Goals (SDGs):** One Health reinforces the vision of SDGs, recognizing that good health depends on and contributes to other development goals.
- **Diverse Issues:** An expanded scope includes neglected tropical diseases, vector-borne diseases, food safety and food security, environmental contamination, climate change, and other shared health threats.

The Importance of Multi-Disciplinary Approaches

- **Synergistic Impact:** Successful One Health collaborations combine detailed field sciences with analytical and laboratory approaches.
- **Collaboration Barriers:** Political and governance issues can hinder multisectoral action, requiring navigation across ministries and institutional hierarchies.

Key Elements for Success in the Indian Context

In the Indian context, the success of the One Health Mission depends on:

- **Consultative Leadership:** Promoting innovation, adaptation, and flexibility in terms of political, financial, and administrative accountability.
- **Citizen Science Input:** Integrating citizen science into the One Health governance framework to foster inclusivity through local capacity building and knowledge production.

SEX RATIO BETTER, CONTRACEPTION UP

<p>➤ Sex ratio (no. of females per 1,000 males at birth) has improved to 1,020, from 991 in 2015-16</p> <p>➤ Contraceptive prevalence rate has increased from 54% to 67% nationally, barring in Punjab</p> <p>➤ Among larger states, fertility rate is lowest in J&K, at 1.4. Among smaller states, it is lowest in Sikkim (1.1)</p>	<p>➤ Kerala and Tamil Nadu are the only states where fertility has gone up, even if marginally, in 2019-21</p> <p>➤ Delhi recorded a drop in total fertility rate, from 1.8 in 2015-16 to 1.6 in 2019-21</p> <p>➤ Among neighbours, Nepal (1.9) has lowest fertility rate, followed by Bangladesh (2), Sri Lanka (2.2) & Pakistan (3.6)</p>
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▶ **Child marriages still a concern**

▶ **Jump in no. of women a/c holders**

- **Bi-Directional Governance:** Establishing a governance framework based on top-down and bottom-up approaches, involving local champions and utilizing local knowledge.
- **Multisectoral Collaboration:** Ensuring global, regional, national, and local coordination and communication, with clearly defined roles and responsibilities for all stakeholders.
- **Resource Allocation:** Addressing adequate resource allocation and optimum utilization across sectors.
- **Geopolitical Understanding:** Understanding the geopolitical issues and political economy of One Health to prioritize upstream and downstream issues effectively.
- **Analytical Skills:** Capitalizing on existing analytical skills within government departments and building capacity where needed.
- **Data Mechanisms:** Establishing mechanisms to generate and analyze qualitative and quantitative data to inform policy development.

PEPPER IT WITH:
Cancer Awareness, Livelihood Security, Poverty Alleviation,

Conclusion

The One Health Joint Plan of Action (2022-2026) signifies a critical step towards a more integrated and collaborative approach to global health. By addressing the interconnectedness of human, animal, and environmental health, this initiative aims to improve overall well-being and resilience in the face of emerging health threats. In the Indian context, the successful implementation of One Health

requires consultative leadership, multisectoral collaboration, and a commitment to innovation and accountability.

Fertility Levels Declining in India

News Excerpt

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India has witnessed a dramatic decline in fertility levels over the past decades, influenced by various socio-economic, cultural, and demographic factors.

This trend aligns with a global decline in fertility, as highlighted by the **Global Burden of Diseases (GBD) Study 2021**, which noted that India's Total Fertility Rate (TFR) fell from **6.18 in the 1950s to 1.9 in 2021**, below the replacement fertility level of 2.1.

Key Factors Contributing to Fertility Decline in India
Increased Female Literacy and Workforce Participation

- Education empowers women to make informed decisions about marriage, childbirth, and family planning.
- Higher participation of women in the workforce often delays marriage and childbirth.

Societal Changes and Empowerment

- Changing attitudes toward marriage and reproduction allow women to prioritize career and financial independence over traditional roles.
- Delayed marriages and reduced family sizes reflect this societal shift.

Rising Infertility Rates

- Increased infertility in both men and women, linked to lifestyle changes and health issues, contributes to declining fertility rates.

Migration Trends

- A significant number of young Indians migrate abroad for education and jobs, often settling and raising families there, reducing fertility levels domestically.

Access to Family Planning

- India's long-standing family planning programs, combined with improved healthcare infrastructure, have enabled families to effectively control reproduction.

The **Global Burden of Disease (GBD) Study 2021** provides a comprehensive analysis of health trends, mortality, and disability across the globe, particularly influenced by the COVID-19 pandemic. Here are the major findings from the study:

Key Findings:

- **Impact of COVID-19:** The pandemic significantly disrupted long-standing gains in life expectancy and led to increased mortality rates. In 2021, COVID-19 emerged as the leading cause of disability-adjusted life years (DALYs) globally. Global life expectancy dropped by 1.6 years from 2019 to 2021 due to the pandemic's effects.

- Continued Progress Against Other Diseases:** Despite the challenges posed by COVID-19, there was notable progress in reducing mortality from several communicable diseases, maternal and neonatal conditions, and nutritional diseases. Specifically, HIV/AIDS and diarrheal diseases saw substantial decreases in age-standardized DALYs compared to 2010 levels.
- Forecasting Future Health Trends:** For the first time, GBD 2021 included probabilistic forecasts of future global health trends. These forecasts suggest that while life expectancy and healthy life expectancy are likely to improve through 2050, emerging risks such as climate change and pandemics could threaten this progress.
- Regional Variations:** The study highlighted significant regional disparities in health outcomes and causes of death. While all seven GBD super-regions showed overall improvements from 1990 to 2021, the adverse effects of the pandemic were not uniformly distributed among populations.
- Long-Term Health Risks:** The findings underscored ongoing health risks related to obesity, substance use disorders, and antimicrobial resistance that could impact future health outcomes.
- Policy Implications:** The GBD study emphasizes the need for evidence-based strategies to address current global health challenges and mitigate risks that threaten future health improvements.

Implications of Declining Fertility Ageing Population

- The declining TFR has resulted in a rapid demographic transition, with a growing elderly population and a shrinking younger workforce.
- This puts pressure on healthcare, social security, and pension systems.

Workforce and Economic Challenges

- States like Kerala are experiencing a shortage of young, skilled workers.
- High wages and an ageing population are leading to increased dependence on internal migrants to fill the workforce gap.

Gender and Social Health Impacts

- Late marriages and pregnancies contribute to pregnancy-related complications and morbidities in women.
- Older maternal ages are becoming a norm in low-fertility states.

Political and Electoral Implications

- Declining fertility in southern states raises concerns over potential loss of representation in Parliament after the delimitation exercise in 2026.

The Southern States' Experience

States like Kerala have long experienced below-replacement fertility rates, thanks to early adoption of educational and health reforms.

- Kerala's Case:**
 - Achieved replacement fertility in 1988.
 - Faces significant outmigration of educated youth and a growing elderly population.
 - Projections indicate that by 2036, the elderly population will outnumber children.
- Other southern states are witnessing similar demographic challenges, with an increasing reliance on migrant labor to supplement the local workforce.

Global and Domestic Lessons

Irreversibility of Fertility Decline: Fertility decline is difficult to reverse, as seen in South Korea, where despite massive investments in pro-natalist policies, the TFR continues to fall (from 0.78 in 2022 to 0.73 in 2023).

Need for Comprehensive Socio-Economic Policies Demographers recommend:

- Economic growth policies to improve job prospects for the youth.
- Infrastructure for elder care, healthcare, and social security to address an ageing population.
- Utilizing the potential of senior citizens through initiatives that promote active ageing and workforce participation.

Conclusion

- While fertility decline poses socio-economic and demographic challenges, it also presents opportunities for growth and innovation.
- Policies focusing on education, healthcare, and economic development can help mitigate the impacts of low fertility while promoting a sustainable and inclusive society.

PEPPER IT WITH:
 Livelihood Security, Poverty Alleviation, Demographic dividend.

Shifting poverty line

News Excerpt

The government released a factsheet on the 2023-24 Household Consumption Expenditure Survey (HCES), which recorded a decline in poverty in urban and rural areas. Over the last few years, policymakers and academics have debated the issues of incomparable data sets, the unavailability of data, and the definition of an adequate consumption basket to determine a poverty line.

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Understanding the Context and Impact of "Garibi Hatao Desh Bachao"

"Garibi Hatao Desh Bachao," meaning "Remove Poverty, Save the Country," was a powerful slogan introduced by Indira Gandhi during her 1971 election campaign. This

slogan was not only a rallying cry but also a strategic political maneuver aimed at securing a robust support base among the rural and urban poor in India. By focusing on poverty alleviation, Gandhi sought to bypass the dominant rural castes and urban commercial classes, thereby empowering previously marginalized groups, particularly Dalits and Adivasis.

Historical Background

In the backdrop of economic challenges and social unrest in India during the late 1960s and early 1970s, Indira Gandhi's government recognized the urgent need for policies addressing poverty. The slogan "Garibi Hatao" was part of a broader agenda that included proposed anti-poverty programs designed to provide economic recognition and political voice to the impoverished sections of society.

The Fifth Five-Year Plan

The slogan was closely associated with the **Fifth Five-Year Plan (1974-1979)**, which aimed to achieve two main objectives: the removal of poverty and the attainment of self-reliance. The plan emphasized high growth rates, better income distribution, and significant increases in domestic savings. It also sought to address critical issues such as agricultural production and defense self-reliance.

Lack of Recent Data on Poverty

Despite the historical significance of poverty alleviation efforts, there has been a notable lack of reliable and recent data on consumption patterns in India since 2012. This absence has resulted in a **"complicit silence"** regarding **India's poverty levels, complicating targeted developmental policies**. The need for updated data has become increasingly critical as policymakers grapple with defining an adequate consumption basket to determine the poverty line.

Poverty being underestimated in India

Key Points:

Recent Data Indicators:

- A decline in monthly per capita consumption expenditure was observed in 2017-18, marking the first decrease since 1972-73.
- India's position in the Global Hunger Index has worsened, placing it in the 'serious hunger' category.
- The National Family Health Survey (NFHS-5) revealed increases in malnutrition, infant mortality, and maternal health issues.

Impact of Economic Events:

- The combination of the 2016 demonetization and the COVID-19 pandemic has exacerbated economic challenges, leading to a significant rise in poverty levels.
- A 2020 report indicated that India accounted for 57.3% of the global increase in poverty, with the number of poor individuals doubling to 134 million.

Debates on Poverty Measurement:

- The 2011 Suresh Tendulkar Committee set the poverty line at ₹816 per capita per month for rural areas and

₹1,000 for urban areas, estimating 25.7% of the population as poor.

- In 2014, the C. Rangarajan Committee revised these figures, identifying 29.6% of the population as poor, with daily expenditures below ₹47 in cities and ₹32 in villages.

Significance of Accurate Data:

- Transparent poverty data is crucial for garnering public support for substantial cash transfers and policy interventions.
- Accurate figures enable the evaluation of policies to ensure they benefit the majority rather than a select few.
- Recognizing the true scale of poverty fosters accountability among public representatives and informs equitable economic policies.

Recent Estimates and Findings

In early January 2025, the **State Bank of India (SBI) Research** released estimates based on the **2023-2024 Household Consumption Expenditure Survey (HCES)**. According to SBI Research, India's poverty level is now estimated to be between **4% and 4.5%**, which would represent the lowest poverty rate ever recorded in the country. The report indicated that:

- The **monthly per capita consumption expenditure (MPCE)** for rural areas was ₹4,122 (₹137 per day) and for urban areas was ₹6,996 (₹233 per day).
- These figures include essential survival needs but exclude government benefits.

While MPCE serves as a proxy for income, it raises questions about whether poverty in India is being underestimated.

Credibility of Poverty Lines

The credibility of new poverty lines has come under scrutiny, particularly when compared to previous estimates from **2011-2012**, which were criticized for being disconnected from economic realities. The **Tendulkar Committee** methodology used then estimated that **25.7%** of rural India and **13.7%** of urban India were poor. In contrast, the **Rangarajan Committee** later found that **30.9%** of rural India and **26.4%** of urban India were poor during the same period.

The Rangarajan methodology is widely regarded as more reflective of ground realities, suggesting that if applied to current expenditure data, a significant portion of India's population remains impoverished.

Current Poverty Estimates Using Rangarajan Methodology

A study published in the **July-December 2024 edition of the Review of Agrarian Studies** applied Rangarajan's methodology to recent HCES data, estimating:

- **Poverty lines at ₹2,515 per capita per month for rural India.**
- **Poverty lines at ₹3,639 for urban India.**

Based on these estimates, **approximately 27.4% of the rural population and 23.7% of the urban population are**

still living in poverty. This translates to one in every four Indians continuing to face economic hardship.

Conclusion

The slogan "Garibi Hatao Desh Bachao" remains emblematic of Indira Gandhi's commitment to addressing poverty in India. While recent

PEPPER IT WITH:
Income inequality, Poverty reduction, Welfare of the masses.

estimates suggest declining poverty levels, questions about data credibility and methodology persist. The ongoing debate surrounding poverty measurement highlights the complexities involved in accurately assessing economic well-being in a diverse nation like India.

As policymakers continue to navigate these challenges, it is crucial to ensure that updated data informs targeted interventions aimed at genuinely uplifting those still living in poverty. Addressing these issues effectively will require a renewed commitment to transparency, inclusivity, and comprehensive economic strategies that prioritize marginalized communities.

ILO Report about International Migrants

News Excerpt

The fourth edition of the Global Estimates on International Migrant Workers by the **International Labour Organization (ILO)** highlights the contributions of international migrants (IMs) to global economic growth.

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By addressing labour market shortages in host nations and sending remittances to home countries, IMs play a critical role in sustaining economies worldwide.

Key Findings of the ILO Report

Size and Growth of the Migrant Labour Force: 4.7% of the global labour force in 2022 consisted of IMs, equivalent to 167.7 million people.

- This figure represents an increase of over 30 million since 2013.
- Employed IMs: 155.6 million.
- Unemployed IMs: 12.1 million.
- Between 2019-2022, the growth rate of IMs dipped to less than 1% annually, primarily due to the pandemic.

Gender and Age Composition

Gender Disparities

- **IM males:** 61.3% of the total migrant workforce (102.7 million).
- **IM females:** 38.7% of the total migrant workforce (64.9 million).
- Female IMs have steadily increased in numbers since 2015, though their overall representation remains lower.

Age Distribution

- Prime-age IM workers (25-54 years): 74.9% (125.6 million).

- Young IM workers (15-24 years): 9.3% (15.5 million).
- Older IM workers (55-64 years): 12.5%.
- Above 65 years: 3.4%.

Employment by Sector

Sectoral Distribution

- **Services:** Dominated by IMs at 68.4%, with women making up 80.7% of IM workers in this sector.
- **Industry:** IMs at 24.3% (similar to non-migrants at 24.2%).
- **Agriculture:** IMs accounted for 7.4%, significantly lower than non-migrants (24.3%).

Consistency Over Time

- The dominance of IMs in the services sector has remained consistent, exceeding 67% between 2013-2022.

Host Countries and Income Levels

Primary Destinations

- **High-income countries:** Absorbed 68.4% (114 million) of IMs, especially in service and care-related sectors.
- **Upper-middle-income countries:** Hosted 17.4% (29.2 million) of IMs.

Regional Shares in 2022

- Northern, Southern, and Western Europe: 23.3%.
- Northern America: 22.6% (a slight decrease over the decade).
- Arab States: 13.3% (a drop of three percentage points since 2013).

PEPPER IT WITH:
International Migration Report, Indian Migration Pattern, Rules and regulations.

Trends and Drivers

- High-income countries remain attractive due to ageing populations, demand in the care economy, and greater economic opportunities.

Conclusion

- The ILO report underscores the significant contributions of international migrant workers in shaping global economic landscapes. Despite challenges such as gender disparities and slower growth rates post-pandemic, IMs remain a vital workforce in addressing demographic and labour market demands, particularly in high-income countries.
- The continued focus on improving opportunities and inclusivity for migrant workers will be key to leveraging their potential fully.

UGC draft regulation stands against principle of federalism

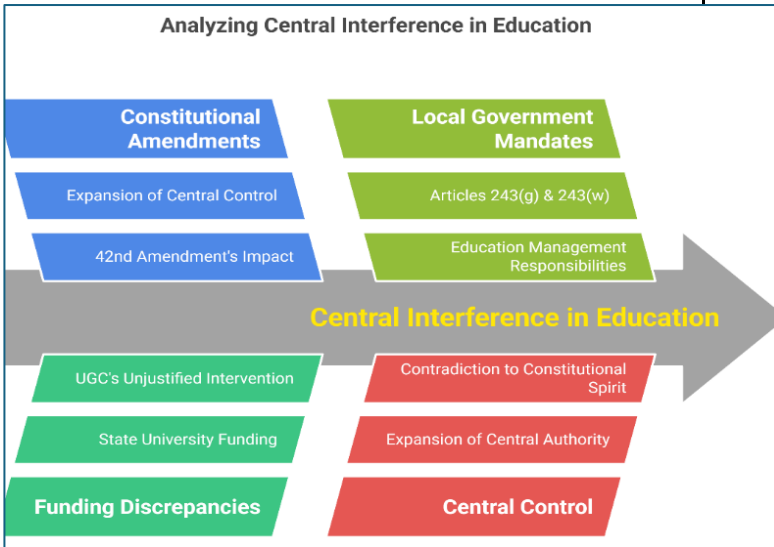
News Excerpt

The University Grants Commission (UGC) draft regulations regarding the appointment of Vice-Chancellors

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(VCs) in state universities violate federalism and the principle of subsidiarity, leading to centralization of power and undermining state autonomy in higher education.

Key Issues



Violation of Federalism and Subsidiarity Principle

- Indian Federalism follows the principle of subsidiarity, which ensures that decision-making power is decentralized to the lowest possible level.
- Education is primarily a state subject, but the UGC's intervention in VC appointments challenges the constitutional framework by shifting power from state governments to the Governor.
- The Constitution of India envisions a bottom-up approach, from gram sabhas to higher levels of governance, not top-down central control.

UGC's Proposed VC Appointment Process

- The UGC draft regulation modifies the 2010 selection process and empowers Governors to constitute a search-cum-selection committee for appointing Vice-Chancellors.

The three-member committee includes:

- Chairman nominated by the Governor.
- One member nominated by the UGC Chairman.
- One member from the university's apex body.
- The State Government is excluded from the process, weakening its role in university governance.
- The penalty clause states that universities failing to comply with the regulation will be barred from UGC schemes and degree offerings, forcing them into compliance.

Governors' Growing Influence Over Universities

- Governors, particularly in opposition-ruled states, have increasingly interfered in state university administration.
- **Examples include:**
 - o **Tamil Nadu** – Governor R N Ravi delayed education bills and ignored state directives on VC appointments.

- o **West Bengal** – Governor C V Ananda Bose blocked VC appointments, forcing the Supreme Court to intervene.
- Governors are meant to be neutral constitutional authorities, but their increasing role in educational governance is seen as a move towards centralization.

Recommendations

- Restore education to the State List to uphold state autonomy in university governance.
- State governments should have sole authority to appoint Vice-Chancellors and Chancellors.
- Governors should serve only as ex-officio visitors without special powers.

Conclusion

- The UGC draft regulation represents an attempt to centralize power, undermining state governments' authority over higher education.

- The author warns that if such trends continue, they could lead to a weakened federal structure, contradicting the spirit of democracy in India.
- He calls for a reconsideration of these regulations to preserve the autonomy of state universities and uphold federal principles.

PEPPER IT WITH:
Federalism issues, Role of a chancellor, Role of the governor.

Opportunities and Challenges in Health Financing in India: A Path Towards Universal Health Coverage

News Excerpt:

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A recent paper by Sandhya Venkateswaran, Alok Kumar Singh, and Madhurima Nundy from CSEP, New Delhi, analyzes India's demand-side health financing landscape, highlighting progress, challenges, and pathways to Universal Health Coverage (UHC). Demand-side financing, which prioritizes the healthcare needs of the population, is crucial for ensuring equitable access to quality healthcare and protecting against out-of-pocket expenditures (OOPE).

Current Landscape of Health Financing in India

India's healthcare strategy rests on strengthening primary care through Health and Wellness Centres (HWCs) and expanding health insurance via the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) for secondary and tertiary care.

However, the health insurance system is fragmented:

- **Social Health Insurance (SHI):** Schemes cover occupation groups, managed by separate ministries (health, labor, railways, defense), with different provider networks.

- **Tax-Funded Schemes:** Target the bottom 40% of the population, primarily for inpatient services at secondary and tertiary levels, with lower benefits compared to SHI schemes. Implemented by states with varying coverage and benefits, often deviating from the central PM-JAY model.
- **Commercial Health Insurance:** Caters to a small segment of the population who can afford premiums, characterized by high costs, market failures (like risk selection), and limited regulation.

This fragmentation leads to inequities in access and financial protection. Approximately 300 million people remain uncovered, largely comprising the informal workforce and the 'missing middle'—those who are not poor enough for targeted schemes but cannot afford private insurance. Existing schemes often lack coverage for outpatient care and essential diagnostics, contributing significantly to OOPEx, especially for lower-income households.

Lessons from Global Experiences

The paper draws insights from countries like Brazil, China, Indonesia, Mexico, Thailand, and Turkey, which have implemented health system reforms using demand-side financing and insurance models:

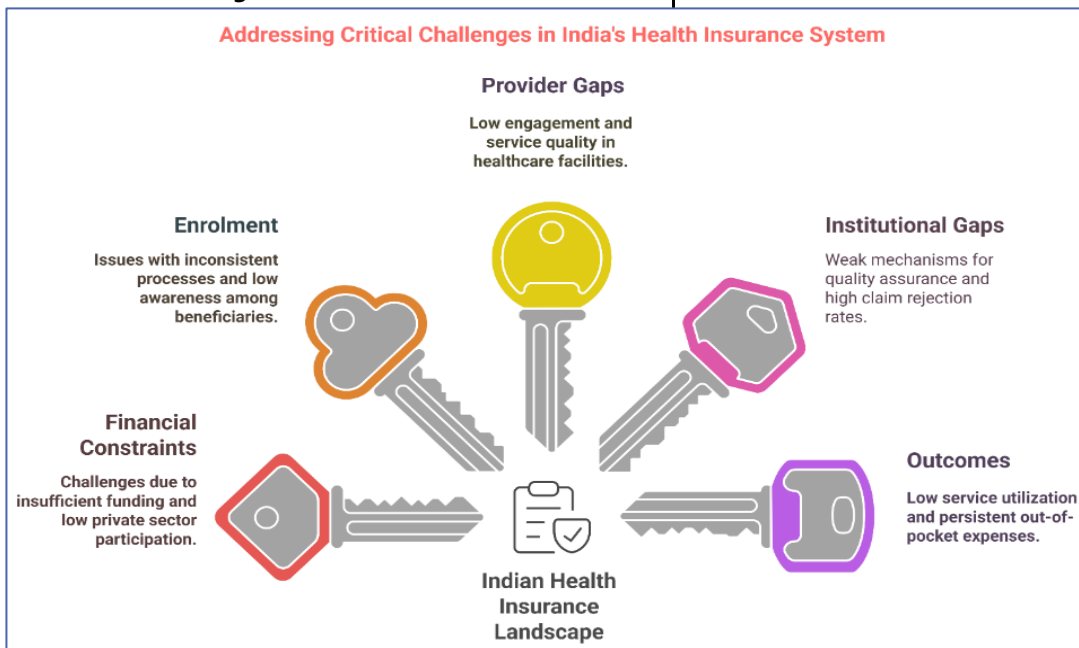
- **Institutional Reforms:** Crucial for effective strategic purchasing. Creating independent purchasing agencies with clear mandates, strengthening regulatory frameworks for providers, and establishing robust quality assurance mechanisms are critical for success.

Potential Pathways for Strengthening Demand-Side Health Financing in India

Based on the analysis, the paper proposes potential pathways:

- **Increasing Revenue:** Raising government spending through increased tax allocation or earmarked taxes, mandating contributions from the informal non-poor population, or introducing voluntary co-payments.
- **Consolidating Risk Pools:** Merging fragmented pools into a single pool or merging those with similar features would improve equity, efficiency, and governance.
- **Introducing Strategic Purchasing:** Implementing a universal limited benefit package for high-cost care or primary care, offering a comprehensive package by merging existing schemes, and mandating health insurance for all.

PEPPER IT WITH:
Health and livelihood concerns of individuals, Awareness generation, etc.



- **Revenue:** Increased government subsidies, often combined with voluntary contributions from the informal sector, have expanded coverage.
- **Pooling:** Merging fragmented risk pools into larger, more inclusive pools has improved equity, efficiency, and risk management.
- **Purchasing:** Strategic purchasing, involving the separation of purchasing and provisioning functions, has improved efficiency and accountability. Key elements include benefit package design, provider empanelment based on quality, and performance-based payment mechanisms.

primary care, offering a comprehensive package by merging existing schemes, and mandating health insurance for all.

• **Strengthening Payment Mechanisms:**

Moving towards output-based financing using blended payment methods such as DRG-based payments for secondary and tertiary care and capitation-based payments for primary care.

Conclusion

Demand-side health financing offers a promising pathway to achieving UHC in India. However, this requires addressing fragmentation, strengthening institutional capacities, and increasing financial resources. The PM-JAY serves as a foundation for reforms but needs to be strengthened and expanded. The success of India's journey towards UHC depends on prioritizing healthcare, building consensus among stakeholders, and effective implementation.

ECONOMY

BUDGET 2025-26

Union Minister of Finance and Corporate Affairs Smt. Nirmala Sitharaman presented the Union Budget 2025-26 in Parliament.

Quoting Telugu poet and playwright Shri Gurajada Appa Rao's famous saying, 'A country is not just its soil; a country is its people.' – the Finance Minister presented the Union Budget 2025-26 with the theme "Sabka Vikas" stimulating balanced growth of all regions.

This Budget continues our Government's efforts to:

- accelerate growth,
- secure inclusive development,
- invigorate private sector investments,
- uplift household sentiments, and
- enhance spending power of India's rising middle class.

In line with this theme, the Finance Minister outlined the broad Principles of **Viksit Bharat** to encompass the following:

- Zero-poverty;**
- Hundred per cent good quality school education;**
- Access to high-quality, affordable, and comprehensive healthcare;**
- Hundred per cent skilled labour with meaningful employment.**
- Seventy per cent women in economic activities; and**
- Farmers making our country the 'food basket of the world'.**

The Union Budget 2025-2026 promises to continue Government's efforts to **accelerate growth, secure inclusive development, invigorate private sector investments, uplift household sentiments, and enhance spending power of India's rising middle class.**

In this Budget, the proposed development measures span ten broad areas focusing on **Garib, Youth, Annadata and Nari.**

- Spurring Agricultural Growth and Productivity.**
- Building Rural Prosperity and Resilience.**
- Taking Everyone Together on an Inclusive Growth path.**
- Boosting Manufacturing and Furthering Make in India.**
- Supporting MSMEs.**
- Enabling Employment-led Development.**
- Investing in people, economy and innovation.**
- Securing Energy Supplies.**
- Promoting Exports; and**
- Nurturing Innovation.**

The Budget aims to initiate transformative reforms in **Taxation, Power Sector, Urban Development, Mining,**



Financial Sector, and Regulatory Reforms to augment India's growth potential and global competitiveness.

Union Budget highlights that **Agriculture, MSME, Investment, and Exports** are engines in the journey to Viksit Bharat using reforms as fuel, guided by the spirit of inclusivity.

1st Engine: Agriculture

Budget announced '**Prime Minister Dhan-Dhaanya Krishi Yojana**' in partnership with states **covering 100 districts to increase productivity**, adopt crop diversification, augment post-harvest storage, improve irrigation facilities, and facilitate availability of long-term and short-term credit.

Prime Minister Dhan-Dhaanya Krishi Yojana - Developing Agri Districts Programme

Motivated by the success of the Aspirational Districts Programme, Government will undertake a '**Prime Minister Dhan-Dhaanya Krishi Yojana**' in partnership with states. Through the convergence of existing schemes and specialized measures, the programme will cover 100 districts with low productivity, moderate crop intensity and below-average credit parameters. It aims to

- enhance agricultural productivity,
- adopt crop diversification and sustainable agriculture practices,
- augment post-harvest storage at the panchayat and block level,
- improve irrigation facilities, and
- facilitate availability of long-term and short-term credit.

This programme is likely to help 1.7 crore farmers.

- A comprehensive **multi-sectoral 'Rural Prosperity and Resilience'** programme will be launched in partnership with states to address underemployment in agriculture through **skilling, investment, technology, and invigorating the rural economy**. The goal is to generate ample opportunities in rural areas, with focus on rural women, young farmers, rural youth, marginal and small farmers, and landless families.
- Union Finance Minister announced that Government will launch a **6-year "Mission for Aatmanirbharta in Pulses"** with special focus on **Tur, Urad and Masoor**. Central agencies (NAFED and NCCF) will be ready to procure these 3 pulses, as much as offered during the next 4 years from farmers.

- The Budget has outlined measures to Comprehensive Programme for Vegetables & Fruits, National Mission on High Yielding Seeds, and a five year Mission for Cotton Productivity amongst other measures to promote agriculture and allied activities in a major way.

Smt. Sitharaman announced the increase in loan limits from **Rs. 3 lakh to Rs. 5 lakh for loans taken through Kisan Credit Cards** under modified interest subvention scheme.

Makhana Board in Bihar

A Makhana Board will be established in the state to improve production, processing, value addition, and marketing of makhana.

The people engaged in these activities will be organized into FPOs. The Board will provide handholding and training support to makhana farmers and will also work to ensure they receive the benefits of all relevant Government schemes.

- **National Mission on High Yielding Seeds:** A new mission will be launched to enhance the research ecosystem and develop high-yield, pest-resistant, and climate-resilient seeds. This initiative aims to ensure the commercial availability of over 100 new seed varieties released since July 2024.
- **Fisheries Sector Development:** India, the second-largest fish producer globally, will implement an enabling framework for sustainable fish harvesting from its Exclusive Economic Zone and High Seas. Special attention will be given to marine resources in the Andaman & Nicobar and Lakshadweep Islands, targeting the untapped potential of the marine sector.
- **Mission for Cotton Productivity:** A five-year mission will be launched to improve cotton farming productivity and sustainability, promoting extra-long staple cotton varieties. The initiative aims to bolster farmers' incomes and ensure a steady supply of quality cotton for India's textile industry.
- **Enhanced Credit through Kisan Credit Cards (KCC):** The loan limit under the Modified Interest Subvention Scheme for Kisan Credit Cards will be increased from ₹3 lakh to ₹5 lakh, facilitating better access to credit for 7.7 crore farmers, fishermen, and dairy farmers.
- **Urea Production in Assam:** To achieve self-sufficiency in urea production, three dormant urea plants in Eastern India have been reopened. Additionally, a new plant with an annual capacity of 12.7 lakh metric tons will be established in Namrup, Assam.
- **India Post as a Catalyst for the Rural Economy:** India Post will leverage its network of 1.5 lakh rural post offices and 2.4 lakh Dak Sevaks to act as a catalyst for enhancing the rural economy. Plans are underway to transform India Post into a major public logistics organization serving various demographics, including new entrepreneurs and MSMEs.

• Support to NCDC (National Cooperative Development Corporation):

- The government will extend support to the NCDC for its lending operations in the cooperative sector, fostering growth and development within this framework.

2nd Engine: MSMEs

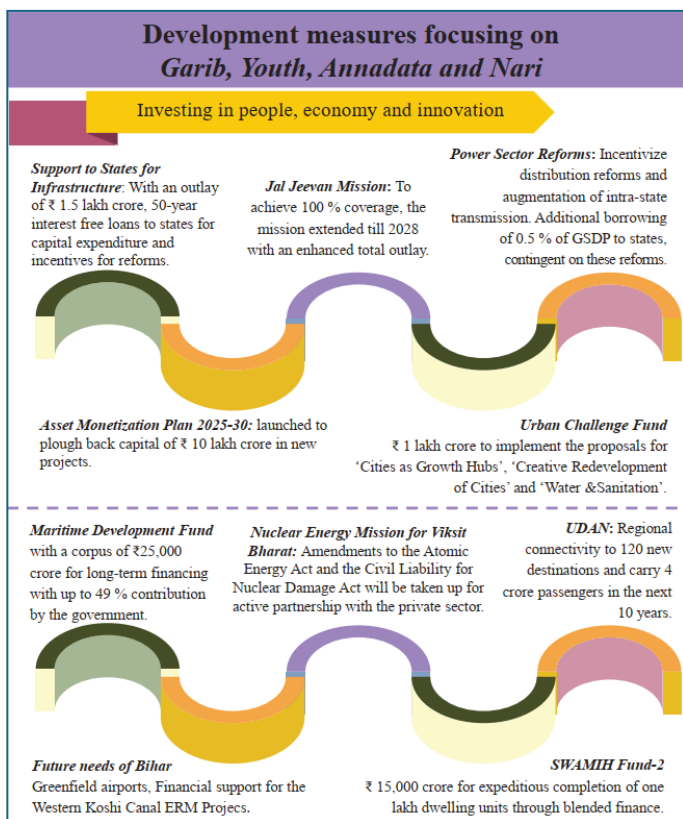
Finance Minister described MSMEs as the second power engine for development as they constitute for 45% of our exports.

To help MSMEs achieve higher efficiencies of scale, technological upgradation and better access to capital, the investment and turnover limits for classification of all MSMEs enhanced to 2.5 and 2 times, respectively. Further, steps to enhance credit availability with guarantee cover have also been announced.

The Finance Minister also announced the launch of a new scheme for 5 lakh women, Scheduled Castes and Scheduled Tribes first-time entrepreneurs. This will provide term loans up to Rs. 2 crore during the next 5 years.

- **MSMEs as a Growth Engine:** MSMEs, numbering 5.7 crore, are designated as the second engine of India's economy, contributing 36% to manufacturing and 45% to exports.
- **Revised Classification Criteria:** Investment and turnover limits for MSMEs will be enhanced, allowing for increased scale, technological upgrades, and better capital access. New limits will be set to 2.5 times and double respectively.
- **Enhanced Credit Availability:**
 - **Credit Guarantee Cover:**
 - For Micro and Small Enterprises: Increased from ₹5 crore to ₹10 crore, allowing additional credit of ₹1.5 lakh crore over the next five years.
 - For Startups: Raised from ₹10 crore to ₹20 crore, with a moderated guarantee fee of 1%.
 - For Well-Run Exporter MSMEs: Term loans up to ₹20 crore will also receive guarantee coverage.
- **Introduction of Customized Credit Cards:** Customized credit cards for micro enterprises, with a limit of ₹5 lakh, will be issued. The aim is to distribute 10 lakh cards in the first year.
- **Fund of Funds for Startups:** A new Fund of Funds with a contribution of ₹10,000 crore will be established, building upon existing commitments exceeding ₹91,000 crore.
- **Support for First-Time Entrepreneurs:** A new scheme will provide term loans of up to ₹2 crore to 5 lakh first-time women, SC, and ST entrepreneurs over the next five years, along with online managerial skills training.
- **Focus on Labour-Intensive Sectors:**

- Specific policy measures will be introduced to promote employment and entrepreneurship opportunities in labour-intensive sectors.



- **Footwear and Leather Sector:** A focus product scheme will enhance productivity and competitiveness in the footwear and leather sector, expecting to generate 22 lakh jobs, ₹4 lakh crore turnover, and ₹1.1 lakh crore in exports.
- **Toy Sector Development:** Implementation of a scheme to establish India as a global toy hub, focusing on clusters and sustainable toy manufacturing.
- **Support for Food Processing:** Establishment of a National Institute of Food Technology in Bihar to enhance food processing in Eastern India, aiming to increase farmers' income through value addition.
- **National Manufacturing Mission:** A National Manufacturing Mission will be set up to support various industry sectors in furthering "Make in India," including policy support and execution roadmaps.
- **Clean Tech Manufacturing:** The mission will promote clean technology manufacturing, focusing on solar PV cells, EV batteries, wind turbines, and related equipment, in alignment with climate-friendly development goals.

3rd Engine: Investment

Defining Investment as the third engine of growth, the Union Minister prioritized investment in people, economy and innovation.

Under the **investment in people**, she announced that **50,000 Atal Tinkering Labs** will be set up in Government schools in next 5 years.

- Smt. Nirmala Sitharaman announced that broadband connectivity will be provided to all Government secondary schools and primary health centres in rural areas under **the Bharatnet project**.
- **Bharatiya Bhasha Pustak Scheme** will be implemented to provide digital-form Indian language books for school and higher education.
- Five National Centres of Excellence for skilling will be set up with global expertise and partnerships to equip our youth with the skills required for **"Make for India, Make for the World"** manufacturing.
- **A Centre of Excellence in Artificial Intelligence for education will be set up with a total outlay of 500 crore.**
- Budget announced that Government will arrange for Gig workers' identity cards, their registration on the e-Shram portal and healthcare under PM Jan Arogya Yojana.
- She added that an outlay of **Rs 1.5 lakh crore was proposed for the 50-year interest free loans** to states for capital expenditure and incentives for reforms.
- She also announced the second Asset Monetization Plan 2025-30 to plough back capital of Rs 10 lakh crore in new projects.
- The **Jal Jeevan Mission** was extended till 2028 with focus on the quality of infrastructure and Operation & Maintenance of rural piped water supply schemes through **"Jan Bhagidhari"**.
- Government will set up an **Urban Challenge Fund of Rs.1 lakh crore** to implement the proposals for 'Cities as Growth Hubs', 'Creative Redevelopment of Cities' and 'Water and Sanitation'.
- Under the investment in Innovation, an allocation of ₹20,000 crore is announced to implement private sector driven Research, Development and Innovation initiative.
- **Finance Minister proposed National Geospatial Mission** to develop foundational geospatial infrastructure and data which will benefit urban planning.
- Budget proposes **Gyan Bharatam Mission**, for survey, documentation and conservation of more than 1 crore manuscripts with academic institutions, museums, libraries and private collectors. **A National Digital Repository of Indian knowledge systems for knowledge sharing is also proposed.**

4th Engine: Exports

- Smt. Sitharaman defined Exports as the fourth engine of growth and said that jointly driven by the **Ministries of Commerce, MSME, and Finance; Export Promotion Mission** will help MSMEs tap into the export market.
- She added that a digital public infrastructure, **'BharatTradeNet' (BTN)** for international trade was proposed as a unified platform for trade documentation and financing solutions.

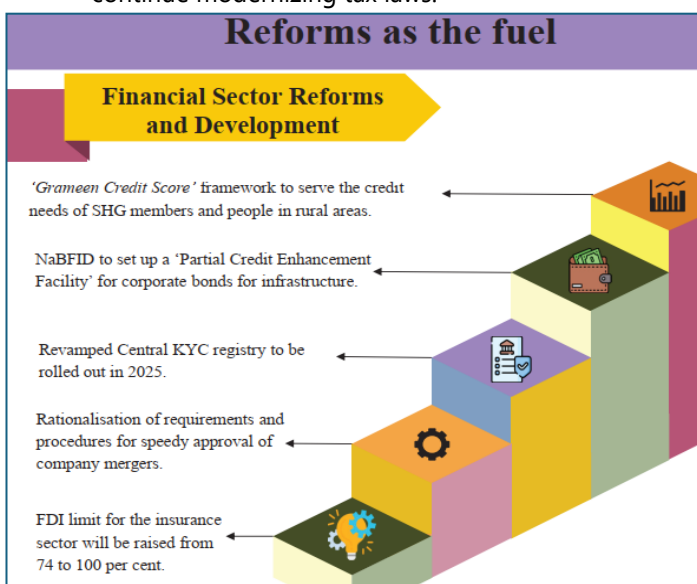
- The Finance Minister mentioned that support will be provided to develop domestic manufacturing capacities for our economy's integration with global supply chains.
- She also announced that government will support the domestic electronic equipment industry for leveraging the opportunities related to **Industry 4.0. A National Framework** has also been proposed for promoting Global Capability Centres in emerging tier 2 cities.
- The government will facilitate upgradation of infrastructure and warehousing for air cargo including high value perishable horticulture produce.

Reforms as the Fuel

Defining Reforms **as the fuel** to the engine, Smt. Sitharaman said that over the past 10 years, the Government had implemented several reforms for convenience of tax payers.

• Tax Reforms

- **Convenience for Taxpayers:** The government has introduced several reforms in the past decade to simplify the tax process, including:
 - **Faceless assessment:** Streamlining assessments without face-to-face interactions.
 - **Taxpayers Charter:** Establishing rights and obligations for taxpayers.
 - **Faster Returns:** Improving the speed of tax return processing.
 - **Self-Assessment:** Nearly 99% of returns are now on a self-assessment basis.
 - **Vivad se Vishwas Scheme:** This scheme aims to resolve disputes efficiently.
- **Commitment to Simplification:** The tax department emphasizes the principle of "trust first, scrutinize later." A new income tax bill is set for introduction to continue modernizing tax laws.



• Financial Sector Reforms and Developments

- **Foreign Direct Investment (FDI) in Insurance:** The FDI cap in the insurance sector will be increased from

74% to 100% for companies that invest all premiums earned within India.

- The government aims to review and simplify the existing regulations related to foreign investment in insurance.
- **India Post Payment Bank:** The services of the India Post Payment Bank will be expanded in rural areas to enhance financial inclusion.
- **Credit Enhancement Facility:** The National Bank for Financing Infrastructure and Development (NaBFID) will establish a partial credit enhancement facility for corporate bonds focused on infrastructure development.
- **Grameen Credit Score:** Public Sector Banks will create a "Grameen Credit Score" framework to address the credit needs of Self-Help Group (SHG) members and rural populations.
- **Pension Sector Improvement:** A forum for regulatory coordination will be established for the development of pension products, aiming to enhance pension security and availability.
- **KYC Simplification:** A revamped Central KYC Registry will be launched in 2025 to streamline the Know Your Customer (KYC) process, facilitating easier periodic updates.
- **Fast-Track Company Mergers:** Procedures for the approval of company mergers will be rationalized for speed and efficiency, with expanded scope for fast-track mergers.
- **Bilateral Investment Treaties (BIT):** The government signed BITs with two countries in 2024, aiming to revamp the current model BIT to make it more favorable for investors.
- **Regulatory Reforms**
 - **Ease of Doing Business:** The government remains committed to improving the regulatory environment to foster business growth and innovation, contrasting traditional regulations with a modern, flexible framework.
- **High-Level Committee for Regulatory Reforms:**
 - A committee will review non-financial sector regulations, certifications, and licenses, making recommendations to enhance ease of doing business within a year.
 - **Investment Friendliness Index:** An **Investment Friendliness Index** will be launched in 2025 to encourage competitive cooperative federalism among states.
- **Financial Stability and Development Council (FSDC) Mechanism:**
 - A mechanism under the FSDC will evaluate the impact of current financial regulations and create a

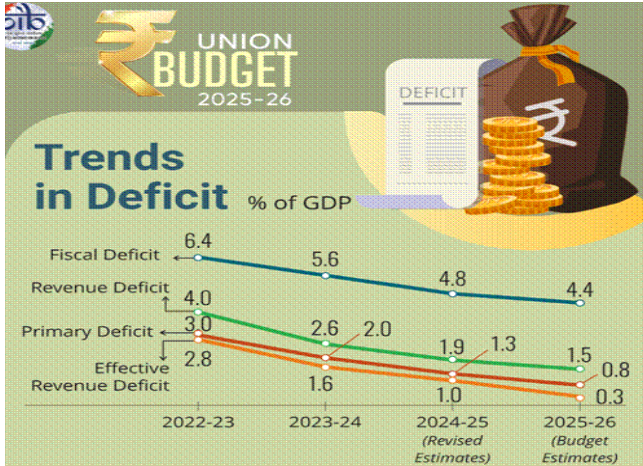
responsive framework for the financial sector's development.

Jan Vishwas Bill 2.0:

- Building on the Jan Vishwas Act 2023, which decriminalized over 180 legal provisions, the new Jan Vishwas Bill 2.0 aims to decriminalize more than 100 additional provisions across various laws.

Continuing with these efforts, she reaffirmed the commitment of the tax department to "trust first, scrutinize later".

Financial Sector Reforms and Development



In a demonstrated steadfast commitment of the Government towards 'Ease of Doing Business', the Union Finance Minister proposed changes across the length and breadth of the financial landscape in India to ease compliance, expand services, build strong regulatory environment, promote international and domestic investment, and decriminalisation of archaic legal provisions.

The Union Finance Minister proposed to raise the **Foreign Direct Investment (FDI) limit for the insurance from 74 to 100 per cent, to be available for those companies that invest the entire premium in India.**

Smt. Sitharaman proposed a light-touch regulatory framework based on **principles and trust to unleash productivity and employment**. She proposed four specific measures to develop this modern, flexible, people-friendly, and trust-based regulatory framework for the 21st first century, viz.:

i. High Level Committee for Regulatory Reforms

- To review all non-financial sector regulations, certifications, licenses, and permissions.
- To strengthen trust-based economic governance and take transformational measures to enhance 'ease of doing business', especially in matters of inspections and compliances
- To make recommendations within a year
- States will be encouraged to be onboarded

ii. Investment Friendliness Index of States

- An Investment Friendliness Index of States will be launched in 2025 to further the spirit of competitive cooperative federalism.

iii. Mechanism under the Financial Stability and Development Council (FSDC)

- Mechanism to evaluate impact of the current

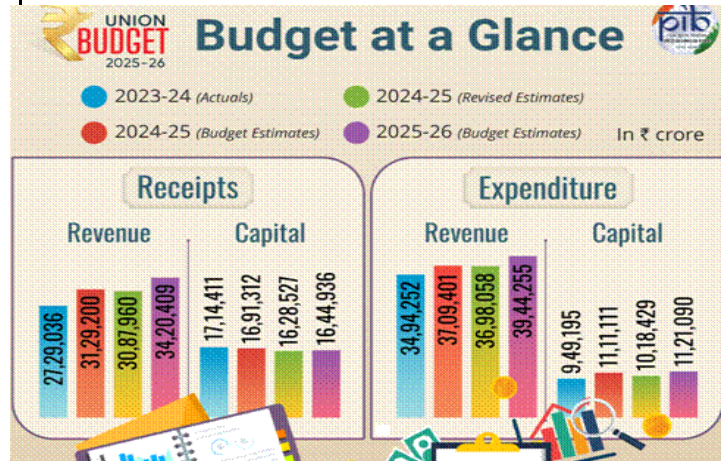
Total Income per annum	Rate of Tax
• ₹ 0 – 4 Lakh	• NIL
• ₹ 4 – 8 Lakh	• 5%
• ₹ 8 – 12 Lakh	• 10%
• ₹ 12 – 16 Lakh	• 15%
• ₹ 16 – 20 Lakh	• 20%
• ₹ 20 – 24 Lakh	• 25%
• Above ₹ 24 Lakh	• 30%

financial regulations and subsidiary instructions.

- Formulate a framework to enhance their responsiveness and development of the financial sector.

iv. Jan Vishwas Bill 2.0

- To decriminalise more than 100 provisions in various laws.



Fiscal Consolidation

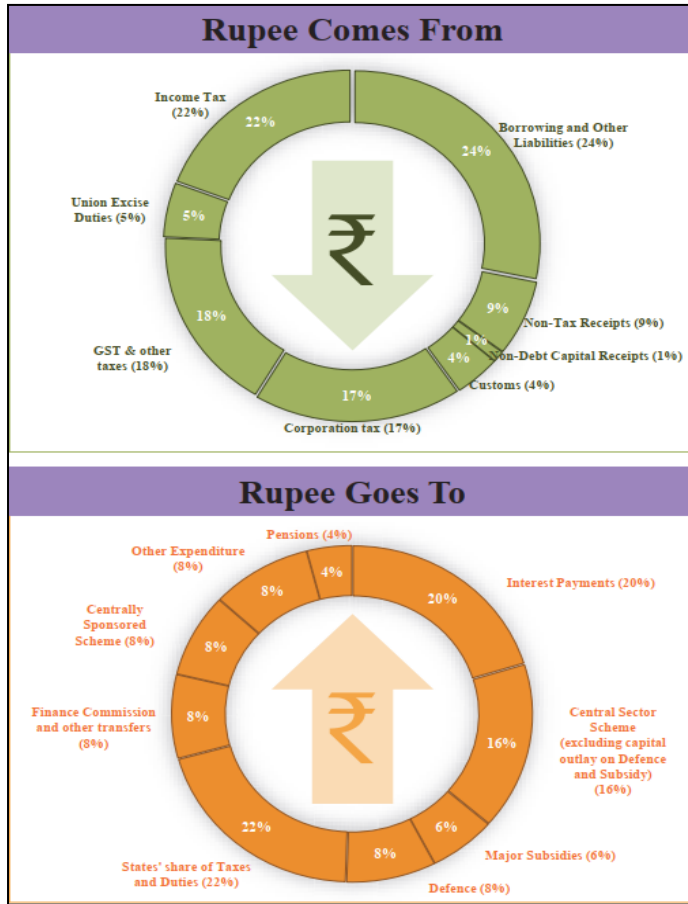
Reiterating the commitment to stay the course for fiscal consolidation, the Union Finance Minister stated that the Government endeavours to keep the fiscal deficit each year such that the Central Government debt remains on a declining path as a percentage of the GDP and the detailed roadmap for the next 6 years has been detailed in the FRBM statement. Smt. Sitharaman stated that the Revised Estimate 2024-25 of fiscal deficit is 4.8 per cent of GDP, while the Budget Estimates 2025-26 is estimated to be 4.4 per cent of GDP.

Revised Estimates 2024-25

The Minister said that the Revised Estimate of the total receipts other than borrowings is **₹31.47 lakh crore**, of which the net tax receipts are **₹25.57 lakh crore**. She added that the Revised Estimate of the total expenditure is ₹47.16 lakh crore, of which the capital expenditure is about ₹10.18 lakh crore.

Budget Estimates 2025-26

For FY 2025-26, the Union Finance Minister stated that the total receipts other than borrowings and the total expenditure are estimated at ₹34.96 lakh crore and ₹50.65 lakh crore respectively. The net tax receipts are estimated at ₹28.37 lakh crore.



PART B

- Reposing faith on middle class in nation building, the Union Budget 2025-26 proposes new direct tax slabs and rates under the new income tax regime so that no income tax is needed to be paid for total income upto ₹ 12 Lakh per annum, i.e. average income of Rs 1 Lakh per month, other than special rate income such as Capital Gain. Salaried individuals earning upto ₹ 12.75 Lakh per annum will pay NIL tax, due to standard deduction of ₹ 75,000. Towards the new tax structure and other direct tax proposals, Government is set to lose revenue of about ₹ 1 lakh crore.
- The direct tax proposals include personal income tax reform with special focus on middle class, **TDS/TCS rationalization, encouragement to voluntary compliances** along with reduction of compliance burden, ease of doing business and incentivizing employment and investment.
- The Budget proposes revised tax rate structure under the new tax regime as follows;
- To rationalize TDS/TCS, Budget doubles limit for tax deduction on interest earned by senior citizens from the present **₹ 50,000 to ₹ 1 Lakh**.

- Further, TDS threshold on rent has been increased to ₹ 6 Lakh from ₹ 2.4 Lakh per annum. Other measures include, increasing of threshold to collect TCS to ₹ 10 Lakh and continuing with higher TDS deductions only in non-PAN cases. After the decriminalization of delay in payment of TDS, delay in TCS payments has now been decriminalized.
- Encouraging voluntary compliance, Budget extends time-limit to file updated returns for any assessment year, from the current limit of two years, to four years. Over 90 Lakh taxpayers paid additional tax to update their income. Small charitable trusts/institutions have been given the benefit by increasing their period of registration from 5 to 10 years, reducing compliance burden.
- Further, tax payers can now claim annual value of two self-occupied properties as NIL, without any condition. Last budget's **Vivad Se Vishwas Scheme has received a great response, with nearly 33,000 tax payers** having availed the scheme to settle their disputes. Giving benefits to senior and very senior citizens, withdrawals made from National Savings Scheme Accounts on or after 29th of August, 2024 have been exempted. NPS Vatsalya accounts also to get similar benefits.
- For ease of doing business, Budget introduces a scheme for determining arm's length price of international transaction for a block period of three years. This is in line with global best practices. Further, self harbor rules are being expanded to provide certainty in international taxation.
- To promote employment and investment, **a presumptive taxation regime is envisaged for non-residents** who provide services to a resident company that is establishing or operating an electronics manufacturing facility. Further, benefits of existing **tonnage tax scheme** are proposed to be extended to inland vessels.
- To promote **start-up ecosystem, period of incorporation has been extended for a period of 5 years. To promote investment** in the infrastructure sector, Budget extends the date of making investment in **Sovereign Wealth Funds and Pension Funds by five more years, to 31st March, 2030.**
- As part of **rationalization of Customs tariffs** of industrial goods, Budget proposes to; **(i) Remove seven tariffs, (ii) apply appropriate cess to maintain effective duty incidence, and (iii) levy not more than one cess or surcharge.**
- As relief on import of **Drugs/Medicines, 36 lifesaving drugs and medicines for treating cancer, rare diseases** and chronic diseases have been fully exempted from Basic Customs Duty (BCD). Further, **37 medicines** along with 13 new drugs and medicines under Patient

Assistance Programmes have been exempted from **Basic Customs Duty (BCD), if supplied free to patients.**

- To support Domestic Manufacturing and Value Addition, BCD on 25 critical minerals, that were not domestically available, were exempted in July 2024. The Budget 2025-26 fully exempts **cobalt powder and waste, scrap of lithium-ion battery, Lead, Zinc and 12 more critical minerals.** To promote domestic textile production, two more types of shuttle-less looms added to fully exempted textile machinery. Further, BCD on knitted fabrics covering nine tariff lines from "10% to 20%" revised to "20% or ₹ 115 kg, whichever is higher".
- To rectify inverted duty structure and promote **"Make in India", BCD on Interactive Flat Panel Display (IFPD) increased to 20% and on Open cells reduced to 5%.** Further to promote manufacture of Open cells, BCD on parts of Open Cells stands exempted.
- To boost manufacturing of Lithion-ion battery** in the country, 35 additional capital goods for EV battery manufacturing, and 28 additional capital goods for mobile phone battery manufacturing added to the list of exempted capital goods.
- Union Budget 2025-26 also continues exemption on BCD on raw materials, components, consumables or parts for ship building for another ten years. Budget also reduced BCD from 20% to 10% on Carrier Grade ethernet switches to make it at par with Non-Carrier Grade ethernet switches.
- Smt. Nirmala Sitharaman said that **Democracy, Demography and Demand are key pillars of Viksit Bharat journey.** She said that the middle class gives strength of India's growth and the Government has periodically hiked the 'Nil tax' slab in recognition to their contribution. She said the proposed new tax structure will substantially boost consumption, savings and investment, by putting more money in the hands of the middle class.

New FCRA Rules

News Excerpt

The recent amendments to the **Foreign Contribution (Regulation) Rules, 2011 (FCR Rules)**, notified by the Central Government on December 31, 2024, and effective January 1, 2025, introduce **significant changes for FCRA-registered entities.**

While some of these changes provide flexibility and clarity, others add compliance burdens that may challenge not-for-profit organizations.

Key Changes in the 2024 Amendments

Carry Forward of Unspent Administrative Expenses: Previously, unspent administrative expenses from foreign contributions required clarity on whether they could be

utilized in subsequent years without government approval.

The 2024 Amendment now permits organizations to:

- Carry forward the unused portion of the 20% administrative expense cap to the immediately succeeding financial year.
- State the reasons for carrying forward these expenses in their Form FC-4, the annual compliance report.

This provision provides flexibility in managing funds for administrative operations, especially for organizations that encounter fluctuating operational costs.

Enhanced Role of Chartered Accountants (CAs)

The amendments place additional responsibilities on CAs, including:

- Certifying compliance with FCRA provisions and identifying specific violations, if any.
- Providing a "negative confirmation" when no violations are detected.

While this ensures greater scrutiny and accountability, it also increases the burden on organizations to engage CAs who are equipped and willing to undertake these rigorous checks.

Practical Considerations

- The amendment does not explicitly clarify whether the carried-forward administrative expenses will count towards the succeeding year's 20% cap or be treated as an additional allowance.
- The intent seems to favor the latter interpretation, but explicit government clarification is essential for operational clarity.

Benefits of the Amendments Flexibility in Fund Utilization

The option to carry forward unspent administrative expenses allows organizations to manage their resources more effectively, addressing varied operational needs without requiring prior approval.

Increased Transparency and Accountability

The requirement for CAs to report violations enhances compliance and aligns with FCRA's objective of ensuring proper utilization of foreign contributions.

Challenges and Concerns

Burden of Compliance on CAs and Organizations: The new certification requirements may make it difficult for organizations to find CAs willing to shoulder the enhanced responsibilities.

- Increased scrutiny could lead to delays in finalizing and filing annual reports.

Ambiguity in Carry Forward Rules: Without clarity on whether carried-forward expenses count towards the 20% cap for the succeeding year, organizations may face challenges in budgeting and planning.

Operational Strain: Smaller organizations, in particular, may struggle to meet the heightened compliance obligations due to limited resources and expertise.

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The Foreign Contribution (Regulation) Rules, 2011 (FCR Rules) govern the acceptance and utilization of foreign contributions by individuals and organizations in India. Below are the key points regarding the FCR Rules:

Key Points of the FCR Rules, 2011

- **Objective:** The primary aim of the FCR Rules is to regulate the acceptance and utilization of foreign contributions to ensure that such contributions do not adversely affect the internal security of the country.
- **Applicability: The rules apply to:**
 - Individuals and organizations receiving foreign contributions.
 - Citizens of India residing outside the country.
 - Companies or branches registered or incorporated in India.
- **Registration Requirement:**
 - Entities must register under the FCRA to receive foreign contributions.
 - Registration is valid for five years and must be renewed.
- **Utilization of Funds:**
 - Foreign contributions must be utilized for the purpose for which they were received.
 - Up to 50% of the foreign contribution can be used for administrative expenses; any excess requires prior approval from the Central Government.
- **Transfer of Contributions:**
 - Recipients cannot transfer foreign contributions to another person unless that person is also authorized to receive such contributions under the FCRA.
- **Compliance and Reporting:**
 - Organizations must maintain detailed accounts of foreign contributions and submit annual returns detailing the amount received and its utilization.
 - The Ministry of Home Affairs (MHA) oversees compliance with these rules.
- **Penalties for Violations:**
 - The rules outline penalties for violations, including suspension or cancellation of registration for non-compliance.
 - Certain offences are compoundable, allowing organizations to rectify violations by paying a penalty.
- **Amendments:**
 - The rules have undergone amendments to simplify processes, such as allowing organizations to carry forward unspent administrative expenses to the next financial year.
 - Recent amendments also clarify accounting treatments related to income tax refunds and TDS deductions.
- **Impact on NGOs:**
 - The FCR Rules aim to create a transparent environment for NGOs and not-for-profits receiving foreign funding while ensuring that such funding does not compromise national interests.

The Way Forward

To make the 2024 amendments more effective and practical, the government should:

- **Clarify Carry Forward Rules:** Provide explicit guidelines on whether carried-forward administrative expenses are separate from or included in the 20% cap of the succeeding year.
- **Support Capacity Building:** Offer resources or training for CAs and organizations to meet the revised compliance requirements.
- **Simplify Compliance for Small Organizations:** Tailor compliance obligations based on the size and scale of the not-for-profit entity.

PEPPER IT WITH:
FCR Rules, Transparency in Economic activity.

Conclusion

- The 2024 FCRA amendments offer a mix of flexibility and enhanced accountability. While the carry-forward provision for unspent administrative expenses is a welcome move, the increased compliance obligations and lack of clarity on key aspects pose challenges for not-for-profit organizations.
- A balanced approach with clear guidelines and supportive measures can ensure that the amendments fulfill their objective of promoting transparency without overburdening organizations.

RBI to ARCs

cNews Excerpt:

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The Reserve Bank of India (RBI) has recently issued revised guidelines to **Asset Reconstruction Companies (ARCs)** concerning the settlement of dues with borrowers. These guidelines emphasize that settlements should be considered only after all possible avenues for debt recovery have been thoroughly examined.

Key Highlights of the Revised Guidelines:

- **Board-Approved Settlement Policy:** ARCs are required to establish a settlement policy approved by their Board of Directors. This policy should outline eligibility criteria for one-time settlements, acceptable levels of concessions for various exposure categories, and methodologies for determining the realizable value of securities.
- **Comprehensive Recovery Efforts:** Before opting for a settlement, ARCs must ensure that all potential recovery methods have been thoroughly explored and that settlement is deemed the most effective option under the prevailing circumstances.
- **Net Present Value (NPV) Consideration:** The NPV of the settlement amount should generally not be less than the realizable value of the underlying securities. If there's a significant discrepancy between the initial valuation of

securities at the time of asset acquisition and their assessed realizable value during settlement discussions, ARC's are required to document the reasons for such variations meticulously.

- **Lump-Sum Payments Preferred:** Settlements should ideally involve lump-sum payments. In cases where the settlement terms include multiple installments, the proposals must be supported by a viable business plan, including projected earnings and cash flows of the borrower.
- **Independent Advisory Committee (IAC) Review:** For settlements involving borrowers with an aggregate principal outstanding **exceeding ₹1 crore** at the time of asset acquisition, the proposal must be reviewed by an IAC comprising professionals with expertise in technical, financial, or legal domains. The IAC's role is to assess the borrower's financial position, recovery timelines, projected earnings, and other pertinent factors before making recommendations to the ARC.
- **Board Deliberation:** Following the IAC's recommendations, the ARC's Board of Directors, including at least two independent directors, must deliberate on the proposal. **They are tasked with evaluating various recovery options** and determining whether settlement is the most appropriate course of action. The rationale behind their decision must be clearly documented in the meeting minutes.
- **Special Provisions for Smaller Accounts:** For borrowers with an aggregate principal outstanding of **₹1 crore or less, settlements can proceed based on criteria outlined in the Board-approved policy.** However, officials involved in the initial acquisition of the financial asset should not participate in the settlement approval process to maintain objectivity. Additionally, a quarterly report detailing these settlements must be presented to the Board or a designated committee.
- **Handling Fraud and Willful Default Cases:** Settlements involving borrowers classified as fraudsters or willful defaulters are subject to the same rigorous review process as larger accounts, regardless of the amount involved. ARCs may proceed with such settlements without prejudice to any ongoing criminal proceedings against the borrowers.

PEPPER IT WITH:
Debt recovery tribunals, ARCs, NPA in Banks.

Asset Reconstruction Companies (ARCs)

- **Asset Reconstruction Companies (ARCs)** are specialized financial institutions that focus on acquiring and managing distressed assets, primarily non-performing assets (NPAs) from banks and financial institutions.
- **Purpose:** The primary objective of ARCs is to help banks clean up their balance sheets by purchasing bad loans, thereby enabling banks to recover some value from these distressed assets.

- **Regulatory Framework:** ARCs operate under the **Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002.**
 - They are regulated by the **Reserve Bank of India (RBI)** as Non-Banking Financial Companies (NBFCs).
 - **Acquisition of Assets:** ARCs buy NPAs at a discounted price and employ various strategies for recovery, including debt restructuring, asset sales, or operational management.
- Functions:**
- **Acquisition of Financial Assets:** Purchase distressed loans from banks.
 - **Management Change:** Take over management or sell/lease the borrower's business.
 - **Debt Rescheduling:** Restructure repayment terms for borrowers.
 - **Enforcement of Security Interest:** Take possession of secured assets to recover dues.
 - **Settlement of Dues:** Negotiate settlements with borrowers.
 - **Funding Sources:** ARCs require capital to acquire distressed assets.
 - **Impact on Banking Sector:** By offloading NPAs to ARCs, banks can focus on their core lending activities and improve their financial health.
 - **Role in Economic Stability:** ARCs play a crucial role in maintaining financial stability by managing distressed assets and facilitating the recovery process for troubled companies.
 - **Foreign Investment:** The framework allows for 100% Foreign Direct Investment (FDI) in ARCs under the automatic route, encouraging international investment in India's distressed asset market.

These guidelines aim to ensure that ARCs adopt a structured and transparent approach when settling dues with borrowers, thereby safeguarding the interests of all stakeholders involved.

India's shipping industry

News Excerpt:

India's shipping industry is currently **facing significant challenges** due to an aging fleet and a limited share in global maritime trade.

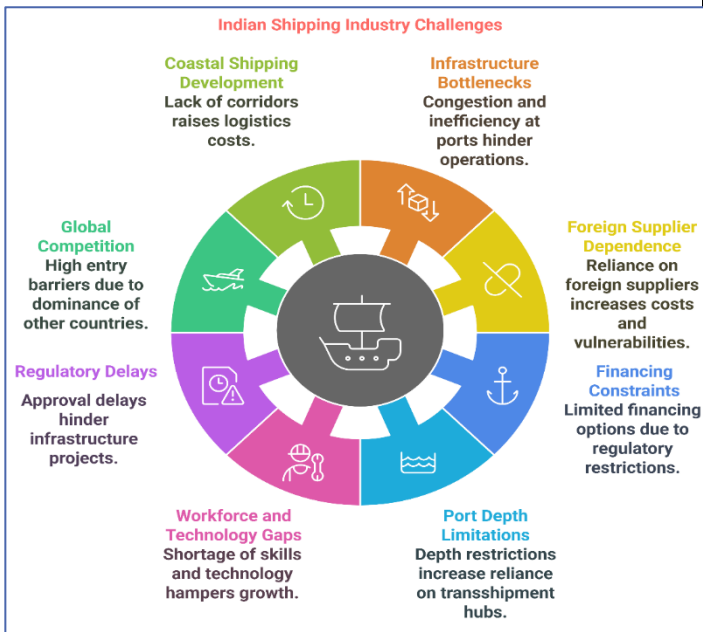
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The Indian shipping industry stands at a crucial juncture, facing significant challenges despite recent governmental efforts to bolster its growth. As articulated in the latest Union Budget, the commitment to enhance the maritime sector is commendable, particularly with the continuation of flagship programmes like **Sagarmala**, which has undertaken a significant investment for port development.

However, the industry continues to wrestle with stagnation, competitive disadvantages, and regulatory hurdles that persistently hamper its potential.

Investment and Growth

- The **Sagarmala project**, aimed at modernizing India's ports and enhancing port connectivity, outlines 839 projects with an estimated investment of ₹5.8 lakh crore (approximately \$70 billion) by 2035. As of September 2024, **241 of these projects have been completed**, while 234 projects are currently under implementation.
- Despite this, the cargo handled at **major ports has seen only a marginal increase, from 1,071.76 million tons in 2016-17 to 1,249.99 million tons in 2020-21**. This growth of merely 14.26% over five years indicates that investments alone may not suffice to invigorate the shipping industry.
- Economic indicators reveal that India's GDP has seen substantial growth, rising from **₹153 trillion in 2016-17 to an estimated ₹272 trillion in 2022-23**.
- Meanwhile, EXIM (export-import) trade grew from \$66 billion in 2016-17 to \$116 billion in 2022, yet the shipping industry's performance does not reflect this overall economic health. There is a dissonance between port investments and the actual growth of the shipping sector, suggesting that a holistic approach is required that goes beyond merely upgrading port facilities.



Stagnation and Declining Vessels

Statistics from the Ministry of Ports, Shipping and Waterways paint a **concerning picture of stagnation**. The number of vessels handled at ports declined by 5.93%, alongside a troubling trend where Indian-registered ships grew marginally, and the average age of the fleet crept up to 26 years.

Although recent additions have reduced this to an average of 21 years, the aging fleet poses a significant issue for competitiveness. Comparatively, India's global ranking in ship ownership has slipped from 17th to 19th, reflecting the need for deeper reforms.

Indian-flagged vessels continue to lose market share to foreign vessels, even in domestic cargo transport. The reasons include several structural issues in the shipping sector, including high borrowing costs, rigid lending practices, outdated regulatory requirements, and unfavorable taxation laws that disadvantage Indian-flagged vessels.

These issues have made it increasingly difficult for Indian shipping companies to compete both in international waters and within Indian territory.

Compounding Challenges in Shipbuilding

The shipbuilding sector is similarly beleaguered by multiple systemic challenges⁴. High input costs, particularly for steel, coupled with inadequate infrastructure for constructing large vessels, have limited the competitiveness of Indian shipbuilders. Furthermore, the dependency on imports for many components exacerbates production costs, while strict customs duties and skill shortages cripple the efficiency and potential output of Indian shipyards.

Governmental Efforts and Industry Expectations

The Indian National Shipowners Association has long advocated for a Maritime Development Fund (MDF) and the grant of infrastructure status to ships as necessary reforms. The latest Union Budget's allocation of a ₹25,000 crore MDF and other supportive measures have been welcomed by industry stakeholders⁴. However, the effectiveness of these funds hinges on their strategic deployment to attract external financing and foster innovation.

Tax Disparities: A Missed Opportunity

Despite these encouraging developments, the Union Budget has been criticized for failing to address critical tax disparities that weigh heavily on Indian ships compared to their foreign counterparts

PEPPER IT WITH:
Sunrise Industry, Industry Growth potential, India Strategic interests.

Indian-flagged vessels are subject to a 5% Integrated Goods and Services Tax (IGST) on purchase prices, a tax not imposed on foreign vessels operating in Indian waters.

Additionally, tax at source (TDS) requirements on Indian seafarers' salaries only apply to Indian shipping companies, creating an uneven playing field that deters competitiveness.

Government Initiatives

In response to these challenges, the Indian government has announced several measures:

- **Maritime Development Fund:** A 250-billion-rupee (\$3 billion) fund has been established to provide long-term financing for the shipbuilding and repair industry. The government will contribute 49% of this fund, with the remainder sourced from ports and the private sector.

- **Fleet Expansion:** Plans are underway to set up a new shipping company, involving oil refiners and the Shipping Corporation of India, aiming to expand the national fleet and reduce reliance on foreign carriers.

Incentives for Modernization: Initiatives include promoting shipbuilding clusters, issuing credit notes for shipbreaking to encourage the scrapping of old vessels, and extending a 10-year import tax exemption on materials used for shipbuilding and breaking activities.

Conclusion: A Call for Decisive Action

The Union Budget 2025 has laid a promising foundation for enhancing India's maritime capabilities, yet it must transition from promises to decisive actions.

Long-term financing solutions, modernization of shipyards, addressing tax disparities, and investment in green technologies will be crucial for a sustainable shipping industry. Digital transformation and real-time supply chain visibility will also be vital.

RBI foreign exchange interventions

News Excerpt:

The Reserve Bank of India's (RBI) foreign exchange interventions have been effective in managing exchange rate volatility caused primarily by the volatility in capital flows, as detailed in the study titled "**Foreign Exchange Intervention: Efficacy and Trade-offs in the Indian Experience**" published in the RBI Bulletin. Here are the key takeaways from the study and its implications:

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Primary Source of Volatility:

- Portfolio flow volatility, induced by global financial spillovers, is identified as the main driver of exchange rate volatility in India.

Effectiveness of Interventions:

- The RBI's forex interventions, including **spot and forward market operations**, have been effective in mitigating the adverse effects of capital flow volatility.
- These interventions exhibit **symmetric effects**, meaning purchases and sales of foreign exchange have a balanced impact.

Leaning Against the Wind:

- The study highlights **threshold effects**, where interventions increase with greater deviations from equilibrium, aligning with the "leaning against the wind" approach.

Two-Sided Interventions:

- The RBI has adopted a two-sided intervention strategy, focusing on **smoothing excessive volatility** irrespective of whether it stems from inflows or outflows.

Historical Episodes of Volatility: Major episodes of heightened volatility include the:

- **2008-09 global financial crisis**

- **2013 taper tantrum**
- **2018 IL&FS crisis**
- **COVID-19 pandemic**
- **Russia-Ukraine conflict**
- Recent global monetary tightening (2022-2023).

Relative Stability of INR: Judicious interventions in late 2024 ensured that the Indian Rupee (INR) exhibited **lower volatility** compared to other major currencies despite pressure from a strong US dollar and sustained foreign portfolio investment (FPI) outflows.

Forex Reserves: Decline in Reserves:

- As of January 10, 2025, India's forex reserves stood at **\$625.871 billion**, a decrease from the record high of **\$704.885 billion** in September 2024.
- The drop is attributed to **revaluation effects** and **RBI's market interventions**.

PEPPER IT WITH:
Falling INR value vs US Dollar, RBI Actions for stability of INR.

Foreign Currency Assets:

A major portion of the reserves, foreign currency assets, dropped by **\$9.469 billion** to **\$536.011 billion** in the week ending January 10.

Implications and Observations:

Stability in the Forex Market:

The RBI's active management of the forex market through interventions has enhanced the stability of the Indian Rupee, shielding it from global shocks to a considerable extent.

Judicious Reserve Utilization:

The declining trend in forex reserves underscores the trade-offs involved in defending the currency and stabilizing volatility. It also highlights the importance of maintaining a robust reserve buffer.

Global Integration and Spillovers:

India's exchange rate dynamics remain highly sensitive to global events and capital flow movements, reflecting the deep integration of its financial markets with the global economy.

Policy Continuity:

The RBI's consistent approach to mitigating volatility is critical for fostering investor confidence and ensuring macroeconomic stability.

Way Forward:

Continued global monetary tightening, geopolitical risks, and potential recession fears will require the RBI to balance interventions with prudent reserve management to ensure long-term sustainability.

Cross-border transactions in Indian rupee

News Excerpt:

The Reserve Bank of India (RBI) has introduced new liberalized norms to promote the use of the Indian Rupee

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(INR) and local currencies for cross-border transactions, as announced on January 16, 2025. The move comes amidst a weakening rupee, which recently reached an all-time low of **₹86.70 per US dollar**. Below are the key highlights and implications of these steps:

Key Measures Announced:

Use of INR for Cross-Border Transactions:

Overseas branches of Authorized Dealer (AD) banks can now open **INR accounts for non-residents** to facilitate settlement of permissible current and capital account transactions with residents of India.

Special Rupee Vostro Accounts (SRVA):

Non-residents can hold balances in **Special Non-resident Rupee Accounts** and SRVA for:

- Settlement of bona fide transactions with other non-residents.
- Foreign investments, including **FDI in non-debt instruments**.

Trade Accounts in Foreign Currencies:

Indian exporters can now: Open accounts overseas in any foreign currency.

Use these accounts to **receive export proceeds** and **pay for imports**.

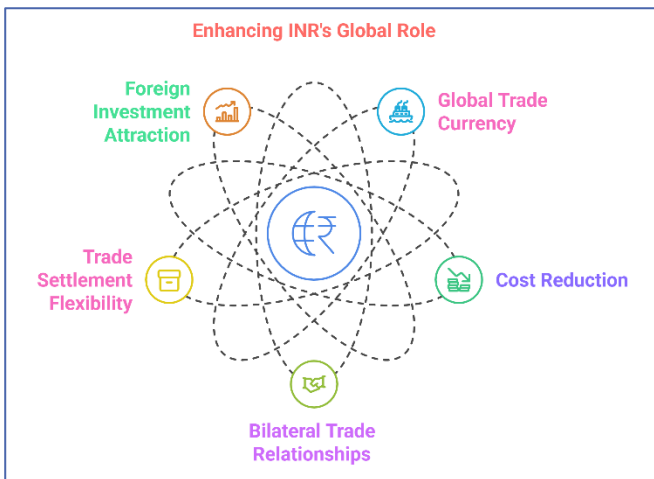
Memorandums of Understanding (MoUs):

MoUs have been signed with the **central banks of the UAE, Indonesia, and Maldives** to promote trade settlements in INR and local/national currencies.

Review of FEMA Regulations:

The liberalization follows a comprehensive review of the **Foreign Exchange Management Act (FEMA) regulations, 1999**, conducted by the RBI in consultation with the central government.

Potential Benefits:



Challenges and Considerations:

Rupee Volatility:

The INR's current depreciation may hinder its adoption unless exchange rate stability is ensured.

Liquidity and Acceptance:

Promoting INR settlements requires ensuring **adequate liquidity** and partner nations' willingness to hold INR balances.

Global Spillovers:

Geopolitical and economic uncertainties could impact the success of these measures in **reducing dollar dependence**.

Conclusion:

The RBI's measures to encourage cross-border transactions in INR and local currencies represent a proactive step toward **de-dollarization** and the internationalization of the Indian Rupee.

PEPPER IT WITH:
INR as global currency,
Hard vs Soft currency.

These reforms aim to enhance trade flexibility, reduce exchange rate risks, and attract foreign investment. However, their success depends on effective implementation, global acceptance of INR, and ensuring macroeconomic stability amidst external challenges.

AGRICULTURE

Makhana Cultivation: A Comprehensive Guide

News Excerpt

Setting up of Makhana Board in Bihar to further aid its production and value addition.

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Introduction to Makhana

Makhana, known as fox nut or gorgon nut in English and *Euryale ferox* botanically, is a highly sought-after aquatic crop belonging to the Nymphaeaceae family. This unique, non-cereal food is prized for its high nutritional content and versatile uses. **While cultivated globally, India dominates production, contributing nearly 70-80% of the world's supply.**

Other countries like Japan, Korea, China, Bangladesh, and Russia also cultivate makhana, though often in its wild form.

Climate and Growing Conditions

Makhana thrives in tropical and subtropical climates. Optimal growth occurs within a temperature range of 20 to 35 degrees Celsius, with relative humidity between 50% and 90%, and annual rainfall of 100-250 cm. The plant favors stagnant, perennial water bodies like ponds, land depressions, oxbow lakes, swampy lands, and ditches with a depth of 0.2-2 meters. Ideal conditions also include rainfall organically reaching water bodies with less than 50% water transparency.

The plant itself features gigantic, floating leaves measuring 1-2 meters in diameter, attached to 3-5 feet long petioles. The leaves are green on the upper side and purple on the lower side. The plant's thick, rhizomatous stem is deeply rooted in clusters within the sediment.

Commercial and Nutritional Significance

Makhana is often called "Black Diamond" due to its diverse applications in medicine, healthcare, and nutrition. It can be consumed in various forms, including breakfast cereals, evening snacks, curries, and sweetmeats. Its commercial importance has surged in recent years, driven by increasing export potential.

Cultivation Practices

Makhana is cultivated in water bodies or ponds with a water depth of 4-6 feet, or in shallow agricultural fields that are 1-2 feet deep. New plants readily germinate from leftover seeds from previous harvests, minimizing initial investment.

Steps of Cultivation:

- **Clearing:** The pond or water body is cleared of excess vegetation.
- **Broadcasting:** Seeds are broadcasted across the water body, although this step is unnecessary in continuously cultivated areas where seeds naturally propagate.
- **Thinning and Gap Filling:** Overgrowths are thinned out, and seedlings are transplanted to sparse areas.
- **Protection:** Minimal insecticide is used to protect the plants.
- **Harvesting:** Seeds are collected from the pond bed. Experienced growers sweep the floor of the water body, gathering sunken seeds into heaps and scooping them out using appropriate equipment. Small nets are used for collecting smaller seeds.
- **Processing:** Collected seeds are thrashed to remove the membranous cover. Experienced growers can achieve yields of 2-3 tonnes per hectare.

Impact on Soil Fertility

Makhana cultivation improves the nutrient status of the soil over time. The plant contains approximately 0.48% phosphorus (P), 0.40% potassium (K), 0.31% nitrogen (N), 2200 mg/kg iron (Fe), 1000 mg/kg manganese (Mn), 8.0 mg/Kg copper, and 105 mg/Kg zinc (Zn). Makhana seeds contain 1.67% nitrogen (N), 0.40% phosphorus (P), 0.12% potassium (K), 960 mg/kg iron (Fe), 40 mg/kg manganese (Mn), 12.0 mg/Kg copper, and 125 mg/Kg zinc (Zn).

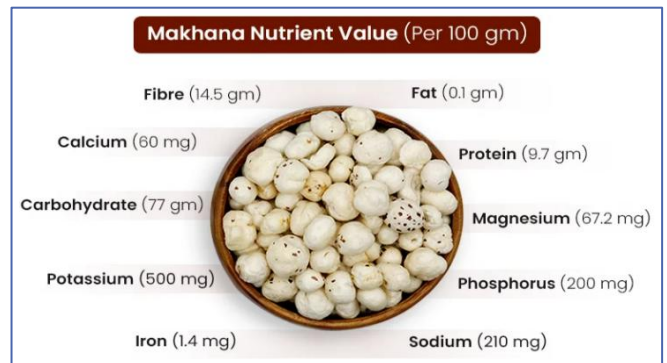
Research indicates that makhana cropping adds approximately 8.0 tonnes per hectare per year (dry weight basis) of biomass to the soil, contributing to sustainable soil management. On average, the plant contributes 34.35 kg/ha of Nitrogen, 56.04 kg/ha Phosphorus, 53.07 kg/ha Potassium, 27.26 kg/ha Iron, and 12.31 kg/ha Manganese to the soil system.

Geographical Distribution in India

India is an agrarian country, with agriculture contributing nearly 18 percent of its Gross Value Added (GVA). Within India, Bihar is the leading makhana-producing state, accounting for over 80% of the country's production. Other states, including Assam and parts of Bengal, also cultivate makhana.

Key makhana-producing districts in Bihar include Darbhanga, Madhubani, Saharsa, Katihar, Purnea, Supaul, Kishanganj, Araria, and Sitamari. These districts encompass over 18,000 hectares of makhana cultivation, with an average productivity of approximately 1.8 tonnes per hectare. The state government actively supports makhana production.

The Government is aiming to extend cultivation to 20,000 ha and is promoting field-based cultivation methods. Approximately five lakh families are directly involved in makhana cultivation, harvesting, popping, and selling. **The market sees annual sales of 8000-10,000 tons of popped makhana, with prices ranging from Rs. 200-500/kg based on quality and season.**



Government Support and Initiatives

State governments in India offer subsidies of up to 50% on

the cost of makhana cultivation to boost production. Field-based cultivation receives greater emphasis. Institutions such as NABARD provide subsidies and support to farmers lacking resources, including loans and equipment.

Setting up of Makhana Board in Bihar to further aid its production and value addition.

Challenges in Makhana Cultivation

Despite advancements in production technologies, several challenges persist:

- Weed management in water bodies.
- Development of improved makhana varieties.
- Refining technology for integrated air-breathing fish farming in pond systems.
- Upgrading harvesting equipment, popping machines, and seed graders.
- Improving subsidies to enable farmers to purchase better equipment and cold storage facilities.
- Technology refinement in integrated farming systems.

PEPPER IT WITH:
Makhana Board, Makhana cultivation potential in the region.

Future Prospects

Makhana is gaining recognition as a superfood due to its increasing commercial value and diverse uses. Rising global demand in countries like the USA, UK, Australia, and New Zealand is driving increased production. Central and state governments are incentivizing farmers to meet this demand by adopting new cultivation methods and providing subsidies. These efforts aim to transform the cultivation system, increase per-hectare yields, and improve the incomes of those involved in makhana farming.

Union Budget and Agriculture Initiatives.

News Excerpt

Spurring agricultural growth and productivity is one of the development measures proposed in the Union Budget 2025-26. Agriculture is one of the four powerful engines amongst MSME, Investment and Exports, stated Union Minister of Finance and Corporate Affairs, Smt. Nirmala Sitharaman, while presenting the Union Budget 2025-26, in the Parliament today.

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Specific proposals proposed in the Union Budget to strengthen productivity and resilience in agriculture are as follows:

Prime Minister Dhan-Dhaanya Krishi Yojana-Developing Agri Districts Programme:

The Union Finance Minister stated that motivated by the success of the Aspirational Districts Programme, the Government will undertake a 'Prime Minister Dhan-Dhaanya Krishi Yojana' in partnership with states. Through the convergence of existing schemes and specialized measures, the programme will cover 100 districts with low productivity, moderate crop intensity and below-average credit parameters. The programme aims to enhance agricultural productivity; adopt crop diversification and sustainable agriculture practices; augment post-harvest storage at the panchayat and block level; improve irrigation facilities and facilitate availability of long-term and short-term credit. This programme is likely to help 1.7 crore farmers.

Building Rural Prosperity and Resilience:

A comprehensive multi-sectoral 'Rural Prosperity and Resilience' programme will be launched in partnership with states, added the Union Finance Minister.

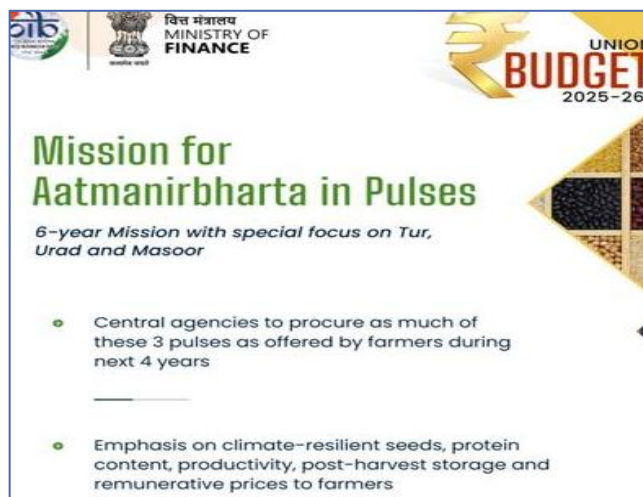
This will address **under-employment in agriculture through skilling, investment, technology, and invigorating the rural economy.** The goal is to generate ample opportunities in rural areas so that migration is an option, but not a necessity.

She further added that the programme will focus on rural women, young farmers, rural youth, marginal and small farmers, and landless families. The programme aims in catalyzing enterprise development, employment and financial independence for rural women; accelerating creation of new employment and businesses for young farmers and rural youth; nurturing and modernizing agriculture for productivity improvement and warehousing, especially for marginal and small farmers and diversifying opportunities for landless families.

The Union Finance Minister further highlighted that the global and domestic best practices will be incorporated and appropriate technical and financial assistance will be sought from multilateral development banks. In Phase-1, 100 developing agri-districts will be covered.

Aatmanirbharta in Pulses:

Smt. Nirmala Sitharaman highlighted that the Government is implementing the **National Mission for Edible Oilseed for achieving atmanirbharta in edible oils.** The Government made concerted efforts and succeeded in achieving near self-sufficiency in pulses. Farmers responded to the need by increasing the cultivated area by **50 per cent and Government** arranged for procurement and



remunerative prices. Since then, with rising incomes and better affordability, consumption of pulses has increased significantly. She further emphasized that the Government will launch a 6-year "Mission for Aatmanirbharta in Pulses" with a special focus on Tur, Urad and Masoor. The Mission will place emphasis on development and commercial availability of climate resilient seeds; enhancing

protein content; increasing productivity; improving post-harvest storage and management and assuring remunerative prices to the farmers. Central agencies (NAFED and NCCF) will be ready to procure these 3 pulses, as much as offered during the next 4 years from farmers who register with these agencies and enter into agreements.

UNION BUDGET 2025-26

Prime Minister Dhan-Dhaanya Krishi Yojana
Developing Agri Districts Programme

Scheme to cover 100 districts with low productivity, moderate crop intensity and below-average credit parameters

- To enhance agricultural productivity
- To adopt crop diversification and sustainable agriculture practices
- To augment post-harvest storage at Panchayat and Block levels
- Improve irrigation facilities
- Improve credit availability

Comprehensive Programme for Vegetables & Fruits:

The Union Finance Minister said that it is encouraging that people are increasingly becoming aware of their nutritional needs. It is a sign of a society becoming healthier. With rising income levels, the consumption of vegetables, fruits and Shree-Anna is increasing significantly. A comprehensive programme to promote production, efficient supplies, processing, and remunerative prices for farmers will be launched in partnership with states. She further added that appropriate institutional mechanisms for implementation and participation of farmer producer organizations and cooperatives will be set up.

PEPPER IT WITH:
Budget for different sectors of economy, Schemes and Fund allocated.

Grameen Credit Score:

The Union Finance Minister stated that Public Sector Banks will develop 'Grameen Credit Score' framework to serve the credit needs of SHG members and people in rural areas.

INTERNATIONAL RELATIONS

India-France Strategic Partnership: Prime Minister Narendra Modi's Visit to France

News excerpt:

Prime Minister Narendra Modi's visit to France from February 10 to 12, 2025, marked a significant step forward in the multifaceted partnership between India and France. At the invitation of President Emmanuel Macron, this visit reinforced the deep-rooted ties between the two nations across various domains, including security, environmental sustainability, and economic collaboration.

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Historical Development and Milestones in India-France Relations

India and France have a long-standing relationship that dates to the 18th century, with significant milestones marking their journey from colonial-era interactions to a modern strategic partnership.

Early Interactions (18th-19th Centuries)

- Colonial Era:** The French East India Company established trade posts in India during the 18th century, leading to early political and commercial contacts.
- Cultural Exchange:** This period also saw cultural exchanges between the two nations, laying the groundwork for future cooperation.

Post-Independence Developments

- Establishment of Diplomatic Relations:** After India gained independence in 1947, formal diplomatic relations were established with France.
- Early Cooperation:** Initial cooperation focused on economic and cultural areas.

Strategic Partnership (1998)

Strategic Partnership Established: In 1998, France and India elevated their relationship by establishing a strategic partnership. This marked a significant shift towards deeper collaboration across multiple sectors:

- Defence Cooperation:** Enhanced defence ties included joint military exercises and technology transfers.
- Nuclear Energy Collaboration:** France became one of the first countries to cooperate with India on nuclear energy after international sanctions were lifted following the Indo-US nuclear deal.
- Space Exploration:** Both nations collaborated on space missions, leveraging each other's expertise.

High-Level Exchanges:

- Regular visits by heads of state have maintained momentum in bilateral relations.
- These exchanges have facilitated agreements across various sectors such as education, science & technology, culture, etc.

Economic Cooperation:

- Trade has grown significantly since the establishment of strategic ties.
- Major French companies like Renault and Airbus have invested heavily in Indian markets.

Cultural Ties: Cultural exchange programs continue to strengthen people-to-people connections through events like film festivals and educational collaborations.

Partnership for Security and Sovereignty

The visit highlighted the longstanding defense cooperation that is a cornerstone of the India-France Strategic Partnership. During the discussions, both leaders reaffirmed their commitment to advancing military collaboration, notably in the maritime domain.



- **Defense Industrial Roadmap:** President Macron and Prime Minister Modi welcomed ongoing cooperation in the construction of Scorpene submarines, with an emphasis on indigenization efforts. The integration of the **Air Independent Propulsion (AIP)** system developed by the Defense Research and Development Organization (DRDO) into the **P75-Scorpene submarines** was a key point of discussion.
- **Joint Exercises and Cooperation:** Both leaders noted the regular conduct of military exercises across various domains, including the recent visit of the **French Carrier Strike Group Charles De Gaulle to India** and the Indian Navy's participation in the multinational exercise La Perouse.
- **FRIND-X Initiative:** The launch of **FRIND-X (France-India Defence Startup Excellence)** exemplified the collaborative spirit between the defense ecosystems of both nations. This initiative aims to connect startups, investors, incubators, and academia, fostering innovation in the defense sector.
- **Counterterrorism Efforts:** Reiterating their commitment to fighting terrorism in all forms, both leaders discussed the importance of coordinated efforts to disrupt networks that finance or harbor terrorists. They emphasized the need for a comprehensive framework for cooperation in intelligence sharing and counterterrorism operations.

Partnership for the Planet

In a world grappling with environmental challenges, Prime Minister Modi and President Macron emphasized the importance of collaborative efforts to combat climate change and promote sustainability.

- **Nuclear Energy Cooperation:** Recognizing nuclear energy's critical role in achieving energy security and transitioning to a low-carbon economy, both leaders reinforced their commitment to civil nuclear cooperation, particularly concerning the Jaitapur Nuclear Power Plant.
- **International Cooperation on Climate:** The leaders welcomed the establishment of the India-France Indo-Pacific Triangular Development Cooperation to support climate-friendly projects in the Indo-Pacific region. They also acknowledged the strategic importance of the India-Middle East-Europe Corridor, which aims to foster connectivity and sustainable growth.
- **Year of Innovation:** Announcing the grand inauguration of the India-France Year of Innovation in New Delhi in March 2026, both leaders underscored the importance of advancing scientific knowledge and technological cooperation as a part of their environmental commitment.

PEPPER IT WITH:
India and EU relationship,
India France defence collaboration.

Partnership for the People

At the heart of the Indo-French relationship is a commitment to cultural exchange and people-to-people connections.

- **Strengthening Cultural Ties:** Both leaders expressed pride in the deep cultural ties that bind their nations. They discussed the successful cooperation between key cultural institutions and reaffirmed their commitment to promoting joint cultural programs, particularly in the Year of Innovation.

INDIA-FRANCE List of Outcomes	INDIA-FRANCE List of Outcomes
<p>Visit of Prime Minister Narendra Modi to France</p> <p>Declaration of Intent on establishment of partnership on Advanced Modular Reactors and Small Modular Reactors</p> <p>Renewal of MoU between Department of Atomic Energy (DAE), India and Commissariat à l'Énergie Atomique et aux Énergies Alternatives de France (CAE), France concerning cooperation with Global Center for Nuclear Energy Partnership (GCNEP)</p> <p>Implementing Agreement between DAE of India and CEA of France concerning cooperation between GCNEP India and Institute for Nuclear Science and Technology (INSTN) France</p>	<p>Visit of Prime Minister Narendra Modi to France</p> <p>Joint Declaration of Intent on Triangular Development Cooperation</p> <p>Joint Inauguration of India's Consulate in Marseille</p> <p>Declaration of Intent between The Ministry for the Ecological Transition, Biodiversity, Forests, Marine Affairs and Fisheries and The Ministry of Environment, Forest and Climate Change in the Field of Environment</p>

- **Higher Education and Student Mobility:** The visit underscored the importance of educational exchanges between India and France. Prime Minister Modi welcomed initiatives aimed at increasing the number of

Indian students in France to 30,000 by 2030. The Young Professionals Scheme was identified as a key driver for enhancing two-way mobility of youth and professionals.

- **Development Initiatives:** The leaders committed to fostering robust cooperation in skill development and vocational training, ensuring that both nations benefit from shared knowledge and training initiatives.

Conclusion

Prime Minister Narendra Modi's visit to France served as a reaffirmation of the deep-rooted strategic partnership that has flourished over the years. By addressing critical issues ranging from defense cooperation to climate change and cultural exchanges, both leaders laid a strong foundation for the future trajectory of India-France relations. The visit not only demonstrated their commitment to strengthening bilateral ties but also highlighted their shared vision for a peaceful, secure, and prosperous world, rooted in mutual respect and cooperation.

As the global landscape continues to evolve, the India-France partnership stands poised to tackle the challenges of the 21st century through collaboration, innovation, and shared goals, ensuring that both nations benefit from their strategic alliance.

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PM Modi's Visit to the USA: Key Developments and Agreements

News Excerpt:

Prime Minister Narendra Modi's recent visit to the United States, from February 10 to 14, 2025, marked a significant milestone in strengthening bilateral relations between India and the U.S. The visit was highlighted by several key developments and agreements that underscored the deepening strategic partnership between the two nations.

Background of the Visit

The visit was notable as it occurred shortly after President Donald Trump's inauguration for his second term. This timing reflects both leaders' commitment to prioritizing their relationship. During his stay in Washington D.C., Prime Minister Modi engaged in extensive discussions with President Trump, covering a wide range of topics including defense cooperation, trade and investment, technology collaboration, energy security, people-to-people ties, and regional/global issues.

Key Developments

U.S.-India COMPACT Initiative:

- The leaders launched a new initiative called **COMPACT (Catalyzing Opportunities for Military Partnership, Accelerated Commerce & Technology)** for driving transformative change across key pillars of cooperation¹².

- This initiative aims at fostering deeper engagement between governments, industries, and academic institutions.

Defense Cooperation:

- **Ten-Year Framework:** A new framework for the U.S.-India Major Defense Partnership signifies a long-term commitment to strengthening defense ties.
- **Defense Procurement and Co-production:** Expanding defense sales and co-production in India for items like "Javelin" missiles and "Stryker" vehicles indicates a move towards greater self-reliance for India and enhanced interoperability.
- **Streamlining Regulations:** Reviewing arms transfer regulations (ITAR) aims to simplify defense trade and technology exchange.
- **Autonomous Systems: The Autonomous Systems Industry Alliance (ASIA)** is a forward-looking initiative that aims to scale industry partnerships and production in the Indo-Pacific region. Partnerships like Anduril Industries and Mahindra Group (maritime systems, counter-UAS) and L3 Harris and Bharat Electronics (active towed array systems) exemplify this focus.
- **Enhanced Military Cooperation:** Increased training, exercises, and operations across all domains signal a deepening of military interoperability.

Trade and Investment:

- The leaders set an ambitious goal under "**Mission 500**," aiming to more than double bilateral trade to \$500 billion by 2030.
- Plans were announced to negotiate a multi-sector **Bilateral Trade Agreement (BTA)** by fall 2025.
- Both countries committed to increasing market access and reducing tariff barriers while enhancing supply chain integration.
- **Greenfield Investments:** Encouraging U.S. and Indian companies to make greenfield investments in high-value industries.



Energy Security:

U.S.-India Energy Security Partnership: Re-commitment to this partnership, including collaboration in oil, gas, and civil nuclear energy.

Strategic Petroleum Reserves: Recognizing the importance of these reserves for economic stability.

Civil Nuclear Agreement: Moving forward with plans to build U.S.-designed nuclear reactors in India. Amendments

to the Atomic Energy Act and Civil Liability for Nuclear Damage Act (CLNDA) are crucial steps.

Collaboration on Small Modular Reactors: Exploring collaboration to develop, deploy, and scale up nuclear power generation with advanced small modular reactors.

Technology and Innovation:

- **U.S.-India TRUST ("Transforming the Relationship Utilizing Strategic Technology") Initiative:** This initiative aims to catalyze collaboration in critical and emerging technologies like **defence, AI, semiconductors, quantum, biotechnology, energy, and space.**
- **AI Infrastructure Roadmap:** Developing a roadmap to accelerate AI infrastructure in India, addressing financing, building, powering, and connecting large-scale U.S.-origin AI infrastructure.
- **INDUS Innovation:** A new innovation bridge modeled after INDUS-X, fostering investments in space, energy, and other emerging technologies.
- **Trusted Supply Chains:** Building trusted and resilient supply chains for semiconductors, critical minerals, advanced materials, and pharmaceuticals.
- **Strategic Mineral Recovery Initiative:** A program to recover and process critical minerals from heavy industries.
- **Civil Space Cooperation:** Joint NASA-ISRO efforts, including sending an Indian astronaut to the ISS and the NISAR mission.
- **U.S. National Science Foundation and Indian Anusandhan National Research Foundation Partnership:** Joint research in critical and emerging technologies like semiconductors, connected vehicles, machine learning, and telecommunications.

People-to-People Ties:

- Recognizing the importance of international academic collaborations for innovation and workforce development.
- Leaders agreed on strengthening collaborations between higher education institutions through joint/dual degree programs.
- There was also an invitation extended for setting up offshore campuses of U.S. educational institutions in India.
- **Mobility Frameworks:**
 - Commitment made towards streamlining legal mobility avenues for students and professionals while addressing illegal immigration concerns.
- **Regional/Global Issues:**
 - Discussions emphasized shared visions on regional issues like Quad summits (with India hosting one later this year) and

PEPPER IT WITH:
 India -Usa collaboration, Deportation, Indian Diaspora contribution

enhanced cooperation in West Asia or Indian Ocean regions.

Conclusion

Prime Minister Modi's visit highlighted significant advancements in Indo-U.S relations across multiple sectors—defense collaboration being particularly noteworthy alongside ambitious trade goals under **"Mission 500."** These developments underscore both nations' commitment towards mutual prosperity through strategic partnerships that foster global stability.

Conclusion: The India-U.S. relationship has evolved into a vital partnership characterized by shared democratic values, strategic cooperation, and robust economic ties. Key milestones, such as the Civil Nuclear Agreement and defense collaboration, have strengthened this bond, positioning both nations to address global challenges and foster stability in the Indo-Pacific region.

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India-Qatar

News excerpt:

India and Qatar have deep-rooted historical ties of friendship, trust and mutual respect. In recent years, the ties between the two countries, including in the areas of trade, investment, energy, technology, culture and people-to-people ties, have continued to strengthen.



Timeline of Key Milestones

Early Relations

- **1971:** India was one of the first countries to recognize Qatar following its independence from British rule.
- **1973:** Formal diplomatic relations were established between India and Qatar, with India opening its embassy in Doha.

Significant Diplomatic Visits

- **1999, 2005, 2012:** Emir Hamad bin Khalifa al Thani made multiple visits to India, laying the groundwork for future cooperation.
- **2008:** Indian Prime Minister Manmohan Singh visited Qatar, marking a pivotal moment with the signing of a maritime defense agreement that facilitated mutual training and cooperation in defense matters.
- **March 2015:** Emir Tamim bin Hamad al Thani visited India, resulting in the signing of five Memoranda of Understanding (MoUs) covering various areas including energy, trade, and cultural exchanges.

- **2016:** Prime Minister Narendra Modi visited Qatar to enhance economic ties, particularly in the **hydrocarbon sector**. This visit included discussions on investment and trade, culminating in seven agreements between the two nations.

Recent Developments

- **February 2025:** Prime Minister Modi welcomed Emir Tamim bin Hamad Al Thani in New Delhi to further bolster trade and economic relations. The discussions aimed at doubling bilateral trade from **\$14 billion to \$28 billion by 2030 and included Qatar's commitment to invest \$10 billion in India across various sectors.**
- **June 2024:** Indian External Affairs Minister **S. Jaishankar visited Doha to review bilateral ties with Qatari officials.** This visit underscored India's growing strategic engagement with Middle Eastern nations.

Key Points from India-Qatar Joint Statement

- **State Visit and Ceremonial Welcome:** The Amir was received by President Droupadi Murmu and Prime Minister Narendra Modi at Rashtrapati Bhawan on February 18, 2025.
- **Bilateral Strategic Partnership:** Both leaders signed an agreement establishing a bilateral strategic partnership to deepen their multifaceted relationship.
- **Economic Cooperation:**
 - The two sides agreed to strengthen trade and commerce through a new Joint Commission on Trade and Commerce.
 - They aim to double bilateral trade by 2030.
 - Qatar committed to investing USD \$10 billion in India.
- **Investment Agreements:**
 - Revised Double Taxation Avoidance Agreement was signed.
 - Negotiations for an India-Qatar Bilateral Investment Treaty were expedited.
- **Energy Cooperation:** Enhanced cooperation in energy infrastructure development was emphasized.
- **Security Cooperation:** Both nations condemned terrorism and agreed on enhanced cooperation in security matters including intelligence sharing and cybersecurity.
- **Healthcare Collaboration:** Strengthening healthcare ties through pharmaceutical exports and joint projects was discussed.
- **Technology & Innovation:** Collaboration in emerging technologies like AI was encouraged along with participation of Indian startups in Qatari events.
- **Cultural Exchange & Education:** Cultural exchanges were promoted through events like the India-Qatar Year of Culture.
- Educational collaborations between institutions were emphasized for academic exchanges and research partnerships.

PEPPER IT WITH:
Look west policy, Indian migrant workers policy, Indian Diaspora

- **People-to-People Ties & Labor Mobility:**
 1. Appreciation for Indian contributions in Qatar's development.
 2. Regular meetings on labor issues were agreed upon for expatriate welfare.
- **International Coordination:**
 1. Support for UN reforms including Security Council expansion.
 2. Coordination at multilateral forums like the UN was stressed for addressing global challenges together

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ENVIRONMENT

India's First Intertidal Bioblitz: Uncovering Marine Wonders Along the Coasts

News Excerpt: sss

India's inaugural Intertidal Bioblitz, a collaborative effort by researchers, citizen scientists, and conservationists, has revealed a stunning array of marine life across the country's coastal regions. **Conducted across Visakhapatnam, Mumbai, Goa, and the Andaman Islands,** the 10-day event recorded over **3,600 observations and 514 species on the iNaturalist app,** highlighting the rich yet often undocumented biodiversity of India's intertidal ecosystems.

Key Findings and Discoveries

- **Pseudoceros bifascia Discovery:** One of the most significant findings was the identification of *Pseudoceros bifascia*, a flatworm species, in Rushikonda, Visakhapatnam. This marks the first-ever record of this species from mainland India, expanding its known range beyond Lakshadweep, where it was discovered the previous year.
- **Undescribed Species:** In addition to the *Pseudoceros bifascia*, two other undescribed flatworm species were found in Visakhapatnam, including one resembling an electric flatworm, indicating the potential for new species discoveries.



- **Visakhapatnam's Rich Biodiversity:** Visakhapatnam alone contributed **1,533 observations of 227 species**, showcasing its significance for marine life documentation. The intertidal pools of Rushikonda brimmed with life, including nudibranchs and sea grapes.
- **Mumbai Observations:** The bioblitz in Mumbai recorded 80 species in suburban areas and 120 species in metropolitan areas. Notable sightings included the old-woman octopus, orange-striped hermit crab, mangrove leaf slug, tiger moon snail, and highfin moray.
- **Andaman Islands' Diversity:** The intertidal zones of the Andaman Islands uncovered over 70 species during three intertidal walks in different locations. Key findings included bubble snails, flatworms, sea slugs, sea cucumbers, moray eels, an octopus, and a juvenile stingray.

Regional Variations in Ecosystems

The Intertidal Bioblitz highlighted distinct regional variations in intertidal ecosystems:

- **Andaman Islands:** Coral-dominated landscapes with seagrass patches and rocky pools.
- **Maharashtra and Goa:** Sponge and hydroid-dominated coastlines.

The most common species observed, such as yellow sponges, sea cucumbers, sand gobies, corals, and sea grasses, form the backbone of these ecosystems, illustrating the complex relationships that govern this underwater world.

iNaturalist App: A Tool for Citizen Science and Biodiversity Conservation

The iNaturalist app is a popular platform for citizen science, enabling users to contribute to biodiversity conservation by documenting and identifying plants and animals in their natural habitats. **Developed by the California Academy of Sciences and the National Geographic Society**, iNaturalist has become a powerful tool for scientists, researchers, and nature enthusiasts alike.

Key Features of the iNaturalist App

Observation and Identification:

Image Recognition: Users can upload photos of organisms they encounter, and the app uses AI-powered image recognition to suggest possible identifications.

Community Feedback: The iNaturalist community provides feedback and helps refine identifications, ensuring accuracy and learning.

Data Collection and Sharing:

Open Data: All observations are shared openly, contributing to a vast database that scientists and researchers can use for biodiversity studies and conservation efforts.

Research Applications: The data collected through iNaturalist has been used in numerous scientific studies, helping to track species distributions, monitor climate change impacts, and inform conservation strategies.

Community Engagement:

Forums and Discussions: Users can engage with each other through forums and discussions, fostering a sense of community and encouraging collaboration.

Projects and Challenges: iNaturalist hosts various projects and challenges that encourage users to focus on specific species or regions, promoting targeted conservation efforts.

Educational Value:

Learning Opportunities: The app serves as a valuable educational tool, helping users learn about different species, their habitats, and ecological roles.

Citizen Science: By involving the public in scientific research, iNaturalist promotes a broader understanding of biodiversity and the importance of conservation.

Environmental Concerns in the Andaman Islands

The Intertidal Bioblitz also shed light on signs of habitat destruction in the Andaman Islands:

- **Tourism Impact:** Crowds visiting the natural bridge on Neil Island have led to habitat degradation through accidental trampling of marine life and intentional feeding of species with unsuitable food.
- **Species Displacement:** The absence of sandy bed species like the pearly sea anemone, replaced by carpet sea anemones along the tidepools, indicates potential ecosystem shifts.

The islands' sensitive ecology

The project may impact turtle and megapode nesting sites and affect coral reefs, experts warn

9,601

of animals (3,294 terrestrial and 6,307 marine) with 1,123 endemic species have been recorded till now from Andaman and Nicobar Islands by Zoological Survey of India

CORAL REEF

• Coral reef of A&N belongs to the IndoWest pacific fauna province as Andaman Islands is located in north-west of the central area of greatest marine biodiversity referred to as the **CORAL TRIANGLE**

At least 400 coral species

may eventually be found in the islands as against the 283 species identified so far, according to MoEFCC

- All islands have high coral reef, mangrove, marine biodiversity
- Great Nicobar Island is home to several endemic species such as the Nicobar megapode as well as the Nicobar tree shrew

KEY NESTING SPOTS

Galathea and other beaches in Little Andaman Island are important nesting sites for leatherback turtles



Methodology and Participation

The Intertidal Bioblitz was conducted over a 10-day period and utilized the iNaturalist app to gather data. Researchers, citizen scientists, and conservationists from Mumbai, Andaman, Goa, and Visakhapatnam participated, contributing to the comprehensive documentation of marine life across India's coasts.

PEPPER IT WITH:

Biodiversity Conservation, Environment protection Act.

Conclusion:

The first Intertidal Bioblitz of India marks the beginning of an exciting annual tradition. By bringing together scientists, researchers, and enthusiasts to explore India's coastlines, it

will foster a deeper appreciation and conservation of India's marine biodiversity, one tide at a time. With its first event considered a success, there is room to grow in scope and continue discovering marine life.

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The initiative's success underscores the importance of continued exploration and conservation efforts to protect India's diverse marine ecosystems. As the knowledge base expands, conservation strategies can be better tailored to preserve the unique intertidal species and habitats along India's coastline.

Temperatures at the North Pole Above Average

News Excerpt:

In **early February 2025**, the **North Pole** experienced an **unprecedented temperature anomaly**, with readings soaring **20°C above the seasonal average**—even surpassing the **freezing point** in some regions. This extreme warming event has raised concerns among climate scientists, as such drastic deviations from normal Arctic temperatures could have **long-term consequences for global climate patterns**.

Key Factors Contributing to the Temperature Surge

a) Deep Low-Pressure System Over Iceland

- A **strong low-pressure system over Iceland** funneled **unusually warm air masses** from the **North Atlantic into the Arctic Circle**.
- Such systems, also known as **"atmospheric rivers,"** can transport large amounts of heat and moisture poleward, **disrupting normal Arctic temperature patterns**.

b) Warmer-than-Normal North Atlantic Ocean

- **Elevated sea surface temperatures in the North Atlantic** have intensified heat transfer into the atmosphere.
- These **warmer air currents**, driven by climate change and shifting oceanic circulation, have **accelerated Arctic warming**.

c) Arctic Amplification – The Feedback Loop

- The Arctic is warming at **nearly four times the global average**, a process known as **Arctic amplification**.
- **Primary cause:** The loss of sea ice reduces the Earth's **albedo effect** (the ability to reflect sunlight).
- As ice melts, **darker ocean waters absorb more solar radiation**, further **increasing temperatures** and accelerating **additional ice loss self-reinforcing cycle**.

Consequences of the Temperature Anomaly

a) Accelerated Arctic Ice Melt

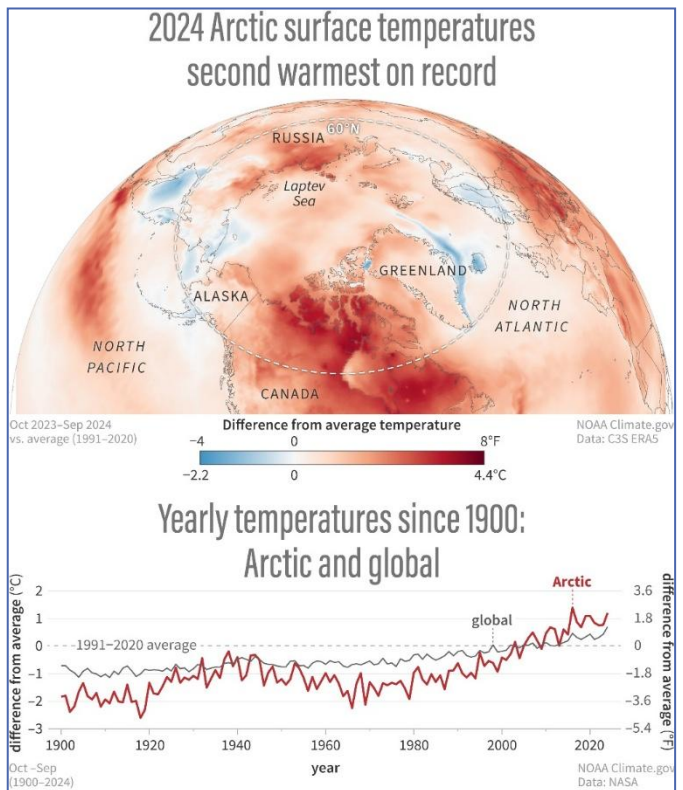
- Winter temperatures above freezing in the Arctic are **highly unusual** and could lead to **earlier and more severe sea ice melt** in the coming months.

- A reduction in sea ice affects **ocean circulation**, potentially impacting **weather systems worldwide**.

b) Disruptions to Arctic Ecosystems

- Arctic species, including **polar bears, seals, and seabirds**, rely on **stable ice conditions** for survival.
- Warmer temperatures and ice loss **disrupt food chains** and threaten the survival of indigenous Arctic communities.

c) Global Climate Repercussions



- The Arctic plays a crucial role in **regulating global weather patterns**.
- Unusual warming events can **alter jet stream patterns**, increasing the likelihood of **extreme weather events**, such as:
 - **Severe winter storms** in North America and Europe.
 - **More prolonged heatwaves and droughts** in other regions.
 - **Shifts in monsoon patterns**, affecting agriculture-dependent economies.

The Broader Climate Change Context

- This event is **not an isolated incident**—similar Arctic temperature spikes have been observed in previous years.

PEPPER IT WITH:
Global warming, Paris climate deal, Glacier melting.

- Scientists warn that **if global greenhouse gas emissions remain high**, extreme warming events like this will become **more frequent and severe**.
- **International climate action**, including **reducing fossil fuel dependence** and investing in **renewable energy**, is critical to **mitigating future climate risks**.

Conclusion

- The **20°C temperature anomaly in the Arctic** is a **stark reminder of the accelerating climate crisis**.
- The combination of **atmospheric circulation shifts, warming oceans, and Arctic amplification** is driving **record-breaking temperature spikes**, with **far-reaching consequences for global climate stability**.
- Urgent and **coordinated global action** is necessary to slow down Arctic warming and **mitigate the broader impacts of climate change**.

The Pollution Burden of Thermal Power in India: A Study

News Excerpt:

This analysis delves into the critical issue of pollution burdens borne by thermal power-producing states in India, focusing on central sector power plants, and proposes compensation mechanisms.

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India's Climate Commitments and Thermal Power's Role

- **Nationally Determined Contribution (NDC):** India is committed to a climate-friendly path, aiming to reduce emissions intensity of its GDP by 45% by 2030 (from 2005 levels) and achieve 50% of electric power installed capacity from non-fossil fuels by 2030.
- **Dominant Share:** Despite the push for renewables, thermal power (primarily coal-based) will continue to hold a significant share (approximately 50%) in India's electricity generation mix.
- **Carbon Emissions:** Thermal power is a major contributor to carbon emissions, with India accounting for 20,794.36 kg of carbon emission from electricity generation.

Thermal Power Capacity and Generation

- **Installed Capacity:** India has a total installed capacity of 456,757 MW. The distribution is:
 - Central Sector: 22.9%
 - State Sector: 23.7%
 - Private Sector: 53.4%
- **Thermal Power Plants (TPPs) Capacity:** The total electricity generation capacity from thermal power plants is 237,268.91 MW. The distribution is:
 - Private Sector: 85,899.095 MW (36.20%)
 - State Sector: 75,991.905 MW (32.03%)
 - Central Sector: 75,377.91 MW (31.77%)

- **Coal Reserves:** India possesses substantial coal reserves, estimated at 378.21 billion tonnes (as of April 1, 2023), with Odisha holding 94.52 billion tonnes.
- **Energy Supply:** Coal accounts for about 59.12% of the total energy supply in India. 73.08% of electricity in India is produced from Coal.

Background and Challenges

Introduction of Emission Norms:

- **2015 Norms:** The Ministry of Environment, Forest and Climate Change (MoEFCC) introduced new emission norms for thermal plants in December 2015, setting deadlines for compliance.
- **SO2 Emissions:** These norms included limits on SO2 emissions, which were seen as crucial for improving air quality.

Challenges in Implementation:

- **Flue Gas Desulphurisation (FGD) Technology:** The debate centered around the challenges of implementing FGD technology, which is used to reduce SO2 emissions. Despite Indian coal having lower sulphur content, the focus remained on FGDs due to their perceived necessity for high-sulphur coal.
- **Cost and Supply Chain Issues:** The high cost of FGDs and supply chain challenges were cited as reasons for extending deadlines.
- **Debates and Delays:**
 - **Central Electricity Authority (CEA) Reports:** The CEA questioned the need for uniform norms and proposed phased implementation until 2035.
 - **NITI Aayog and CSIR Studies:** These studies suggested that SO2 norms might not be crucial for achieving good ambient air quality, recommending a focus on particulate emissions instead.

Disproportionate Pollution Burden

- **Uneven Distribution:** Thermal electricity-producing states bear a disproportionate pollution burden compared to consuming states.
- **High Thermal Power Share:** States like Tripura, Bihar, Chhattisgarh, Jharkhand, Delhi, West Bengal, and Uttar Pradesh have the highest share of thermal power in their total electricity generation capacity.
- **Net Exporters:** Chhattisgarh, Madhya Pradesh, Himachal Pradesh, Rajasthan, Odisha, and Meghalaya are net sellers of electricity. These states bear the brunt of pollution while supplying power to others.
- **Net Importers:** Gujarat, Haryana, Maharashtra, Delhi, Punjab, and Tamil Nadu are major importers of electricity.
- **State-wise Consumption:** For example, Uttar Pradesh, Odisha, and Chhattisgarh consume only 40%, 38.43%, and 29.92%, respectively, of the electricity produced by NTPC in their respective states.

Lack of Compensation Mechanisms

- **Regulatory Gaps:** India's electricity and environmental regulatory structures do not adequately compensate states generating electricity from central sector thermal power plants.
- **Resource Curse:** Coal-rich states, despite producing the maximum thermal electricity, often have lower per capita electricity consumption and face a resource curse due to the environmental burden.
- **CSR Limitations:** Corporate Social Responsibility (CSR) initiatives by thermal power companies provide limited compensation for environmental damage.
- **Constitutional Constraints:** States can levy taxes on electricity consumption and sale but not on generation. The central government also does not impose specific taxes on electricity production. Electricity is exempt from GST, with consuming states benefiting from electricity

stakeholders have hindered effective policy implementation.

- **Regulatory Framework:** The frequent changes in deadlines and norms highlight the need for a more robust and consistent regulatory framework.

Proposed Solutions and Compensation Mechanisms

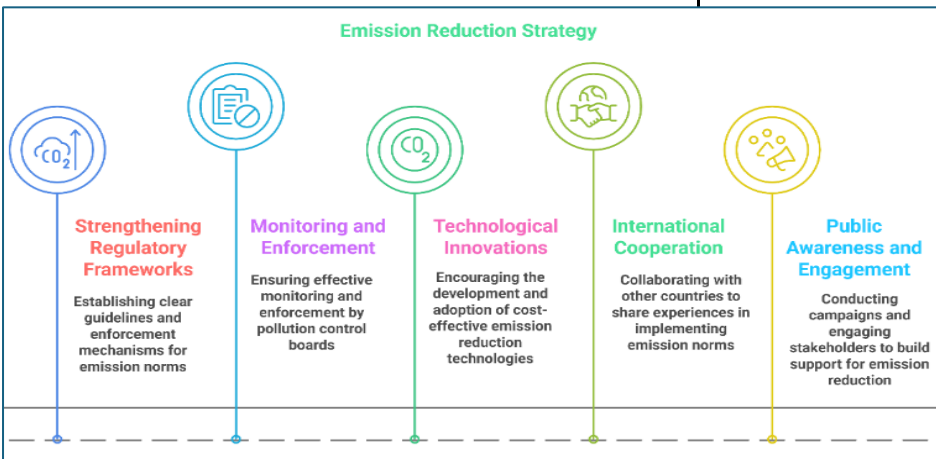
- **Negative Externality:** Generating electricity in one state and consuming it in another creates a negative externality for the producing state. Thermal power-producing states should be compensated for electricity consumed by other states.
- **Taxation:**
 - Allow states where central sector power plants are located to tax thermal power generation.
 - Alternatively, the Union government can collect and transfer a generation tax to the producing states.
- **Finance Commission:**

- Utilize the Finance Commission of India to develop a compensation mechanism.

- The Sixteenth Finance Commission should consider India's climate commitments and develop a fiscal road map.

Conclusion

Addressing the pollution burden faced by thermal power-producing states in India requires a robust



duty levied on sales.

Implications of Delayed Compliance

- **Economic Implications:**
 - **Cost to Consumers:** Electricity consumers are likely to bear the costs of installing pollution control equipment, including FGDs, even if these are not used due to delayed compliance deadlines.
 - **Financial Burden:** This could lead to increased electricity costs without corresponding environmental benefits.
- **Environmental and Health Impacts:**
 - **Delayed Air Quality Improvements:** Citizens living near thermal plants will not benefit from cleaner air for several more years, exacerbating health risks associated with air pollution.
 - **Continued Pollution:** The delay in implementing SO2 emission norms means continued pollution from thermal plants, contributing to environmental degradation.
- **Institutional Challenges:**
 - **Lack of Consensus:** The ongoing debates and lack of consensus among government agencies and

compensation mechanism that recognizes and internalizes the

environmental costs. By implementing appropriate taxation or leveraging the Finance Commission, policymakers can ensure a fairer distribution of benefits and burdens in the electricity sector, promoting both economic development and environmental sustainability.

PEPPER IT WITH:
SDG, Pollution control, AQI management, PM 10.

SCIENCE & TECHNOLOGY

How Do Bacteria Resist Antibiotics?

News excerpt

Bacteria have evolved **multiple strategies to survive and proliferate** despite exposure to antibiotics. These resistance mechanisms can be **inherent (naturally present in some bacterial species) or acquired (developed through genetic mutations or horizontal gene transfer from other bacteria)**. The rapid rise of antibiotic resistance is a **major public health challenge**, making many infections harder to treat.

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Key Mechanisms of Antibiotic Resistance

a) Enzymatic Degradation or Modification of Antibiotics

- **How it works:** Some bacteria produce **enzymes** that chemically alter or degrade antibiotics before they can act.
- **Example:**
 - **β -lactamase enzymes** break down **β -lactam antibiotics** (such as penicillins and cephalosporins), rendering them ineffective.
 - Certain bacteria modify **aminoglycoside antibiotics**, preventing them from binding to bacterial ribosomes.
- **Impact:** This mechanism makes common antibiotics **ineffective**, requiring stronger or alternative drugs.

b) Alteration of Antibiotic Target Sites

- **How it works:** Bacteria **mutate or modify** the cellular structures targeted by antibiotics, making it harder for the drug to bind and function.
- **Example:**
 - **Methicillin-resistant Staphylococcus aureus (MRSA)** alters its **penicillin-binding proteins (PBPs)** to resist **β -lactam antibiotics**.
 - Some bacteria modify **ribosomes**, preventing **macrolide antibiotics** (like erythromycin) from inhibiting protein synthesis.

antibiotics out of the cell, reducing drug concentration inside the bacterial cell.

- **Example:**

- **Multidrug-resistant Pseudomonas aeruginosa** and **Escherichia coli** use efflux pumps to **expel tetracyclines, fluoroquinolones, and macrolides**.

- **Impact:** Even when antibiotics enter bacterial cells, efflux pumps **remove them quickly**, preventing them from reaching lethal concentrations.

d) Reduced Permeability – Blocking Antibiotic Entry

- **How it works:** Bacteria modify their **cell membrane** or **porin channels** (protein channels that allow molecules to enter) to prevent antibiotics from penetrating the cell.
- **Example:**
 - Some **Gram-negative bacteria**, like **Klebsiella pneumoniae**, reduce the number of **porin proteins**, making it harder for **β -lactam antibiotics** to enter.
- **Impact:** Antibiotics **cannot reach their targets**, making the bacteria naturally resistant.

How Bacteria Acquire Resistance

Bacteria gain resistance through **two primary ways**:

a) Genetic Mutations

- **Spontaneous mutations** occur during bacterial **DNA replication**. Some mutations may alter **antibiotic targets**, making the bacteria **less susceptible** to treatment.

b) Horizontal Gene Transfer (HGT)

Bacteria can **share resistance genes** with each other using three methods:

1. **Transformation** – Bacteria take up resistance genes from the environment.
2. **Transduction** – Viruses (bacteriophages) transfer resistance genes between bacteria.
3. **Conjugation** – Bacteria exchange resistance genes via **plasmids** (small DNA molecules).

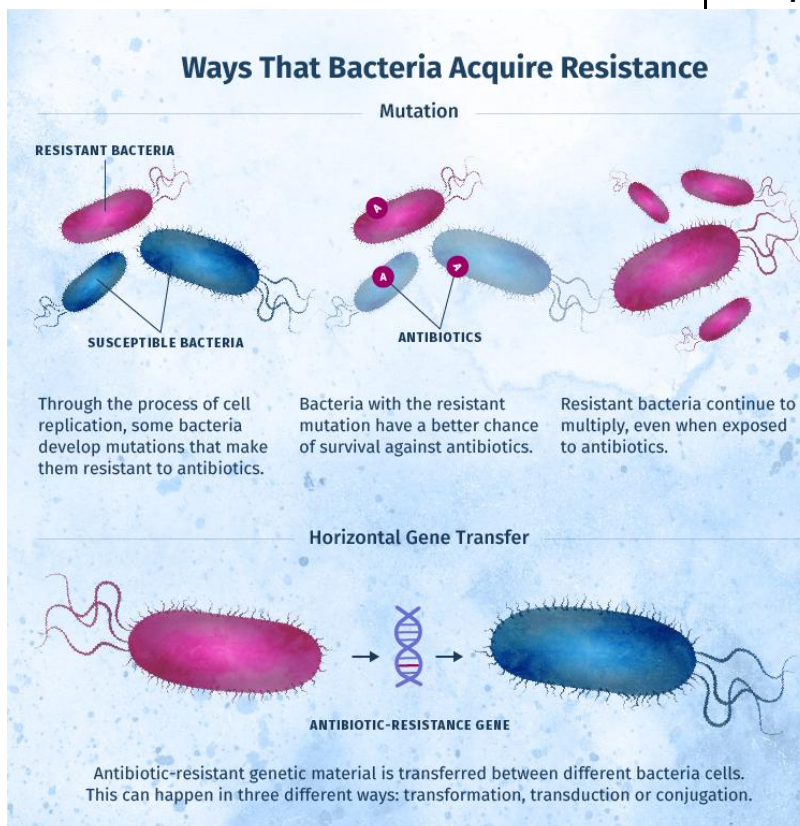
- **Example:**

- The **NDM-1 (New Delhi metallo- β -lactamase-1) gene** spreads through conjugation, making bacteria resistant to **carbapenems**, a last-resort antibiotic.

Why is Antibiotic Resistance a Growing Problem?

- **Overuse and misuse of antibiotics in medicine, agriculture, and animal farming** accelerate resistance.
- **Incomplete antibiotic courses** allow surviving bacteria to develop **stronger resistance mechanisms**.

- Resistant bacteria can spread **rapidly in hospitals and communities**, making infections harder to treat.



- **Impact:** Even if an antibiotic reaches the bacteria, it **fails to inhibit growth** due to target modifications.

c) Efflux Pumps – Actively Expelling Antibiotics

- **How it works:** Bacteria possess **efflux pumps**, which are **transport proteins** that actively **pump**

- "Superbugs" like **MRSA, CRE (Carbapenem-resistant Enterobacteriaceae), and drug-resistant tuberculosis (TB)** are becoming increasingly **difficult to eliminate**.

Combating Antibiotic Resistance

Responsible Antibiotic Use

- Only use antibiotics **when prescribed** by a doctor.
- PEPPER IT WITH:**
Anti-microbial resistance,
Public health hazard,
Antibiotics use control.
- **Complete the full course** to prevent surviving bacteria from developing resistance.
 - Avoid **self-medication** or using antibiotics for viral infections (like colds and flu).

Development of New Antibiotics & Alternative Therapies

- Scientists are researching **new antibiotic classes and antibiotic alternatives** such as:
 - **Bacteriophage therapy** (using viruses to kill bacteria).
 - **Antimicrobial peptides** that disrupt bacterial membranes.

Infection Control & Public Health Measures

- Strict **hygiene and sanitation** in hospitals.
- Global monitoring of **resistant bacterial strains** to prevent outbreaks.

Conclusion

- Antibiotic resistance is a **serious global threat** driven by **bacterial adaptation, genetic transfer, and human misuse of antibiotics**.
- Understanding how bacteria resist antibiotics can help researchers **develop better treatments**, policymakers **enforce antibiotic regulations**, and individuals **practice responsible antibiotic use**.
- Without urgent action, we risk **losing the effectiveness of life-saving antibiotics**, leading to **more untreatable infections worldwide**.

India's Ambitions in the SMR Value Chain

News excerpt

India is making a strategic push to become a **global leader in the Small Modular Reactor (SMR) manufacturing value chain**. Recognizing the potential of **nuclear energy** as a clean and reliable power source, the government has introduced

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three major enablers in the latest Union Budget to accelerate the growth of the SMR sector.

Policy Reforms: Opening the Nuclear Sector to Private and Foreign Investments

Amendments to Key Nuclear Laws

- The government is working on **amending the Atomic Energy Act, 1962**, which currently restricts nuclear power generation to state-controlled entities.
- Changes are also being proposed to the **Civil Liability for Nuclear Damage Act, 2010**, which has been a major deterrent for private and foreign investments due to its **stringent liability clauses**.

Encouraging Private Sector Participation

- By **allowing private and international firms to invest in nuclear projects**, India aims to **boost indigenous manufacturing, enhance technology transfer, and improve efficiency** in the sector.
- These reforms could **attract global companies** with expertise in SMR technology, enabling India to **develop a robust supply chain for both domestic and export markets**.

Financial Commitments: Dedicated Investments for SMR Development

SMALL MODULAR REACTORS

Small modular reactors (SMRs) are one of the latest innovations in producing nuclear energy. With a simplified, compact design and relative low-cost production methods, innovators hope to deploy them more readily.

SMALL:
SMRs are designed to be in the range of 1 to 300 megawatts, roughly one third of the gigawatt scale of traditional nuclear reactors

MODULAR:
SMRs can be manufactured in a factory and transported to the site, making them easier to deploy and potentially reducing construction costs

REACTOR:
Like all nuclear reactors today, SMRs harness nuclear fission to generate heat to produce energy

PRESSURIZER
Maintains a stable pressure within the primary coolant loop to prevent boiling and ensures that the coolant remains in a liquid state to improve efficiency and safety

REACTOR COOLANT PUMPS
Circulates the coolant through the reactor core, transferring heat from the fuel rods to the generator to generate electricity and also helping with temperature control

STEAM GENERATOR
Uses heat from the reactor coolant to produce high-pressure steam, which is used to drive a turbine-generator to make electricity

CONTROL RODS
Inserted into the reactor core to absorb neutrons and regulate the reactor's power output, ensuring safe and controlled nuclear reactions

CORE
Contains the nuclear fuel rods where fission reactions occur, producing heat which is used to generate steam and ultimately produce electricity through a power conversion system

Source: U.S. Department of Energy

The Main SMR Types

Light Water Reactors

High Temperature Gas Cooled Reactors

Molten Salt Reactors

Fast Neutron Reactors

By using smaller, mass manufactured designs, SMRs can provide additional benefits in terms of **safety, cost, and flexibility** in nuclear power generation.

Establishing a Nuclear Energy Mission

- The government has allocated ₹200 billion (approximately \$2.31 billion) to launch a dedicated Nuclear Energy Mission.
- This mission aims to develop and operationalize at least five indigenous SMRs by 2033, providing a significant boost to India's nuclear power capacity.

Addressing Cost and Infrastructure Challenges

- SMRs, while more flexible and scalable than traditional large reactors, require significant upfront investments.
- The budget allocation will help in R&D, manufacturing, and setting up demonstration plants to validate SMR technology and attract further investments.

Strategic Goals: Expanding India's Nuclear Energy Capacity Increasing Nuclear Energy Output

PEPPER IT WITH:
Nuclear energy,
Modular reactors,

- India has set an ambitious target to develop 100 gigawatts (GW) of nuclear power by 2047, a significant leap from the current 20 GW target for 2032.
- SMRs are seen as a key technology to achieve this target due to their compact design, faster deployment, and ability to integrate with renewable energy sources.

Supporting Climate Commitments

- With a pledge to achieve net-zero carbon emissions by 2070, India sees nuclear power as a crucial element in reducing dependence on coal-based energy.
- Expanding nuclear energy will also help improve energy security, reduce fuel imports, and provide stable electricity to remote regions.

Conclusion: India's Positioning in the Global SMR Market

- The Union Budget's policy, financial, and strategic initiatives mark a significant shift in India's nuclear energy landscape. By fostering private investment, allocating dedicated funds, and setting clear expansion goals, India aims to become a key player in the global SMR value chain.
- If successfully implemented, these measures could boost domestic energy production, attract international partnerships, and position India as an exporter of SMR technology in the future.

Microsoft's Quantum Computing Breakthrough

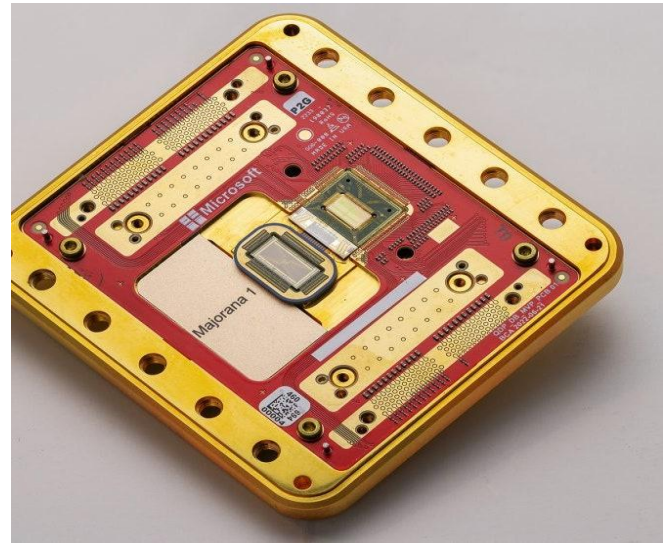
News excerpt

Microsoft has announced a significant breakthrough in quantum computing with the development of Majorana 1, a revolutionary quantum chip powered by a Topological Core architecture. This discovery brings the

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world closer to practical, large-scale quantum computing, addressing challenges related to qubit stability, error correction, and scalability.

What Makes Majorana 1 Special?



a) The Role of Majorana Particles

- Majorana particles, first theorized in 1937, are unique quantum particles that can act as their own antiparticles.
- Scientists believe these particles could be key to building topological qubits, which are more stable than conventional qubits used in other quantum computing approaches.
- Microsoft has now demonstrated the ability to observe and control Majorana particles, marking a major step toward fault-tolerant quantum computing.

b) Introduction of the Topological Core Architecture

- Traditional quantum computers use superconducting or trapped-ion qubits, which are highly sensitive to noise and environmental disturbances, leading to high error rates.
- The Topological Core in Majorana 1 leverages special materials called topoconductors that create a protective quantum state, making the qubits much more resistant to errors.
- This method promises longer coherence times (how long qubits stay in a useful state) and greater computational reliability.

Key Features of the Majorana 1 Chip

a) Enhanced Qubit Stability

- One of the biggest challenges in quantum computing is maintaining qubit coherence.
- Majorana-based topological qubits are far more stable than current quantum bit designs, reducing error correction overhead and making computations more efficient.

b) Higher Scalability Potential

- Current quantum processors struggle to go beyond a **few hundred qubits** due to noise and decoherence.
 - Microsoft claims that **Majorana 1 has the potential to support up to one million qubits on a single chip.**
 - This scalability is essential for tackling real-world applications in **medicine, materials science, cryptography, and artificial intelligence.**
- c) **Overcoming Error Correction Challenges**
- Most quantum computers today require extensive **error correction algorithms**, which consume significant computational resources.
 - The **topological qubits in Majorana 1 are naturally protected from many types of quantum noise**, drastically reducing the need for additional error correction.

What This Means for the Future of Quantum Computing

- a) A Step Closer to Practical Quantum Computing
- Microsoft’s breakthrough brings us **closer to commercial quantum computers** that can outperform classical computers in solving complex problems.
 - This could lead to advancements in **drug discovery, financial modeling, logistics optimization, and artificial intelligence.**
- b) Potential for Industry Adoption
- **Microsoft Azure Quantum** aims to integrate this technology into cloud computing, allowing researchers and businesses to access quantum computing resources without needing specialized hardware.
 - As qubits become more reliable, **hybrid quantum-classical systems** could emerge, enabling a gradual transition to full-scale quantum computing.

Expert Reactions and Challenges Ahead

- a) Excitement in the Scientific Community
- Microsoft CEO **Satya Nadella** called this a **“historic moment”** for quantum computing, as the discovery of a topological superconductor material has been a **decades-long pursuit.**
 - Leading physicists believe that **Majorana particles could revolutionize quantum computing** by offering a **long-term solution to error correction and scalability.**
- b) Skepticism and Need for Further Validation
- While this is an exciting development, experts caution that **more experimental validation is needed** before declaring success.
 - Some scientists point out that **topological quantum computing has been explored for years**, but practical implementation has remained elusive.
 - The next steps involve **demonstrating Majorana-based qubits in real-world applications** and scaling the technology for broader use.

What’s Next for Microsoft’s Quantum Program?

- a) Building a Scalable Quantum System
- Microsoft’s ultimate goal is to **develop a fully error-corrected quantum computer** with millions of stable qubits.
 - This will require further **material science innovations, advanced fabrication techniques, and software development.**
- b) Integration with Cloud Computing
- Microsoft plans to integrate Majorana-based quantum computing into **Azure Quantum**, making it accessible to **scientists, enterprises, and developers.**
- c) Continued Research and Industry Collaboration
- Microsoft is collaborating with **universities, national labs, and private companies** to refine the technology and accelerate progress.

PEPPER IT WITH:
New state of matter, Quantum Computer, Qubits.

Conclusion: A Major Leap, but More Work Needed

- The **Majorana 1 chip** represents one of the most promising advancements in quantum computing **in decades.**
- By utilizing **topological qubits**, Microsoft has taken a major step toward creating a **fault-tolerant, scalable quantum computer.**
- However, challenges remain, including **further validation, large-scale implementation, and overcoming remaining technical hurdles.** If successful, this breakthrough could **redefine computing** and unlock unprecedented capabilities in science and industry.
- For now, the world watches as **Microsoft continues its quest to make quantum computing a reality.**

Vikram Lander Performs Surprise ‘Hop’ on the Moon

News excerpt

India’s **Chandrayaan-3 mission** achieved another unexpected milestone when the **Vikram lander performed a successful “hop” experiment** on the Moon’s surface. This maneuver demonstrated the **lander’s ability to lift off, move, and land again in a controlled manner**, marking a significant advancement in **lunar mobility technology.**

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What Was the Hop Experiment?

- a) The Unexpected Lunar Lift-Off
- The **Vikram lander**, which had successfully completed its primary objectives after landing on August 23, 2023, was powered back on for a new experiment.
 - ISRO scientists **reignited Vikram’s engines**, allowing it to **ascend approximately 40 cm above the lunar**

surface and then land again about **30 to 40 cm away from its original position.**

- This was **not originally planned as part of the Chandrayaan-3 mission**, making it a surprise but significant experiment.

b) Why Is This Hop Important?

- The maneuver proves that **Vikram can perform a controlled ascent and descent**, which is crucial for **future missions that require sample collection or human exploration.**
- It provides valuable data on how **spacecraft can take off and land multiple times on the Moon**, paving the way for **lunar sample return missions and eventual Moon base operations.**

How Was the Hop Experiment Conducted?

a) Firing the Thrusters After Dormancy

- The experiment was carried out **after the lander had been put into sleep mode** due to the extreme lunar night.
- ISRO reactivated Vikram's onboard systems, ensuring that its **thrusters, navigation, and control systems** were still functional.
- The lander's **attitude control thrusters were ignited**, enabling it to **lift off briefly and land again safely.**

b) Importance of Precision Control

- For such an experiment to be successful, the lander had to **maintain balance, avoid tilting, and land gently without damage.**
- This requires precise **control of thrusters, real-time altitude adjustments, and accurate calculations of descent speed.**
- The success of this test demonstrates that **India's lunar lander technology is mature enough for complex maneuvers on the Moon.**

Why Is This a Major Breakthrough?

a) Demonstrates Lunar Mobility Capabilities

- The ability to **hop on the Moon** means future missions can **move short distances without requiring a rover**, potentially reducing mission complexity.
- This technology can be used for missions where **landers need to explore multiple sites or reposition themselves for better solar energy access.**

b) Paves the Way for Sample Return Missions

- Future missions, such as **Chandrayaan-4 or joint missions with international space agencies**, may need to **collect lunar soil and return it to Earth.**
- The hop experiment proves that **India can develop the technology needed for a lander to ascend, maneuver, and return samples.**

c) Supports Human Lunar Exploration Plans

- In the long run, technologies like this could be used for **human Moon landings**, where astronauts may

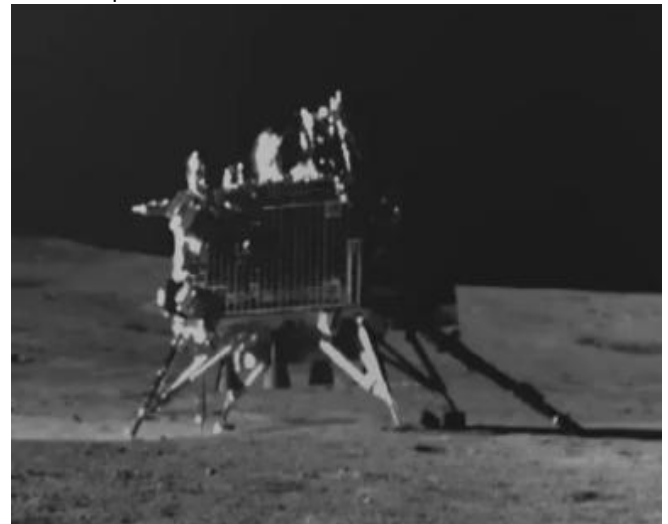
need **reusable lunar landers** to move between locations.

- **NASA's Artemis program** and **China's lunar exploration plans** also aim to develop similar mobility capabilities for future Moon bases.

What's Next for Chandrayaan-3 and India's Lunar Program?

a) Preparing for Future Moon Missions

- ISRO's success with the Vikram hop could **influence the design of Chandrayaan-4**, which may include a **sample return mission.**
- Future landers could be designed to **hop over craters or rough terrain**, increasing their exploration capabilities.



b) Potential Role in International Lunar Collaborations

- ISRO's demonstrated success may **attract international partnerships**, allowing India to collaborate with NASA, ESA, or Russia on **joint lunar missions.**
- The technology used in the hop experiment may also be applied to **Mars exploration and asteroid landings** in the future.

PEPPER IT WITH:
ISRO, Moon Mission,
Vikram Lander.

Conclusion: A Big Leap for Indian Lunar Exploration

- The **Vikram lander's surprise hop experiment** is a **major milestone** in India's space exploration journey.
- It proves that ISRO's lunar lander can perform **controlled movements**, opening new possibilities for **future Moon missions, sample returns, and even human exploration.**
- This unexpected success not only **reinforces India's growing expertise in space technology** but also positions the country as a key player in **the global race for lunar exploration.**

INTERNAL SECURITY

AI Action Summit 2025

News excerpt:

Prime Minister Narendra Modi's remarks at the AI Action Summit 2025, co-chaired with French President Emmanuel Macron, focused **on global AI governance, sustainability, and innovation.**

The summit addressed key challenges such as AI bias, sustainable AI practices, and the future of work, emphasizing India's role in shaping the global AI landscape.

The summit emphasized the need for collective global efforts to establish governance and standards that promote innovation while addressing risks and building trust in AI.

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Why is it in the news now?

The summit is significant as **it highlights India's commitment to AI development and governance, with India set to host the next AI Summit.** This positions India as a leader in the global AI community, fostering international collaboration and innovation.

Conceptual Understanding (Static Part)

Key Definitions, Theories & Principles

Artificial Intelligence (AI):

AI involves the creation of intelligent machines that can perform tasks typically requiring human intelligence, such as visual perception, speech recognition, decision-making, and language translation.

Objectives and Themes

- **Global AI Governance:** The summit aimed to establish frameworks for the ethical and democratic development of AI, ensuring technologies benefit all while managing associated risks.
- **Innovation and Investment:** Discussions focused on fostering AI innovation through significant investments, with an emphasis on sustainable and inclusive growth.

Key Initiatives Launched

- **Current AI Foundation:** A public-interest partnership named "Current AI" was introduced, backed by a **\$400 million initial investment** from nine governments and various organizations, aiming to support the creation of AI public goods.
- **Coalition for Sustainable AI:** Led by **France, the UN Environment Programme, and the International Telecommunication Union**, this coalition seeks to promote environmentally sustainable AI practices, supported by multiple countries and tech companies.

Notable Addresses and Perspectives

- **Prime Minister Narendra Modi:** Emphasized the need to "democratize technology," advocating for global frameworks that ensure AI access and benefits, particularly for the Global South.

- **U.S. Vice President JD Vance:** Warned against excessive AI regulation, suggesting it could hinder innovation, and highlighted the importance of maintaining a competitive edge in AI technology.
- **UK Technology Secretary Peter Kyle:** Stressed that "western, liberal, democratic" nations should lead AI development to ensure it aligns with democratic values and ethical standards.

Major Announcements

- **France's Investment in AI:** President Macron unveiled a €109 billion investment plan to enhance France's AI infrastructure, aiming to strengthen Europe's position in the global AI landscape.
- **Global Collaboration Efforts:** The summit facilitated commitments from various nations and organizations to collaborate on AI initiatives that prioritize ethical considerations, sustainability, and equitable access.



Importance of Global AI Governance

- **Risks and Opportunities:** AI presents both immense opportunities for growth and significant risks if not managed properly. Establishing robust governance frameworks is crucial to mitigate these risks while fostering innovation.
- **Global Cooperation:** The AI Action Summit underscores the need for international cooperation to develop standards that ensure AI is used responsibly and for the global good.
- **Inclusive Access:** Ensuring that AI benefits are accessible to all, especially in developing regions, is essential for achieving equitable development and meeting the SDGs.
- **AI Bias:** AI bias occurs when AI systems produce prejudiced outcomes due to biased training data. This can lead to unfair treatment of certain groups and is a critical issue in AI ethics.
- **Sustainable AI:** Sustainable AI focuses on developing AI technologies that are environmentally friendly, efficient in resource use, and socially responsible. It aims to minimize the carbon footprint and energy consumption of AI systems.

Constitutional & Legal Provisions

- **Digital India Initiative:** Launched by the Government of India, this initiative aims to ensure that government services are made available to citizens electronically by improving online infrastructure and increasing Internet connectivity.

Historical Background & Evolution of the Issue

AI Development in India:

- India has been actively investing in AI through various initiatives, such as the National AI Mission, which aims to position India as a global leader in AI by promoting research, innovation, and skill development.

AI Action Summit 2025:

- The summit was co-chaired by PM Modi and French President Macron, focusing on AI governance, sustainability, and innovation.

India's AI Initiatives:

- **National AI Mission:** Aims to drive responsible AI innovation and development.
- **Public-Private AI Partnerships:** Collaborations to provide compute power to startups at affordable costs.
- **AI-driven Skilling Programs:** Part of Skill India, these programs equip the workforce with AI and digital skills.

Causes & Challenges:

AI Bias: The challenge of ensuring AI systems are trained on diverse and representative data to avoid biased outcomes.

Sustainability: Addressing the environmental impact of AI's computational demands, which require significant energy and resources.

Impacts:

Economic: AI is a key driver of economic growth, offering opportunities for innovation and efficiency across various sectors.

Social: Ethical concerns arise from AI's potential to perpetuate biases and infringe on privacy, necessitating inclusive governance frameworks.

Solutions:

- **Ethical AI Frameworks:** Developing global standards for ethical AI use to ensure fairness, transparency, and accountability.
- **Skilling Programs:** Investing in education and training to prepare the workforce for AI-driven job markets.

Government Schemes & Initiatives

National AI Mission:

This mission focuses on promoting AI research and development, fostering innovation, and ensuring ethical AI practices.

Skill India:

A government initiative aimed at equipping the Indian workforce with the necessary skills to thrive in a digital economy, including AI and other emerging technologies.

Balanced Critical Analysis

Positives & Benefits:

- AI has the potential to revolutionize industries, improve efficiency, and drive economic growth.
- It can create new job opportunities and enhance productivity across sectors.

Challenges & Concerns:

- Ethical issues related to AI bias, data privacy, and the potential for misuse.
- The environmental impact of AI's energy-intensive processes.

PEPPER IT WITH:
AI positives and negatives for humanity, AI regulations.

International Comparisons:

- India's collaboration with France in the International Solar Alliance highlights efforts to develop green AI technologies.

Way Forward:

The AI Action Summit in Paris marked a significant step towards global cooperation on AI governance. By emphasizing the need for inclusive, responsible, and sustainable AI practices, leaders like PM Modi and President Macron are setting the stage for a future where AI enhances human lives without exacerbating existing inequalities. As India prepares to host the next AI Summit, it will continue to play a pivotal role in shaping the global AI agenda.

The Risks of Privatized Digital Public Spaces

News Excerpt:

Mark Zuckerberg's recent announcement that Meta will reduce its limits on content moderation, replacing much of it with automated processes, signals a significant shift in the governance of digital platforms. This decision comes against a backdrop of rising concerns about freedom of speech, misinformation, and the role of private corporations in shaping digital public spaces.

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Digital Public Spaces

Digital public spaces are online environments that serve as platforms for public discourse, social interaction, and access to information. These spaces are crucial in today's digital age, as they facilitate communication, collaboration, and community building across geographical boundaries. However, they also present several challenges related to governance, privacy, and inclusivity.

Concept and Importance

- **Definition:** Digital public spaces refer to online platforms where people can engage in public discourse, share information, and interact with others. Examples include social media platforms, online forums, and community networks.
- **Importance:**
 - **Public Discourse:** These spaces enable citizens to engage in discussions on public issues, fostering democratic participation and civic engagement.

- **Social Interaction:** They provide opportunities for social connection and community building, which are essential for social cohesion and well-being.
- **Access to Information:** Digital public spaces serve as **gateways to a vast array of information, facilitating education and awareness.**

Challenges

- **Governance and Regulation:**
 - **Private Ownership:** Many digital public spaces are owned and controlled by private companies, which can lead to censorship and biased content moderation.
 - **Lack of Transparency:** Private platforms often lack transparency in their decision-making processes, making it difficult for users to understand how their data is used and why certain content is allowed or prohibited.
- **Privacy and Data Protection:**
 - **Data Collection:** Private companies collect extensive user data, which can be used for targeted advertising or shared with third parties, raising privacy concerns.
 - **Data Security Risks:** The concentration of user data in private hands increases the risk of data breaches and unauthorized use.
- **Inclusivity and Accessibility:**
 - **Digital Divide:** Not everyone has equal access to digital public spaces due to factors like internet connectivity, device affordability, and digital literacy.
 - **Exclusionary Practices:** Some platforms may exclude certain groups based on their policies or algorithms, further marginalizing vulnerable communities.

Solutions and Alternatives

- **Regulatory Frameworks:**
 - **Legislation:** Governments can enact laws that ensure transparency, accountability, and fairness in digital public spaces.
 - **Data Protection Laws:** Strengthening data protection laws can safeguard user privacy and limit the exploitation of personal data.
- **Public-Private Partnerships:**
 - **Collaborative Governance:** Partnerships between public and private entities can help balance innovation with public oversight and accountability.
 - **Community Engagement:** Involving communities in decision-making processes can ensure that digital spaces serve public interests.
- **Decentralized and Open-Source Alternatives:**
 - **Decentralized Networks:** Promoting decentralized networks and open-source platforms can reduce reliance on centralized

private control, offering more equitable and transparent alternatives.

- **Community-Led Initiatives:** Supporting community-led initiatives can foster digital public spaces that are more inclusive and responsive to user needs.

Key Issues and Implications

- **Privatization of Digital Commons:** Zuckerberg's move underscores the dangers of allowing private corporations unchecked power over platforms that function as global public squares. Decisions by a few wealthy individuals, such as Zuckerberg and Elon Musk, now significantly shape the contours of free speech and public discourse.
- **Automated Content Moderation:** The reliance on Large Language Models (LLMs) and other AI tools to replace human content moderators highlights a troubling trend:
 - **Exploitation of Labor:** Human moderators, often underpaid and exposed to harmful content, face job insecurity as their roles are outsourced to algorithms.
 - **Efficacy of AI:** Automated systems, while scalable, lack the nuanced understanding required to handle context-specific and culturally sensitive content, leading to potential over-censorship or under-regulation of harmful material.
- **Erosion of Accountability:** Meta's shift in responsibility from platform-driven fact-checking to user accountability represents a major retreat from its obligations:
 - **Increased Misinformation:** With less oversight, misinformation may proliferate, exacerbating societal divisions.
 - **Toothless Oversight Bodies:** This decision exposes the ineffectiveness of existing governance mechanisms, raising the need for robust regulatory frameworks.
- **Political and Geopolitical Dimensions:**
 - **Alignment with Regressive Politics:** The decision aligns with a political climate in the U.S. that undermines progressive values and social justice, influencing global discourse.
 - **Global Impacts:** As Meta operates across borders, the consequences of its policy changes extend beyond the U.S., affecting vulnerable communities worldwide.
- **Threats to Collective Safety:** By de-emphasizing content moderation, Meta risks normalizing hate speech and harmful narratives, disproportionately impacting marginalized groups. This decision could undo years of progress in creating safer digital spaces.

Lessons and the Path Forward

- **Democratizing Digital Governance:** The concentration of power in a few corporations demonstrates the urgent

need for decentralized and community-driven models for managing digital public spaces.

- **Strengthening Regulation:** Governments and international bodies must establish enforceable rules to hold tech giants accountable for the content on their platforms.
- **Supporting Human Moderation:** Rather than replacing human moderators with AI, platforms should prioritize fair wages, mental health support, and better working conditions for these essential workers.
- **Building Resilient Communities:** Civil society must work toward creating independent digital spaces that prioritize user safety, inclusivity, and transparency over profit motives.

Conclusion

Mark Zuckerberg’s decision to deprioritize content moderation exemplifies the risks of entrusting global digital commons to profit-driven corporations. While automation and technological advancements have a role, they cannot replace the human oversight necessary for maintaining safe and equitable public spaces.

DISASTER MANAGEMENT

Preventing Crowd Disasters: Lessons from Recent Events

News excerpt

Crowd disasters, such as crushes and stampedes, continue to pose severe risks at large gatherings worldwide, leading to tragic fatalities. The recent incident at the **Maha Kumbh** in India, where 30 individuals lost their lives due to a crowd crush, serves as a poignant reminder of the urgent need for effective crowd management strategies. Such tragedies are often predictable, scientifically understood, and, most importantly, preventable.

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The Maha Kumbh Stampede: A Preventable Disaster

- **Tragic Loss:** A deadly crowd crush at the Maha Kumbh resulted in the loss of 30 lives, underscoring the urgent need for improved crowd management strategies.
- **Global Phenomenon:** Crowd crushes are not isolated incidents but recurring tragedies at religious pilgrimages, sporting events, and music concerts worldwide.
- **Preventability:** Experts emphasize that crowd crushes are scientifically well understood, predictable, and preventable with inexpensive measures.
- **Key Factor: Crowd Density:** Crowd crushes typically occur **when crowd density exceeds five persons per square meter, posing a risk of injuries. At seven or more people per square meter, the likelihood of death or serious injury is high.**

- **Triggers:** Crowd density is strongly influenced by the physical space around the crowd. If, for example, a crowd must navigate or gather in a space that is too small,



crowd density can increase to dangerous levels rapidly and become deadly. Preliminary reporting from the Maha Kumbh suggests that this is precisely what happened there: a large crowd developed behind a barrier, compressing its members into a dangerous density with tragic consequences.

PEPPER IT WITH:
Digital public space control, Personal data protection.

Recurring Crowd Disasters: A Global Perspective

- **Examples:** Similar disasters have occurred throughout the world in recent years.
- **Houston, Texas, U.S. (November 2021):** A crowd disaster at a live music concert killed 10 people.
- **Itaewon, South Korea (October 2022):** A crowd crush at a Halloween festival killed 159 people.
- **Sanaa, Yemen (April 2023):** Nearly 90 people were killed at a charity distribution event.
- **Nigeria (December 2024):** 35 people were killed at a religious festival.

Root Causes and Accountability

- **Blaming the Victims:** News stories and commentary often blame "out-of-control" crowds, shifting responsibility away from authorities.
- **Scientific Understanding:** Crowd crush prevention requires maintaining safe crowd densities, which can only be effectively managed by local governments, event organizers, and promoters.
- **Individual Limitations:** Individual crowd members have limited ability to perceive or control crowd dynamics.
- **Economic Incentives:** Event organizers often prioritize maximizing ticket, food, and merchandise sales, creating an economic incentive to pack as many people as possible into events.
- **Lack of Regulation:** In most nations, there are insufficient laws and regulations requiring event planners and local governments to implement crowd safety measures.

Preventative Measures and Best Practices

- **Simple Steps:** Event planners and local governments can take relatively easy steps to nearly eliminate the risk of crowd crush:
- **Increase Entry and Exit Points:** Opening more entries and exits to facilitate crowd flow.
- **Stagger Arrival Times:** Staggering arrival times for large events to prevent sudden surges in crowd density.
- **Clear Passageways:** Ensuring passageways are free from debris and obstacles that might compress the crowd into bottlenecks.
- **Crowd Segmentation:** Segmenting the crowd into groups to prevent sudden surges, as done at Times Square in New York City on New Year's Eve.
- **Comprehensive planning:** Minimal changes to a venue can almost eliminate the risk that crowd members will be injured, trampled, or squeezed to death on their feet while still allowing everyone to have a good time.

Regulatory Frameworks for Crowd Safety

- The recent tragedy at the Maha Kumbh should prompt a reconsideration of regulatory practices surrounding crowd management. Effective legislation is essential to mandate safety measures at large events. Governments worldwide must establish clear guidelines requiring promoters and organizers to implement protective measures that maintain safe crowd densities.
- Countries must also promote awareness and education around crowd dynamics, enabling event planners to better understand the need for regulations. This approach not only protects individuals but bolsters public confidence in attending large gatherings.

PEPPER IT WITH:
 Crowd management, Disaster prevention, NDMA, SDMA

The Disaster Management Act, 2005: A Framework for Prevention and Mitigation

The Disaster Management Act, 2005, provides a legal and institutional framework for effective disaster management in India. Several provisions of the Act can be leveraged to prevent and mitigate crowd crush incidents.

- **Section 3: National Disaster Management Authority (NDMA):** The NDMA is responsible for laying down policies, plans, and guidelines for disaster management. It can issue specific guidelines for crowd management at large events.
- **Section 11: National Plan:** The National Plan should include measures for the prevention of crowd disasters, preparedness for rapid response, and mitigation strategies.
- **Section 22: State Disaster Management Authority (SDMA):** The SDMA is responsible for implementing the National Plan at the state level. It can develop state-specific crowd management plans in coordination with local authorities.

- **Section 24: District Disaster Management Authority (DDMA):** The DDMA is responsible for disaster management at the district level. It plays a crucial role in implementing crowd management measures at local events.
- **Section 30: Powers and Functions of the State Executive Committee:** The State Executive Committee can direct event organizers to comply with safety standards and can take action against those who fail to do so.
- **Section 38: Emergency Powers:** In the event of a disaster, authorities can exercise emergency powers to control crowds, evacuate areas, and requisition resources.

Specific Measures Under the Act:

- **Risk Assessment:** Conducting comprehensive risk assessments to identify potential crowd crush hazards at large events.
- **Capacity Building:** Training police, volunteers, and event staff in crowd management techniques.
- **Public Awareness:** Educating the public about crowd safety and emergency procedures.
- **Standard Operating Procedures (SOPs):** Developing and enforcing SOPs for crowd management, including entry and exit control, crowd monitoring, and emergency response.
- **Monitoring and Enforcement:** Implementing a system for monitoring and enforcing compliance with crowd safety regulations.

Conclusion: A Call for Action

The Maha Kumbh tragedy underscores the urgent need for a proactive approach to crowd management. By implementing preventative measures and leveraging the provisions of the Disaster Management Act, 2005, governments and event organizers can significantly reduce the risk of crowd crushes and ensure the safety of participants at large gatherings. The cost of inaction continues to be measured in human lives, making it imperative for authorities to prioritize crowd safety and enact sensible regulations.

Hydro-Meteorological Disasters in India: Challenges and Solutions

News Excerpt:

India has faced significant challenges from hydro-meteorological disasters, such as floods and landslides, which have resulted in substantial loss of life and property. **As of January 2025, over 2,900 people were reported killed due to such disasters in the fiscal year 2024-25.** This article explores the current situation, challenges, and potential solutions to mitigate the impact of these disasters.

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Current Situation

- **Casualties and Damage:** The Union Ministry of Home Affairs reported that **2,936 people lost their lives, 363,381 houses or huts were damaged, and 61,826 cattle were lost due to hydro-meteorological disasters in 2024-25.**
- **Data Collection:** The Ministry does not maintain centralized data on disaster damages; instead, it relies on information from state governments.
- **Disaster Management Framework:** The **National Policy on Disaster Management (NPDM) places primary responsibility for disaster management with state governments.** The central government provides supplementary support through the National Disaster Response Fund (NDRF) for severe disasters.

Challenges

- **Lack of Centralized Data:**
 - **Coordination Issues:** The absence of centralized data can hinder effective coordination and response efforts across different states.
 - **Resource Allocation:** Inaccurate or incomplete data can lead to inefficient allocation of resources.
- **Financial Constraints:**
 - **State Disaster Response Funds (SDRF):** While state governments manage relief efforts using SDRF, they often face financial constraints, especially in cases of severe disasters.
 - **Need for Additional Support:** The central government's assistance through NDRF is crucial but may not always be sufficient or timely.
- **Infrastructure and Preparedness:**
 - **Vulnerability to Disasters:** Many areas lack adequate infrastructure to withstand floods and landslides, exacerbating damage and casualties.
 - **Early Warning Systems:** Effective early warning systems are not universally available, limiting the ability to evacuate people in time.

Suggestions for Improvement

- **Centralized Data Management:**
 - **Establish a National Disaster Database:** Creating a centralized database can improve data accuracy, facilitate better resource allocation, and enhance coordination among states.
 - **Use of Technology:** Leverage advanced technologies like GIS mapping and satellite imaging to monitor and predict disasters more effectively.
- **Enhanced Financial Support:**
 - **Increase Funding for SDRF and NDRF:** Boosting these funds can ensure that states have adequate resources to respond to disasters promptly.
 - **International Cooperation:** Explore international partnerships for financial and technical assistance in disaster management.

- **Infrastructure Development and Preparedness:**
 - **Invest in Disaster-Resilient Infrastructure:** Focus on building infrastructure that can withstand natural disasters, such as flood-resistant housing and evacuation routes.
 - **Community Awareness and Training:** Conduct regular drills and awareness programs to prepare communities for disasters.
- **Legal and Policy Frameworks:**
 - **Strengthen Disaster Management Laws:** Review and strengthen existing laws to ensure they are effective in addressing modern disaster challenges.
 - **Incorporate Climate Change Considerations:** Update policies to account for the increasing frequency and severity of hydro-meteorological disasters due to climate change.

Legal Options

- **Disaster Management Act, 2005:**
 - **Amendments:** Consider amending the Act to include provisions for centralized data management and enhanced financial support mechanisms.
 - **Implementation:** Ensure strict implementation of the Act's provisions to hold authorities accountable for disaster preparedness and response.
- **Environmental Laws:**
 - **Enforce Environmental Regulations:** Strengthen enforcement of environmental laws to prevent activities that exacerbate disaster risks, such as deforestation or illegal construction in flood-prone areas.
- **International Agreements:**
 - **Participate in Global Initiatives:** Engage with international organizations and agreements focused on disaster risk reduction to access best practices and resources.

PEPPER IT WITH:
Disaster readiness,
NDRF, SDRF,
Mitigation Measures.

Conclusion:

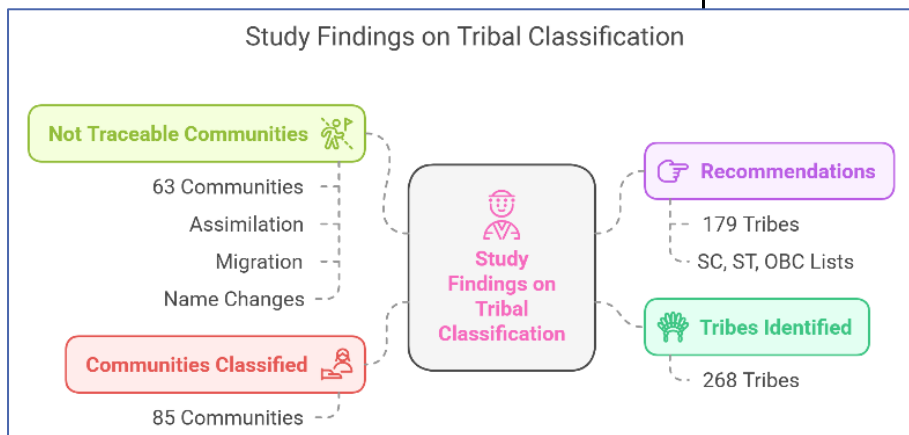
Addressing hydro-meteorological disasters in India requires a multi-faceted approach that includes improving data management, enhancing financial support, developing resilient infrastructure, and strengthening legal frameworks. By implementing these measures, India can better mitigate the impacts of such disasters and protect its citizens more effectively.

PRE-SHOTS
POLITY

Inclusion of 179 communities in SC, ST, OBC lists

News Excerpt

The Anthropological Survey of India (AnSI) and Tribal Research Institutes (TRIs) conducted a landmark ethnographic study (2020–2022) to address the long-standing exclusion of denotified, nomadic, and semi-nomadic tribes (DNTs, NTs, SNTs) from India’s caste-based reservation system.



Commissioned by a NITI Aayog panel, the study proposes the inclusion of 179 communities across 26 states and union territories into the Scheduled Castes (SC), Scheduled Tribes (ST), and Other Backward Classes (OBC) categories.

The **Anthropological Survey of India (AnSI)** is the premier government organization in India dedicated to anthropological research and field studies. Established in 1945, AnSI operates **under the Ministry of Culture and is headquartered in Kolkata**. Its primary focus is on studying the diverse cultures, tribes, and communities within India, encompassing both biological and cultural perspectives. AnSI aims to document the social structures, traditions, and practices of various groups, contributing significantly to the understanding of India's rich cultural heritage.

Tribal Research Institutes (TRIs) are specialized institutions established across various states in India to facilitate research and development related to tribal communities. These institutes focus on the socio-economic development of tribal populations, conducting studies that inform policies and programs aimed at improving their living conditions. TRIs work collaboratively with AnSI and other organizations to gather data, promote awareness, and implement initiatives that support tribal welfare and empowerment.

The necessity for this study arises from the aftermath of the **Criminal Tribes Act of 1924**, which was repealed in August 1949. This act had labeled certain communities as "criminal

tribes," leading to their stigmatization. Post-repeal, these communities were denotified, but efforts to classify them for welfare and developmental benefits remained incomplete.

Successive commissions, including **the First Backward Classes Commission headed by Kaka Kalelkar, the Lokur Committee (1965), the Mandal Commission (1980), the Renke Commission (2008), and the Idate Commission (2017)**, attempted to classify these tribes but faced difficulties in identifying all such communities. The Idate Commission reported over 1,200 tribes, noting that 267 remained unclassified.

Formation of Special Committee and Ethnographic Study

In February 2019, the Prime Minister’s Office formed a Special Committee to expedite the classification process. This committee included experts such as Bhiku Ramji Idate and Dr. J.K. Bajaj. The AnSI and TRIs conducted an ethnographic study from February 2020 to August 2023.

Key Findings of the Study

Breakdown of Proposed Inclusions:

- OBC: 46 communities
- SC: 29 communities
- ST: 10 communities

- Fresh additions: 85 communities (previously unclassified).

State-Wise Distribution:

- Uttar Pradesh leads with 19 communities recommended for inclusion.
- Andhra Pradesh, Tamil Nadu, Madhya Pradesh, and Rajasthan follows with 8 each.

Challenges in Classification:

- 63 communities (20%) were labeled “not traceable” due to assimilation, migration, or name changes.
- 9 communities required reclassification to correct inaccuracies in existing lists.

Constitutional and Policy Context:

- The study aligns with Articles 341(1) (SC/ST classification) and 15(4)/16(4) (affirmative action for backward classes).
- Debate over Separate Quotas: The Development and Welfare Board for DNTs advocates for a separate reservation category instead of merging these groups into SC/ST/OBC lists, arguing that current systems perpetuate marginalization.

Methodology and Impact

- **Ethnographic Approach:** Researchers conducted field visits, literature reviews, and community consultations to document socio-cultural practices and historical marginalization.
- **Delays and Next Steps:** Despite the report’s submission to the Social Justice Ministry in August 2023, it remains pending with NITI Aayog. Implementation requires state-

level proposals and approval from the Registrar General of India and National Commissions.

Significance of Categorization

The categorization is essential for several reasons:

- **Access to Welfare Schemes:** Inclusion in SC, ST, or OBC categories will enable these communities to access reservations, education, employment, and other welfare programs.
- **Recognition of Unique Identities:** Proper classification will recognize their unique identities and empower them to participate fully in socio-economic development.
- **Reduction of Stigma:** The classification will help reduce the stigma associated with these tribes, particularly those labeled as "criminal" under colonial laws.
- **Improvement of Livelihoods:** Access to resources and opportunities will improve the livelihoods of these communities, helping them break the cycle of poverty and marginalization.

Significance and Challenges

- **Social Justice:** Inclusion would grant access to reservations in education, employment, and political representation for historically excluded groups.
- **Census Implications:** The delay in India's 2024–25 Census complicates accurate enumeration, fueling demands for updated population data to adjust quotas.

Ad Hoc Judges in High Courts

News Excerpt

The Supreme Court of India, in a landmark decision, relaxed the conditions for appointing retired judges as ad hoc judges in High Courts under Article 224A of the Constitution. This move aims to address the massive backlog of pending cases, particularly criminal appeals, which have overwhelmed the judiciary. Here's an elaborated summary:

Background and Rationale

- **Mounting Pendency:** As of January 25, 2025, over 62 lakh cases are pending across High Courts, including 18.2 lakh criminal cases and 44 lakh civil cases. The National Judicial Data Grid (NJDG) highlights this crisis, prompting the Court to act urgently.
- **2021 Precedent:** In *Lok Prahari v. Union of India* (2021), the Supreme Court activated Article 224A to appoint ad hoc judges but imposed conditions, such as restricting appointments to High Courts with vacancies exceeding 20% of sanctioned strength.
- **2025 Relaxation:** The 2025 order by a bench led by CJI Sanjiv Khanna suspended the 20% vacancy rule, allowing High Courts to appoint ad hoc judges even if vacancies are below this threshold.

Constitutional Basis and Procedure

- **Article 224A:** Allows the Chief Justice of a High Court (CJHC) to appoint retired judges with the President's

consent. These judges hold the same powers as permanent judges but serve temporarily.

Appointment Process:

- The CJHC obtains consent from the retired judge.
- Recommendations are sent to the state's Chief Minister and Governor.
- The Union Law Minister consults the CJI.
- The Prime Minister advises the President for final approval.
- **Tenure:** Typically 2–3 years, with a cap of 2–5 ad hoc judges per High Court, not exceeding 10% of its sanctioned strength.

Key Modifications in 2025

- **Focus on Criminal Appeals:** Ad hoc judges must sit alongside sitting judges in division benches to prioritize criminal cases pending for over five years.
- **Relaxed Triggers:** Earlier "trigger points" included vacancies >20%, cases pending >5 years, or low disposal rates. The 20% vacancy condition is now suspended, enabling broader appointments.
- **No Fixed Timeline:** While the Court urged immediate action, it declined to set deadlines for appointments.

Emoluments and Allowances

Ad hoc judges receive emoluments equivalent to permanent judges (salary + allowances) minus pension. They are entitled to rent-free accommodation or housing allowances, funded by the Consolidated Fund of India.

Historical Context and Challenges

- **Rare Usage:** Only three ad hoc appointments have been recorded since 1972, including Justice O.P. Srivastava (2007) for the Ayodhya title suits.
- **Concerns:**
 - **Judicial Independence:** Risks of executive influence during appointments.
 - **Resource Strain:** Costs for allowances and infrastructure.
 - **Temporary Fix:** Ad hoc appointments must not replace regular judicial recruitment.

Significance

- **Immediate Relief:** Expected to expedite disposal of 5+ year-old criminal cases, reducing delays.
- **Structural Reforms Needed:** The Court emphasized that ad hoc judges are a supplement, not a substitute, for filling regular vacancies and improving case management.
- **Transparency:** Recommendations include creating panels of retired judges and periodic reviews to ensure accountability.

Conclusion

The 2025 order reflects the judiciary's proactive stance in tackling pendency while balancing constitutional safeguards. However, long-term solutions—such as filling regular vacancies, digitizing courts, and enhancing judicial infrastructure—remain critical for sustainable reform.

The birthright citizenship debate

News Excerpt

A **federal judge temporarily blocked** President Donald Trump's executive order aimed at curtailing the **right to birthright citizenship in the United States**.

Origin of Birthright Citizenship in the US

- **Early Understanding (Post-1776):** After gaining independence, the US recognized citizenship for individuals born within its territory, though this wasn't uniformly applied across all states.
- **Constitutional Recognition (1788):** The original US Constitution mentioned "natural born citizens" in Article 2, encompassing both *jus soli* (right of the soil) and *jus sanguinis* (right of blood).
- **Dred Scott Decision (1857):** The Supreme Court ruled that slaves and their descendants couldn't be considered citizens, highlighting early exclusions in citizenship rights.
- **14th Amendment (1868):** Post-Civil War, this amendment granted citizenship to all persons born or naturalized in the US, aiming to rectify previous exclusions.

Interpretations of the 14th Amendment

- **United States v. Wong Kim Ark (1898):** The Supreme Court affirmed that individuals born in the US to foreign parents are citizens, reinforcing the *jus soli* principle.
- **Plyler v. Doe (1982):** The Court ruled that children of undocumented immigrants have the right to education, emphasizing that all individuals, regardless of legal status, are under US jurisdiction.

Recent Developments and Debates

- **Executive Order by President Trump (January 2025):** An order was issued to curtail birthright citizenship, excluding children born to non-citizen parents.
- **Legal Challenges:** Several states, including Washington, Arizona, Illinois, and Oregon, filed suits against the order, leading to a temporary block by a federal judge.
- **Constitutional Arguments:** Opponents argue that the executive order violates the 14th Amendment, which guarantees citizenship to all born on US soil.

Birthright Citizenship in India

- **Constitutional Provision (1950):** Initially, India granted citizenship to all individuals born within its territory.
- **Amendments in 1986 and 2003:** Changes were made to address migration concerns, introducing requirements that at least one parent be an Indian citizen and excluding children of illegal immigrants from automatic citizenship.

Uttarakhand rolls out Uniform Civil Code

News Excerpt

Uttarakhand has recently implemented the **Uniform Civil Code (UCC)**, introducing **significant reforms in personal laws**.

Implementation and Scope

- **Inauguration of UCC Portal:** Chief Minister Pushkar Singh Dhami inaugurated the UCC rules manual and an online portal for applications under the new regulations.
- **Applicability:** The UCC applies to all residents of Uttarakhand, excluding the tribal community, and standardizes laws related to marriage, divorce, inheritance, and live-in relationships.

Marriage and Divorce Regulations

- **Uniform Marriage Age:** The UCC sets the minimum marriage age at 21 for men and 18 for women, aligning with national standards.
- **Mandatory Registration:** All marriages must be registered, with a 16-page application form and a certificate from a religious leader confirming the couple's eligibility to marry.
- **Traditional Ceremonies Unaffected:** While registration is mandatory, traditional wedding ceremonies will continue as per existing customs.

Live-in Relationships

- **Registration Requirement:** Couples in live-in relationships are required to submit a "statement of live-in relationship" within a month of cohabitation.
- **Documentation:** The registration process involves filling out a detailed form and may include verification steps to ensure compliance.

Inheritance and Property Rights

- **Equal Rights:** The UCC grants equal inheritance rights to sons and daughters, eliminating gender-based disparities in property succession.

Prohibition of Polygamy

- **Monogamy Enforcement:** The code prohibits polygamy for all residents, standardizing marital laws across communities.

Exemptions and Community Responses

- **Tribal Exemption:** Scheduled Tribes are exempt from the UCC, allowing them to continue following their customary laws.
- **Minority Concerns:** Some minority groups have expressed concerns over the UCC, viewing it as an infringement on religious freedoms and an attempt to marginalize specific communities.

These reforms aim to create a uniform legal framework for personal matters in Uttarakhand, promoting equality and standardization across communities.

Domicile-based reservation

News Excerpt

The **Supreme Court of India** has recently declared domicile-based reservations for postgraduate medical admissions unconstitutional. Key aspects of this ruling include:

Unconstitutionality of Domicile-Based Reservations

- The Court ruled that providing **reservations based on domicile status** for postgraduate medical courses within state quotas violates Article 14 of the Indian Constitution, which guarantees the right to equality.

Impact on Existing Admissions

- The ruling clarified that it would not affect **domicile-based reservations** already granted for postgraduate medical admissions prior to this judgment.

Background of the Case

- The decision came in response to petitions challenging state policies that reserved seats in **postgraduate medical courses for residents**, arguing that such reservations limited opportunities for non-resident candidates and undermined merit-based admissions.

Implications for State Policies

- States will need to revise their admission policies for **postgraduate medical courses** to align with this ruling, ensuring that reservations are not based on domicile status but adhere to constitutional principles of equality.

This landmark judgment emphasizes the importance of merit-based admissions and uniformity in educational opportunities across India, potentially influencing future policies related to reservations in educational institutions.

Supreme Court Allows Sub-Classification Within SC/ST Quotas

News Excerpt

In a landmark ruling, the Supreme Court of India has allowed **states to create sub-classifications within the Scheduled Castes (SC) and Scheduled Tribes (ST) categories** for reservation purposes. This decision aims to ensure that **the most marginalized sub-groups within SC/ST communities receive equitable access to affirmative action benefits**.

Empowering States to Fine-Tune Reservations

- The ruling acknowledges that not all SC/ST groups have benefited equally from reservation policies.
- It grants **state governments the authority to identify and sub-categorize communities within SC/ST groups** based on the level of deprivation they experience.
- This move **allows states to design more targeted policies** that address intra-group disparities.

Overruling the 2004 Chinnaiah Judgment

- The Supreme Court's decision **overturns the 2004 E V Chinnaiah vs. State of Andhra Pradesh case**, which had ruled that SCs **must be treated as a homogenous group** and states could not create sub-classifications.
- The new verdict **recognizes that certain SC/ST sub-groups have historically been left out** of the benefits that dominant groups within these categories enjoy.

Shift Towards Substantive Equality

- The Court emphasized that **treating all SCs and STs as equal despite clear disparities within these groups can perpetuate social injustice**.
- Sub-classification is seen as a way to ensure that **reservation benefits reach the most disadvantaged sub-sections rather than being monopolized by relatively privileged sub-groups within SC/ST categories**.

Implications of the Ruling

Need for Policy Revisions

- State governments may **restructure their reservation policies** to create **tiered quotas** within SC/ST categories.
- This could mean that **historically disadvantaged sub-groups get a higher share of reservations**, while relatively better-off SC/ST groups may receive a lower proportion.

Importance of Data-Driven Decision-Making

- The ruling emphasizes that any sub-classification **must be backed by quantifiable socio-economic data**.
- States will need to **conduct surveys and research** to identify which SC/ST sub-groups need greater support.

Possible Legal and Political Challenges

- While the judgment provides clarity, its implementation may **face opposition from groups that fear losing out on reservation benefits**.
- Legal challenges could arise** over the criteria used for sub-classifications, leading to further scrutiny in courts.
- The ruling might also **trigger political debates** on how different SC/ST groups should be categorized and who should get priority within reservations.

Conclusion

- This Supreme Court ruling marks a **significant shift in India's approach to affirmative action**.
- By allowing sub-classification within SC/ST quotas, it aims to **address internal inequalities and ensure that the most disadvantaged communities within these groups receive adequate support**.
- However, **states will now have to carefully navigate policy revisions, legal scrutiny, and political reactions** as they move towards implementing these changes.

SC on Tamil Nadu Governor vs. State Govt Tussle

News Excerpt

The **Supreme Court of India** has stepped in to address the **ongoing conflict between the Tamil Nadu government and the state's Governor**, emphasizing that the issue will be resolved **"in the spirit of the Constitution."** The Court's intervention comes amid rising tensions over **delays in granting assent to key bills** passed by the state legislature.

Background of the Dispute

Delay in Assent to Bills

- The Tamil Nadu government has been at loggerheads with Governor **R.N. Ravi** over **pending bills that require his assent**.
- The state alleges that the Governor's **deliberate delays are obstructing governance**, as several legislations crucial for administration remain in limbo.
- This issue led the **Tamil Nadu government to approach the Supreme Court**, seeking clarity on the Governor's constitutional obligations.

Governor's Inaction and Controversies

- The Governor has faced criticism for **not forwarding the bills to the President or returning them with recommendations** within a reasonable timeframe.
- The Tamil Nadu government has accused the Governor of **acting beyond his constitutional mandate** and stalling governance.

Supreme Court's Observations

Adherence to Constitutional Principles

- The **Supreme Court has emphasized that the resolution must align with the constitutional framework**, which clearly defines the roles and responsibilities of both the Governor and the state government.
- The Court noted that **prolonged inaction by a Governor on state legislation is not in line with the democratic process**.

Governor's Role Not Above the Legislature

- The **Governor's position is largely ceremonial**, and his role in granting assent to bills is **meant to be procedural, not discretionary**.
- The Supreme Court's stance indicates that Governors should **act within a reasonable timeframe and facilitate governance, not impede it**.

Supreme Court's Intent for Swift Resolution

- The Court has assured that it will **expedite the matter**, ensuring that a constitutional deadlock does not disrupt Tamil Nadu's administration.
- It has also hinted that any **deliberate delays by the Governor may warrant judicial scrutiny**, reinforcing the idea that executive authority cannot override legislative intent.

Implications of the Verdict

Impact on Governance in Tamil Nadu

- The delay in passing bills has already **caused administrative bottlenecks**, affecting governance.
- A Supreme Court ruling reinforcing **timely assent by the Governor** would help clear the legislative backlog and restore normal governance.

Federalism and State Autonomy

- The case highlights a broader issue of **Governor-State government relations** in India.

- While Governors are **appointed by the Central government**, they are expected to act as **neutral constitutional authorities, not political obstacles**.
- A ruling in favor of Tamil Nadu could **set a precedent** for other states facing similar conflicts with their Governors.

Conclusion: A Constitutional Check on Governors' Powers

- The **Supreme Court's intervention underscores the importance of respecting constitutional boundaries** and ensuring that Governors do not **arbitrarily delay legislative processes**.
- This case is not just about Tamil Nadu but about **preserving the federal structure and preventing Governors from becoming political roadblocks**.
- If the Court rules in favor of a **time-bound approval process for bills**, it could redefine **Governor-State relations** across India, reinforcing the democratic principle that elected governments must function without unnecessary hindrance.

SOCIAL ISSUES

Universal health coverage across India

News Excerpt

Achieving universal health coverage (UHC) across India is a multifaceted endeavor that requires strengthening the public healthcare system, enhancing financial protection mechanisms, and ensuring equitable access to quality services. Key strategies include:

Strengthening Public Healthcare Infrastructure

- **Expansion of Health and Wellness Centres (HWCs):** Under the Ayushman Bharat initiative, the government aims to establish HWCs to provide comprehensive primary healthcare services, including preventive, promotive, and curative care.
- **Investment in Medical Education:** Increasing the number of medical and nursing colleges, especially in underserved regions, to address the shortage of healthcare professionals.

Financial Protection Mechanisms

- **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY):** Launched in 2018, PM-JAY provides health insurance coverage of up to ₹5 lakh per family per year for secondary and tertiary care hospitalization, targeting economically vulnerable populations.
- **Expansion to Senior Citizens:** In 2024, the government extended free health coverage to all citizens aged 70 and above, offering an annual medical insurance coverage of ₹5 lakh per family.

Integration of Digital Health Initiatives

- **Ayushman Bharat Digital Mission (ABDM):** Implemented by the National Health Authority, ABDM aims to develop an integrated digital health

infrastructure, linking healthcare providers and patients through real-time health records, thereby promoting structured and efficient care delivery.

Public-Private Partnerships (PPPs)

- **Leveraging Private Sector Expertise:** Engaging private healthcare providers through well-regulated PPPs can enhance service delivery, especially in areas where public sector capacity is limited.

Community Health Worker Programs

- **Accredited Social Health Activists (ASHAs):** Deploying community health workers to bridge the gap between healthcare systems and rural populations, ensuring last-mile delivery of health services and promoting health awareness.

Policy and Regulatory Frameworks

- **National Health Policy 2017:** The policy emphasizes the need for comprehensive primary healthcare, financial protection, and quality assurance to achieve UHC.

Conclusion:

By implementing these strategies, India aims to build a resilient healthcare system that provides accessible, affordable, and quality care to all its citizens, thereby achieving the goal of universal health coverage.

Unified Pension Scheme (UPS)

News Excerpt

Introduction

The government has announced the implementation of the **Unified Pension Scheme (UPS)**, set to take effect on **April 1, 2025**. This new scheme aims to provide a guaranteed pension for central government employees currently covered under the National Pension System (NPS). The UPS is designed to address demands from various labor organizations and stakeholders for a more stable pension solution, combining elements from both the NPS and the Old Pension Scheme (OPS).

Background of the UPS

The introduction of the UPS follows extensive discussions among stakeholders, including representatives from the Staff Side of the National Council (JCM) and state governments. The Union Cabinet approved the scheme based on recommendations from a committee chaired by the Finance Secretary, aiming to enhance pension benefits while considering fiscal implications.

Key Features of the Unified Pension Scheme

- **Guaranteed Pension:**
 - Employees with at least **25 years of service** will receive a pension equal to **50% of their average basic pay** from the last 12 months before retirement.
 - For those with a minimum of **10 years but less than 25 years of service**, a proportionate pension will be provided.

- **Family Pension:** In the event of an employee's death, the surviving spouse will receive **60% of the pension amount** that the employee was receiving prior to their death.
- **Minimum Pension Guarantee:** The UPS guarantees a minimum pension of **Rs 10,000** for retirees who have served at least 10 years.
- **Inflation Protection:** The pension amount will be adjusted for inflation based on the All India Consumer Price Index for Industrial Workers (AICPIN-IW), similar to Dearness Relief for serving employees.
- **Lump Sum Payment at Retirement:** Upon retirement, employees will receive a one-time lump sum payment in addition to gratuity. This amount will be calculated as **1/10th of their last drawn monthly salary (Basic Pay + DA)** for every six months of completed service.
- **Transition from NPS:** Employees who opt for the UPS will not be allowed to revert back to the NPS.
- **Implications and Expectations**
 - The UPS is seen as a middle ground between the high growth potential offered by the NPS and the stability provided by the OPS. It aims to enhance financial security for government employees post-retirement while addressing concerns about rising out-of-pocket expenditures associated with pensions.
 - As implementation approaches, further guidelines are expected from the government regarding transitioning from NPS to UPS. The scheme is anticipated to benefit approximately **23 lakh central government employees**, providing them with more predictable retirement income.

Comparison with NPS and OPS

Feature	Unified Pension Scheme (UPS)	National Pension System (NPS)	Old Pension Scheme (OPS)
Pension Guarantee	Yes, 50% of average basic pay	No guaranteed amount	Yes, fixed percentage
Minimum Pension	Rs 10,000	No minimum guarantee	Yes
Inflation Adjustment	Yes	No	Yes
Lump Sum Payment	Yes	Not applicable	Not applicable
Investment Structure	Not applicable	Equity and debt investments	Not applicable
Flexibility in Switching	No	Yes	Not applicable

Conclusion

The Unified Pension Scheme represents a significant shift in India's approach to pension management for government employees. By combining features from both existing

systems, it aims to provide enhanced security and stability in retirement benefits. As more details emerge leading up to its launch, stakeholders will closely monitor its implementation and impact on employee welfare.

SC orders a stop on manual scavenging

News Excerpt

The Supreme Court has ordered a **complete stop to manual scavenging** in **six major metropolitan cities**, ensuring strict enforcement of the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013**.

Prohibition of Manual Scavenging

- The court emphasized that no human being should be forced to clean sewers and septic tanks manually, considering the practice inhuman and unconstitutional.
- All states and Union Territories must ensure compliance with the law and take strong measures against violations.

Compensation for Sewer Deaths

- The Court increased the compensation for deaths caused by manual sewer cleaning from **₹10 lakh to ₹30 lakh**.
- In cases where individuals suffer permanent disabilities due to manual scavenging, the court has mandated a compensation of **₹20 lakh**.
- For other serious injuries, affected individuals will receive **₹10 lakh** as compensation.
- The government is expected to disburse this compensation promptly to victims' families.

Rehabilitation and Welfare Measures

- The Court stressed the need for **comprehensive rehabilitation** of individuals engaged in manual scavenging, ensuring they have alternative livelihoods.

Rehabilitation measures include:

- **Cash Assistance** – Immediate financial support for affected individuals.
- **Education Support** – Scholarships and free education for children of former manual scavengers.
- **Skill Development Programs** – Training in alternative professions to help workers transition into dignified employment.
- **Subsidized Loans** – Financial aid and low-interest loans to start businesses or secure alternative jobs.
- **Housing and Healthcare** – Ensuring proper living conditions and medical support for those affected.

Criminalization of Hazardous Sewer Entry

- The Court made it clear that **no worker should be forced to enter a sewer without proper protective gear and safety measures**.
- Even during emergencies, authorities must **first deploy mechanized cleaning** methods before resorting to manual intervention.

- Strict legal action will be taken against those who **force workers to enter sewers or septic tanks manually**, holding contractors and government officials accountable.

Railway Sector Reforms

- The Supreme Court directed the **Indian Railways** to implement a **time-bound strategy** to completely **eradicate manual scavenging along railway tracks**.
- The Railways is required to modernize its waste management system, **ensuring workers are not exposed to hazardous human waste**.
- The government must report on its progress periodically and show concrete results in eliminating manual scavenging in the railway sector.

Constitutional and Human Rights Perspective

- The Court reminded the government that **manual scavenging is a violation of fundamental rights**, particularly **the right to equality (Article 14)** and **the right to life with dignity (Article 21)** under the Indian Constitution.
- The order aims to ensure that all workers engaged in sewer and sanitation work are treated **with dignity and provided safe working conditions**.
- The decision strengthens previous rulings where the **Supreme Court had condemned the practice** and directed authorities to take strict action against violators.

Conclusion

- This ruling is a **landmark step in ensuring social justice and human dignity** for sanitation workers in India.
- The Supreme Court has made it clear that **India must transition completely to mechanized sewer cleaning**, preventing any further loss of lives due to unsafe working conditions.
- It is now the responsibility of the government, municipal corporations, and private contractors to **implement these measures effectively and eliminate manual scavenging forever**.

Comprehensive legislation to protect domestic workers

News Excerpt

The **Supreme Court of India** has recently highlighted the urgent need for **comprehensive legislation to protect domestic workers**, who often face exploitation due to the absence of specific legal safeguards. Key aspects of the Court's directives include:

Recognition of Legal Vacuum

- Domestic workers in India remain largely unprotected, lacking comprehensive legal recognition. This absence of legislation leaves them vulnerable to low wages, unsafe working conditions, and extended hours without effective recourse.

Directive to Constitute an Expert Committee

- The Supreme Court has directed the Union Government to form an Expert Committee comprising representatives from the Ministries of Labour & Employment, Social Justice & Empowerment, Women & Child Development, and Law & Justice. This committee is tasked with evaluating the necessity of a legal framework to safeguard the rights of domestic workers and is expected to submit its report within six months.

Examination of Existing Legislative Efforts

- The Court acknowledged previous legislative attempts, such as the Domestic Workers (Regulation of Work and Social Security) Bill, 2017, which aimed to regulate domestic work and provide social security. However, these bills have not been enacted into law, leaving a significant gap in protections for domestic workers.

Inclusion in Labour Codes

- While the Code on Wages, 2019, and the Social Security Code, 2020, have introduced provisions addressing issues like minimum wages and social security for domestic workers, the Court emphasized the need for a dedicated legal framework to comprehensively address their unique challenges.

State-Level Initiatives

- Some states, such as Tamil Nadu and Maharashtra, have established welfare boards and enacted laws to provide social security benefits to domestic workers. Despite these efforts, the lack of a uniform, pan-India legislation results in inconsistent protections across the country.

Alignment with International Standards

- The Supreme Court underscored the importance of aligning national laws with international standards, referencing the International Labour Organization's Domestic Workers Convention, 2011 (No. 189), which advocates for fair labor practices and protections for domestic workers.

This landmark directive by the Supreme Court aims to address the systemic neglect faced by domestic workers and calls for legislative action to ensure their rights and dignity are upheld.

India and illegal emigration

News Excerpt

The recent **deportation of 104 Indian nationals** from the United States underscores the **escalating issue of illegal emigration** from India and the associated human smuggling networks. This event coincides with **President Donald Trump's stringent immigration policies** and precedes **Prime Minister Narendra Modi's visit** to Washington, adding a layer of diplomatic sensitivity.

Key Issues Highlighted:

- Human Smuggling Networks:** Unscrupulous agents exploit the aspirations of individuals seeking better

opportunities abroad, charging exorbitant fees for illegal passage. Tragically, some migrants face life-threatening situations, as evidenced by the freezing deaths of an Indian family attempting to cross the U.S.-Canada border in 2022.

- Use of Social Media for Illegal Activities:** Smugglers have adapted to modern technologies, utilizing platforms like TikTok to advertise their services. These "coyotes" target Indian nationals, promising safe passage into the U.S. for substantial fees, thereby expanding their illicit operations.
- Legal and Humanitarian Consequences:** Deported individuals often endure harsh treatment, including being handcuffed during transit. Their dreams of a better life are shattered, leading to personal and financial ruin.

Preventative Measures:

- Strengthening Legal Pathways:** Facilitating legitimate avenues for education and employment abroad can reduce the allure of illegal routes.
- Public Awareness Campaigns:** Educating potential migrants about the risks of illegal emigration and the deceptive practices of smugglers can deter them from perilous journeys.
- Crackdown on Smuggling Networks:** Collaborative efforts between international law enforcement agencies are essential to dismantle human smuggling operations and prosecute those responsible.

Addressing the root causes of illegal emigration requires a multifaceted approach, combining policy reforms, public education, and international cooperation to ensure the safety and well-being of individuals seeking better opportunities abroad.

The Continuing Drug Menace in Punjab

News Excerpt

Punjab continues to struggle with a **severe drug abuse crisis** that has affected its social fabric, economic stability, and law enforcement capabilities. Despite repeated efforts by the government, law enforcement agencies, and community initiatives, the drug problem remains widespread, evolving with new challenges.

Scale and Patterns of Drug Abuse in Punjab

High Prevalence of Substance Abuse

- Punjab has **one of the highest rates of substance abuse in India**, with reports showing a **significant portion of the youth and working population affected**.
- Studies have found that **65.5% of individuals in some rural areas** are involved in substance use, with:
 - Alcohol (41.8%)** and **tobacco (21.3%)** as the most commonly abused substances.
 - Heroin abuse (20.8%)** being alarmingly high, indicating widespread addiction to hard drugs.

Rise of New Addictive Substances

- **Heroin and synthetic drugs** continue to dominate Punjab's drug scene, but newer substances like **Pregabalin** (a prescription drug for neurological conditions) are becoming increasingly popular, especially among students.
- Pregabalin is sought after due to its **low cost, easy availability, and a "gentle high" effect**, making it a growing concern for authorities.
- The influx of **synthetic drugs and opioids** has worsened the crisis, with many addicts shifting from traditional narcotics to pharmaceutical drugs.

Causes of the Drug Epidemic in Punjab

Economic Factors: Unemployment and Financial Stress

- **High unemployment and economic distress** are major contributors, as **youth facing limited job opportunities** turn to drugs for escapism.
- Many unemployed individuals also get **involved in drug peddling**, lured by the promise of quick money.

Societal Influences and Peer Pressure

- The **presence of intoxicants within families**, influence of **peer groups**, and lack of **family supervision** make young people more vulnerable to drug abuse.
- The **rise of nuclear families and weakening of traditional support structures** have left many individuals isolated, pushing them towards substance use.

Easy Availability of Drugs

- Punjab's **proximity to the Pakistan border** has made it a key transit point for **drug trafficking networks**.
- **Heroin smuggled from Afghanistan and Pakistan** enters the state through well-established networks, making drugs easily accessible.

Law Enforcement and Challenges

Crackdown Efforts by Punjab Police

- In the first half of **2024 alone**, Punjab police registered **4,373 cases** under the **Narcotic Drugs and Psychotropic Substances (NDPS) Act**.
- Over **6,000 drug peddlers were arrested**, and **2,710 kg of heroin** was seized in the last three years.

Systemic Corruption and Political Nexus

- Despite crackdowns, the **drug trade continues to thrive**, raising concerns about **corruption within the police force and political protection for drug cartels**.
- Investigations have suggested that **some high-profile politicians and officials** may have links with drug smuggling networks, making it difficult to completely eradicate the problem.

Ineffective Rehabilitation and Healthcare Support

- While de-addiction centers exist, many are **underfunded and lack trained professionals**.
- Some **privately run rehabilitation centers** have been accused of **ill-treatment, coercive methods, and even illegal activities**, making recovery efforts difficult.

Community and Grassroots Initiatives

Grassroots Movements and Awareness Campaigns

- Films like *Taal Te Kunjee* document the **journeys of recovered addicts**, highlighting **how community efforts** can help tackle drug abuse.
- NGOs and local groups have been **conducting awareness campaigns** in schools and colleges to educate youth about the dangers of drug addiction.

Controversial De-Addiction Efforts

- Figures like **Amritpal Singh** have gained prominence for their **anti-drug campaigns**, but some of their de-addiction centers have faced allegations of **harboring illegal firearms and using coercion against addicts**.
- This raises concerns about **unregulated rehabilitation efforts**, where **good intentions may sometimes lead to unethical practices**.

Conclusion: The Need for a Multi-Faceted Approach

The **drug crisis in Punjab is a complex issue** that requires more than just police action. A **holistic approach** is necessary, including:

- **Stronger law enforcement with accountability to root out corruption.**
- **Better economic opportunities for youth to prevent them from turning to drugs.**
- **Increased investment in rehabilitation centers with proper medical support.**
- **Community-driven awareness programs to reduce drug demand.**
- Without a **coordinated effort between the government, law enforcement, communities, and rehabilitation centers**, Punjab's drug menace will continue to persist, threatening its future generations

ECONOMY

Bail under PMLA

News Excerpt:

The Supreme Court criticised the Enforcement Directorate (ED) for arguing that the rigorous bail conditions in money laundering cases will **apply to women even though the Prevention of Money Laundering Act, 2002 (PMLA) provides an exception to this standard**.

Background

The PMLA is a **stringent legislation aimed at combating money laundering in India**. **Section 45(1) of the PMLA imposes stringent conditions for granting bail, often referred to as the "twin conditions."** These conditions require that:

- The public prosecutor must be given an opportunity to oppose the bail application.
- The court must be satisfied that there are reasonable grounds to believe that the accused is not guilty of the

alleged offense and is not likely to commit any offense while on bail.

However, the proviso to **Section 45(1) provides an exception for certain categories of individuals, including women**, allowing courts to grant bail without adhering to these stringent conditions.

The Shine Group Case

In a recent hearing, the Supreme Court of India addressed the bail application of Shashi Bala, an accused in the Shine Group case. The Enforcement Directorate (ED) opposed her bail, arguing that the **twin conditions under Section 45(1) should apply uniformly, without exception.**

The Supreme Court expressed its displeasure with the ED's stance, emphasizing that such a submission contradicts the statutory provisions of the PMLA.

The Court highlighted that the proviso to Section 45(1) explicitly allows for exceptions, particularly for women, and that the ED's argument was contrary to the legislative intent.

Judicial Interpretations:

The article further delves into how various courts have interpreted the bail provisions under the PMLA, especially concerning the exception for women:

- **Supreme Court's Stance:** The apex court has reiterated that the proviso to Section 45(1) is designed to provide relief to specific categories of individuals, including women, and should be applied accordingly.
- **High Courts' Interpretations:** Several High Courts have also recognized the exception for women under the PMLA. They have granted bail to female accused without strictly enforcing the twin conditions, acknowledging the legislative intent to offer leniency to women under the proviso.

Conclusion

- It underscores the importance of adhering to the statutory provisions of the PMLA, especially the exceptions outlined in the proviso to Section 45(1). It highlights the judiciary's role in ensuring that the legislative intent is upheld, providing necessary relief to specific categories of individuals, such as women, in bail considerations under the PMLA.

NITI Aayog's fiscal health index

News Excerpt:

Mineral-rich Odisha, Chhattisgarh, Goa and Jharkhand have emerged as top-performing 'achievers' among the States listed in **NITI Aayog's first Fiscal Health Index (FHI) report released on 24 January 2025.**

Overview of the Fiscal Health Index

The FHI evaluates states based on **five key sub-indices:**

- **Quality of Expenditure:** Measures the balance between developmental and routine operational spending.
- **Revenue Mobilization:** Reflects a state's ability to generate revenue independently.

- **Fiscal Prudence:** Tracks fiscal and revenue deficits relative to economic output.
- **Debt Index:** Assesses the state's debt burden in relation to its economic size.
- **Debt Sustainability:** Compares Gross State Domestic Product (GSDP) growth to interest payments, indicating fiscal sustainability.

Key Highlights

Top Performers:

- **Odisha:** Recognized for its prudent fiscal management, Odisha has maintained a consistent revenue surplus and controlled fiscal deficit, contributing to its top position in the index.
- **Chhattisgarh:** The state has demonstrated effective expenditure management and revenue generation, leading to improved fiscal indicators.
- **Goa:** Despite its smaller economy, Goa has showcased efficient fiscal practices, maintaining a favorable debt-to-GSDP ratio.

Assessment Parameters:

- **Revenue Deficit/Surplus:** Measures the gap between revenue receipts and revenue expenditure.
- **Fiscal Deficit:** Indicates the total borrowing requirements of the state.
- **Debt-to-GSDP Ratio:** Assesses the sustainability of the state's debt relative to its economic output.
- **Own Tax Revenue:** Evaluates the state's efficiency in generating revenue through its taxation mechanisms.

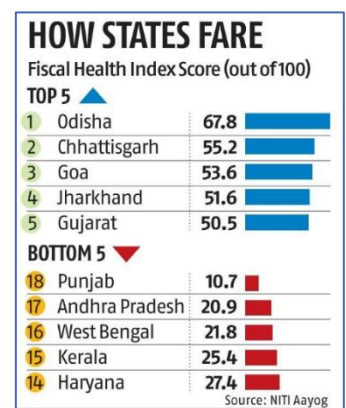
Impact on State-Level Policy Decisions

- **Identifying Areas for Improvement:** The FHI highlights specific fiscal challenges faced by states, such as low revenue mobilization or poor expenditure quality. This allows state governments to target reforms and allocate resources more effectively to areas needing urgent attention.

Guiding Policy Formulation:

The index aids in designing tailored fiscal policies and reforms that align with the unique financial conditions of each state. By understanding their fiscal standings, states can implement strategies that promote better financial management and accountability.

- **Encouraging Fiscal Discipline:** By ranking states based on their fiscal performance, the FHI fosters a culture of accountability and encourages responsible financial practices. States are motivated to improve their rankings, which can lead to enhanced fiscal discipline across the board.



- **Promoting Balanced Development:** The FHI supports balanced regional development by ensuring that states focus on sustainable practices. This is crucial as states manage two-thirds of public expenditure and are pivotal in infrastructure development.
- **Facilitating Resource Allocation:** The insights from the FHI help in effective resource allocation to critical sectors such as healthcare, education, and infrastructure. States can prioritize investments based on their fiscal health, ensuring that funds are directed where they are most needed.
- **Aligning with National Goals:** The FHI encourages states to align their fiscal strategies with national economic objectives, contributing to overall economic resilience and equitable development across the country. This alignment is vital for achieving broader goals like "Viksit Bharat @2047," which envisions a developed India

Significance of the Index:

- Provides a comprehensive overview of the fiscal health of states, aiding policymakers in identifying areas requiring attention.
- Encourages states to adopt best practices in fiscal management to achieve sustainable economic growth.

Conclusion:

The index serves as a crucial tool for both central and state governments to monitor and enhance fiscal discipline, ensuring long-term economic stability.

Tax avoidance treaties

News excerpt:

The **Central Board of Direct Taxes (CBDT)** in India has introduced new guidelines to regulate the benefits claimed under **Double Taxation Avoidance Agreements (DTAAs)**. These guidelines are designed to prevent tax avoidance and ensure that only genuine entities can avail of DTAA benefits.

Key Highlights of the New Norms:

- **Mandatory Submission of Form 10F:** Non-resident taxpayers who wish to claim DTAA benefits are now required to electronically submit Form 10F. This form provides essential information about the taxpayer, including their tax residency status and the specific DTAA provisions they intend to utilize.

Exemption for Certain Non-Residents: Recognizing the challenges faced by non-residents who do not have access to India's electronic filing portal, the CBDT has exempted such individuals from the mandatory electronic filing of Form 10F until September 30, 2023. This exemption aims to provide relief to non-residents without Indian tax credentials.

Verification Requirements: Tax authorities will now require additional documentation to substantiate the claims made under DTAAs. This includes a Tax Residency Certificate (TRC) from the taxpayer's country of residence and other relevant documents to confirm the authenticity of the claim.

Implications:

- For Non-Resident Taxpayers:
- Non-residents seeking DTAA benefits must ensure timely submission of Form 10F and related documents. They should also be prepared to provide additional evidence to support their claims, as per the new guidelines.

For Tax Authorities: The new norms empower tax authorities to scrutinize DTAA claims more effectively, thereby reducing instances of tax avoidance and ensuring that treaty benefits are granted only to eligible entities.

These measures reflect India's commitment to preventing tax evasion and ensuring that international tax treaties are utilized appropriately.

A different economic question

News Excerpt:

The current challenges facing the Indian economy, emphasizing **structural and distributional issues** that impede sustainable growth. While there was a notable surge in services exports, particularly through **Global Capability Centres (GCCs)**, this growth primarily benefited a small, highly skilled segment of the labor force, leaving a significant portion of the population with limited economic advancement opportunities.

Key Points:

- **Concentration of Growth Benefits:** The post-pandemic economic expansion was largely driven by the success of GCCs, which had positive effects on sectors like residential real estate and high-end consumer goods. However, this growth favored the highly skilled, limiting broader income mobility and failing to expand the overall consumption base.
- **Stagnation in Middle-Class Consumption:** Indicators such as declining sales in the sub-Rs 10 lakh car segment highlight a stagnation in middle-class consumption. This decline suggests that fewer individuals are ascending the income ladder, leading to a shrinking market for affordable goods and services.
- **Labor Market Challenges:** The labor market is not generating sufficient productive employment opportunities, resulting in muted wage growth. Many individuals are resorting to self-employment in low-productivity sectors or informal arrangements, indicating a lack of formal job creation.
- **Rising Household Debt:** Limited job creation and stagnant wages have led to increased household debt, with more individuals taking on multiple loans to finance consumption. Despite this rise in debt, overall consumption has not seen a significant boost, pointing to deeper economic issues.
- **Subdued Investment Activity:** Uncertainty over government policies and limited demand visibility have resulted in subdued investment activity. New project announcements have slowed, and Foreign Direct

Investment (FDI) remains below recent highs, indicating cautious sentiment among investors.

Conclusion:

The article underscores the need for a comprehensive policy approach to address these structural challenges. Relying solely on measures like adjusting interest rates or currency valuation is insufficient. A focus on creating productive employment opportunities, enhancing wage growth, and expanding the consumption base is essential for sustainable economic growth. Without such interventions, the economy risks continued stagnation, with growth benefits accruing to only a small segment of the population.

AGRICULTURE

Contract Farming in India's French Fry Industry

News Excerpt

India's transformation from an importer of frozen French Fries (FF) to a net exporter highlights the potential of contract farming and its win-win outcomes for both agri-businesses and farmers. This shift demonstrates how processing-grade potato farming, backed by robust farmer-industry collaboration, has unlocked a global market for a once-imported product.

Key Drivers Behind the Transformation

Demand and Opportunity

- **Growing Domestic Demand:** The rise of fast-food chains like McDonald's, KFC, and Burger King created a demand for FF.
- **Export Opportunities:** India tapped into global markets, especially in Southeast Asia and the Middle East, where European and US exports traditionally dominated.

Processing-Grade Potato Varieties

- Indian farmers now grow high-dry-matter potato varieties like Santana and Kufri Frysona, suited for FF production.
- These varieties require less oil and energy during frying, making them cost-effective and high-quality inputs.

Contract Farming Model

- Companies like HyFun Foods engage directly with farmers, offering assured pricing, procurement, and support.

Benefits to Farmers:

- Assured prices (e.g., ₹13.8/kg for large tubers).
- Reduced risk of price fluctuations or marketing challenges.
- Access to high-quality seeds and agronomic support.

Farmer-Centric Initiatives

- **Training and Innovation:** Initiatives like the "HyFarm Paathshala" help farmers optimize planting geometry, reducing input costs (e.g., seeds, water, and fertilizers) while maintaining yields.

- **Support in Seed Multiplication:** HyFun provides disease-free, high-quality seeds sourced from certified labs, ensuring consistent crop quality.

Economic and Social Impact

For the Farmers

- **Higher Profits:** Contract farming minimizes market uncertainty, improving income predictability. Example: Farmer Alpesh Navinbhai Patel earns over ₹1 lakh profit per acre due to efficient farming practices and contract rates.
- **Cost Savings:** Techniques like optimized bed width and reduced seed and fertilizer use cut costs by up to ₹12,500 per acre.

For the Industry

- **Supply Chain Efficiency:** Direct procurement ensures consistent raw material quality and year-round operations.
- **Global Competitiveness:** With assured supplies of processing-grade potatoes, Indian companies can meet international standards at competitive prices.

For the Economy

- **Export Revenue:** FF exports in 2023-24 were worth ₹1,478.73 crore, contributing to India's agricultural export portfolio.
- **Import Substitution:** India's transition from an importer to a self-sufficient producer boosts the local economy.

Challenges and the Way Forward

Challenges

- **Climate Sensitivity:** Potato yields depend heavily on favorable weather conditions, making the crop vulnerable to climate change.
- **Cost of Initial Investments:** Setting up advanced processing facilities and greenhouses requires significant capital.

Future Roadmap

- **Expansion of Contract Farming:** HyFun aims to engage 20,000 farmers over 80,000 acres by 2027-28, ensuring steady supply chains.
- **Innovation in Seed Technology:** Investments in aeroponics and soilless cultivation can reduce seed costs and enhance productivity.
- **Sustainability Practices:** Encouraging organic farming techniques, water conservation, and efficient use of inputs can further improve profitability and sustainability.

Conclusion

The French Fry story in India is a testament to the success of contract farming in bridging the gap between agricultural production and global market demands. By combining assured procurement, quality inputs, and farmer-centric initiatives, Indian companies have not only transformed domestic agriculture but also established a strong foothold in the international processed food market.

Strawberry Farming in Lambasingi, Andhra Pradesh: A Comprehensive Study

News Excerpt

Lambasingi, nestled in the Agency Area of Alluri Sitharama Raju district in Andhra Pradesh, has earned the moniker "**Andhra's Kashmir**" due to its cool and dry climate, making it an ideal location for **strawberry cultivation**.

Situated at an altitude of 1,000 meters above sea level and blanketed by deciduous forests, Lambasingi experiences single-digit temperatures and misty winter mornings, conditions that have fostered a burgeoning strawberry farming industry over the last six years. This industry has not only transformed the local economy but has also attracted tourists in large numbers, boosting local livelihoods.

Geographical and Climatic Advantages

The narrow, winding ghat roads that lead to Lambasingi through the green hills of the Eastern Ghats create a picturesque journey. The cool climate and fertile soil of the region have been instrumental in the success of strawberry farming. The typical strawberry season runs from December to March, capitalizing on the region's winter chill.

Farming Practices: A Blend of Tradition and Innovation Andhra Strawberry Farm: A Pioneer in the Region

The Andhra Strawberry Farm, spearheaded by N Naga Satyanarayana, an agricultural science graduate, was the first to introduce strawberry farming to Lambasingi. The farm has expanded to five acres, planting 1.10 lakh strawberry plants worth ₹40 lakh.

Janani Farm: Championing Natural Farming

Janani Farm, run by **K Satyanarayana** and his wife Sandhya, exemplifies sustainable agriculture through natural farming techniques. The couple **utilizes bio-fertilizers produced at their West Godavari unit and strictly avoids chemical fertilizers and pesticides**.

Their commitment to sustainable practices has earned them the Best Farmer Award from the Andhra Pradesh government multiple times. Janani Farm also practices multi-cropping, growing high-value crops such as zucchini, broccoli, lettuce, and papaya alongside strawberries, ensuring year-round yield and enhancing soil fertility.

Strawberry Varieties Cultivated in Lambasingi

Winter Dawn

Winter Dawn is a hardy variety that thrives in Lambasingi's cool climate. It produces large, firm, and bright red fruits with a sweet and slightly tangy flavor. Its adaptability and high yield make it the most preferred variety in the region².

Sweet Charlie

The Sweet Charlie variety performs well in slightly warmer winters and is favored for its sugary taste.

Challenges and Mitigation Strategies

Impact of Cyclonic Rains

Unseasonal cyclonic rains in December have disrupted yields and delayed harvests, posing a significant challenge to strawberry farmers in Lambasingi.

Diversification and Multi-Cropping

Farmers are adapting to these challenges by diversifying into multi-cropping, cultivating vegetables like brinjal, tomatoes, chillies, and carrots during off-seasons². They are also venturing into by-products like jams, milkshakes, and strawberry cream to offset losses.

Natural Farming for Resilience

Farmers like K Satyanarayana are advocating for the adoption of natural farming techniques to improve resilience and sustainability.

Economic Impact and Tourism

Strawberry farming has had a significant economic impact on Lambasingi, drawing tourists in large numbers and boosting local livelihoods. The Andhra Strawberry Farm alone attracts more than 5,000 visitors during peak season, offering not just strawberries but also a visual treat with its flower garden blooming with dahlias, begonias, and chrysanthemums.

The Road Ahead: Sustainable and Innovative Agriculture

The success of strawberry farming in Lambasingi underscores the region's agricultural potential. By embracing sustainable practices, diversifying crops, and promoting agritourism, the farmers of Lambasingi are paving the way for a resilient and prosperous future. Innovation and adaptability will be crucial in navigating the challenges posed by climate change and ensuring the long-term sustainability of this flourishing industry.

Conclusion

Lambasingi's strawberry farms stand as a testament to the transformative power of agriculture, combining natural advantages with innovative farming techniques to create economic opportunities and boost rural livelihoods. As the industry continues to evolve, a focus on sustainability, resilience, and community engagement will be essential in ensuring that Lambasingi remains a shining example of agricultural success in Andhra Pradesh.

INTERNATIONAL RELATIONS

The Gaza ceasefire agreement

News excerpt:

The Gaza ceasefire agreement highlights the multilayered dynamics of West Asian geopolitics, driven by political strategy, military realities, and humanitarian needs. Here are the

Key Takeaways:

A Strategic Ceasefire Before Leadership Transition:

- The ceasefire comes at a pivotal moment, a day before President-elect Donald Trump's swearing-in and after outgoing President Joe Biden's final address.
- This timing positions both U.S. leaders to claim credit, symbolizing a bipartisan achievement in reducing hostilities.

Israel's Calculated Move:

- For Israeli Prime Minister Benjamin Netanyahu, agreeing to the ceasefire sends a message of partnership to the incoming U.S. administration.
- The deal signifies a shift from Netanyahu's earlier stance of completely dismantling Hamas. Despite significant military victories, the deal underscores pragmatism over prolonged conflict.

Hamas's Perspective:

- Hamas frames the ceasefire as a defense of Palestinian lives and sovereignty in Gaza.
- The group remains ideologically opposed to Israel's existence and continues to operate outside mainstream Palestinian political structures.

Humanitarian and Rebuilding Challenges:

- The ceasefire opens the door for critical aid to Gaza, where shortages of food and medicine have reached dire levels.
- Long-term rebuilding efforts hinge on creating alternative political mechanisms to strengthen Palestinian governance.

Global Implications:

- The deal's success could influence broader regional dynamics, including the potential expansion of the **Abraham Accords**, the viability of the **India-Middle East-Europe Economic Corridor**, and discussions on a **Saudi-Israel normalization**.
- Stability in Gaza is essential for sustained prosperity in West Asia and mitigating further conflicts.

Future Risks:

- Without a robust political track or progress toward a two-state solution, the ceasefire risks being a temporary pause.
- If Hamas resumes attacks, Netanyahu may leverage U.S. support under Trump to justify renewed military actions, resetting the cycle of violence.

Strategic straits between Indian Ocean and the Pacific

News excerpt:

Navies from nine Indo-Pacific nations recently conducted a significant **joint exercise** in the strategic maritime corridors connecting the **Indian and Pacific Oceans**. This collaborative endeavor aimed to enhance maritime security and foster cooperation among the participating countries.

Participating Nations:

The exercise saw the participation of naval forces from **India, the United States, Japan, Australia, France, Canada, the Philippines, South Korea, and New Zealand**. Each nation contributed warships and maritime patrol aircraft to the drills, underscoring their commitment to regional security and collaborative defense efforts.

Strategic Significance:

The drills were conducted in the strategic straits that serve as critical junctures between the Indian and Pacific Oceans. These waterways are vital for global trade, with a significant portion of the world's maritime commerce transiting through them. Ensuring their security is paramount for the uninterrupted flow of goods and energy supplies.



Objectives of the Exercise:

The primary goals of the joint exercise included:

- **Enhancing Maritime Domain Awareness:** By sharing information and intelligence, the participating navies aimed to develop a comprehensive understanding of maritime activities in the region.
- **Promoting Interoperability:** Through coordinated maneuvers and communication drills, the exercise sought to improve the ability of these diverse naval forces to operate seamlessly together.
- **Demonstrating Collective Resolve:** The joint drills served as a testament to the participating nations' shared commitment to maintaining peace, stability, and adherence to international maritime laws in the Indo-Pacific region.

Contextual Background

- This exercise comes amid evolving geopolitical dynamics in the Indo-Pacific, where strategic waterways have become focal points for regional and global powers. The collaborative naval drills underscore the importance of multilateral cooperation in addressing common security challenges and ensuring the free and open movement of commerce.

In summary, the joint naval exercise by these nine Indo-Pacific nations highlights a collective effort to bolster maritime security, enhance operational synergy, and uphold the principles of international maritime governance in a region pivotal to global trade and stability.

India's engagement with the Taliban

News excerpt:

The Taliban regained control of Afghanistan in August 2021 after the **withdrawal of U.S.-led NATO forces**. The group established an interim government but faces global criticism for its restrictive policies, especially on women's rights, education, and human rights.

No country has formally recognized the Taliban regime, creating diplomatic and economic isolation for Afghanistan.

Global Diplomatic Dilemmas

- **Conditional Engagement:** Many nations, including the U.S. and EU states, demand the Taliban respect human rights, form an inclusive government, and cut ties with terrorist groups (e.g., Al-Qaeda) as preconditions for recognition.
- **Humanitarian Concerns:** Despite political hesitations, countries and organizations like the UN provide aid to address Afghanistan's economic collapse and humanitarian crisis (e.g., famine, healthcare shortages).
- **Sanctions vs. Dialogue:** Sanctions on Taliban leaders clash with calls for pragmatic engagement to prevent further destabilization.

Regional Stakeholders' Strategies

- **China:** Pursues economic interests (e.g., Belt and Road projects) and security assurances against Uyghur militant groups. Maintains informal diplomatic ties.
- **Pakistan:** Historically linked to the Taliban but faces backlash over cross-border terrorism (e.g., TTP attacks). Balances influence with international pressure.
- **India:** Adopts a cautious approach, prioritizing humanitarian aid and regional stability while monitoring threats from Pakistan-based terror groups.
- **Iran and Central Asia:** Focus on border security, refugee flows, and counter-narcotics efforts (Afghan opium trade).

Security and Terrorism Concerns

- **ISIS-K Threat:** The Taliban's inability to curb ISIS-Khorasan (ISIS-K) attacks raises doubts about their counterterrorism capabilities.
- **Global Jihadist Networks:** Fears persist that Afghanistan could become a safe haven for groups like Al-Qaeda, undermining regional and global security.

Humanitarian and Economic Crisis

- **International Aid:** Over 90% of Afghans face poverty, with NGOs and UN agencies delivering food and medical supplies amid Taliban restrictions on female aid workers.
- **Frozen Assets:** \$7 billion of Afghan central bank reserves, held in the U.S., remain blocked, exacerbating the liquidity crisis.

Challenges to Legitimacy

- **Women's Rights:** Taliban's bans on female education and employment have drawn global condemnation, complicating engagement efforts.
- **Governance Failures:** Lack of administrative capacity, corruption, and internal Taliban factionalism hinder effective governance.

Future Prospects

- **Cautious Pragmatism:** Some nations, like Qatar and Turkey, advocate for incremental engagement to encourage reforms.

- **Multilateral Efforts:** Platforms like the Moscow Format and UN-led talks aim to foster regional consensus on Afghanistan.
- **Long-Term Uncertainty:** The Taliban's ideological rigidity and Afghanistan's instability pose enduring challenges to normalization.

Conclusion:

Global engagement with the Taliban remains a fraught balancing act between addressing humanitarian needs, countering terrorism, and pressuring the regime to uphold basic rights. While no country endorses the Taliban's policies, pragmatic cooperation is seen as necessary to avert total state collapse. The path forward hinges on the Taliban's willingness to moderate its governance and the international community's ability to forge a unified strategy.

New phase in India with Indonesia relation

News excerpt:

India and Indonesia have recently taken significant steps to strengthen their bilateral relationship, building upon their deep-rooted historical and cultural connections. **The visit of Indonesian President Prabowo Subianto to India in January 2025 marked a pivotal moment in this evolving partnership.**

Key Developments:

- **Enhanced Strategic Cooperation:** During President Subianto's visit, he and Indian Prime Minister Narendra Modi signed a series of agreements aimed at bolstering collaboration in various sectors, including **health, defense, digital technology, and maritime affairs**. Notably, both nations committed to joint efforts in defense production and manufacturing, as well as heightened cooperation in maritime and cyber security.
- **Maritime Security Agreement:** A significant outcome of the discussions was the signing of an agreement focused on maritime safety and security. This pact aims to enhance cooperation in crime prevention, search and rescue operations, and capacity building, reflecting the strategic importance both countries place on the Indo-Pacific region.
- **Economic Engagement:** Indonesia stands as India's second-largest trading partner within the ASEAN region, with bilateral trade **reaching \$29.4 billion in the 2023-24 period**. Both leaders expressed a strong desire to accelerate economic cooperation and reduce bureaucratic hurdles to facilitate smoother trade and investment flows.
- **Cultural and Historical Ties:** The relationship between India and Indonesia is underpinned by **centuries-old cultural and historical connections, dating back to ancient times when Hindu and Buddhist influences spread across the Indonesian archipelago**. This shared heritage continues to play a vital role in shaping contemporary interactions between the two nations.

These developments signify a renewed commitment by both India and Indonesia to deepen their partnership, leveraging their historical ties to address contemporary challenges and opportunities in the region.

Bilateral relation between India and Indonesia

Prime Minister Narendra Modi met with Indonesian President **Prabowo Subianto** in New Delhi to strengthen bilateral relations across multiple sectors, including defense, trade, security, and emerging technologies. Their discussions underscored the deep historical and strategic ties between the two nations and laid the foundation for enhanced cooperation.



Key Agreements and Areas of Cooperation:

Defense Collaboration

- Both leaders emphasized the importance of joint efforts in defense manufacturing and supply chain development.
- India and Indonesia agreed to **explore co-production and technology exchange** to enhance their defense capabilities.
- This move aligns with India's "Make in India" initiative and aims to make both countries self-reliant in defense production.

Maritime Security

- Given Indonesia's strategic location and India's interest in the Indo-Pacific, maritime security cooperation was a major focus.
- An agreement was signed to boost collaboration in maritime safety, crime prevention, search and rescue operations, and capacity building.
- This partnership aims to secure sea lanes, especially in the Strait of Malacca, a crucial maritime trade route.

Cybersecurity & Counter-Terrorism

- India and Indonesia agreed to work together on cybersecurity, counter-terrorism, and de-radicalization efforts.

- The cooperation aims to combat online extremism, prevent cyber threats, and share intelligence.
- Both countries reaffirmed their commitment to fighting terrorism in all its forms.

Economic and Trade Relations

- Bilateral trade between India and Indonesia has surpassed \$30 billion in recent years.
- Discussions focused on diversifying market access, reducing trade barriers, and expanding investment opportunities.
- India and Indonesia aim to increase business-to-business collaborations in areas like pharmaceuticals, textiles, and automobile manufacturing.

Emerging Technologies & Digital Infrastructure

The leaders agreed to collaborate on emerging technologies such as:

- Artificial Intelligence (AI)
- Fintech (Financial Technology)
- The Internet of Things (IoT)
- Digital Public Infrastructure

Both nations will work on technology-sharing initiatives to strengthen their digital economies.

Cultural Cooperation

- India will contribute to the conservation and restoration of Prambanan Hindu Temple, a UNESCO World Heritage site in Indonesia.
- This cultural initiative highlights the deep-rooted historical connections between India and Indonesia.
- Efforts will also be made to promote tourism, student exchanges, and academic collaborations.

Significance of the Visit

- This was President Prabowo Subianto's first official visit to India since assuming office, signifying Indonesia's commitment to deepening ties with India.
- He will be the chief guest at India's 76th Republic Day celebrations, a rare honor that highlights the strategic importance of the India-Indonesia relationship.
- The visit reinforces the Comprehensive Strategic Partnership between the two nations and paves the way for stronger regional cooperation in the Indo-Pacific.

Overall Impact

- This meeting signals a new phase in India-Indonesia relations, focusing on defense self-sufficiency, regional security, economic growth, and cultural ties.
- It strengthens India's Act East Policy, further integrating Indonesia into India's broader Indo-Pacific strategy.
- The cooperation between the two countries is expected to enhance regional peace, stability, and economic prosperity.

India-China diplomatic thaw

News excerpt:

The recent **diplomatic engagements between India and China** signal a cautious yet **significant thaw in their bilateral relations**.



Context and Implications

The backdrop to these developments includes a history of **military standoffs, particularly along the Line of Actual Control (LAC)**. While the recent agreements do not explicitly address border tensions, they indicate a willingness from both sides to engage in dialogue and cooperation.

The year 2025 marks the 75th anniversary of diplomatic relations between India and China, providing an opportunity for both nations to enhance public diplomacy efforts aimed at restoring mutual trust.

Resumption of Diplomatic and People-to-People Exchanges

- **High-Level Meetings:** Indian Foreign Secretary Vikram Misri's visit to Beijing in January 2025 included discussions with Chinese officials, focusing on "people-centric steps" to stabilize and rebuild ties.
- **Resumption of Direct Flights and Visas:** Both nations agreed to resume direct flights and facilitate the issuance of visas for journalists and think tanks, enhancing connectivity and information exchange.
- **Kailash Mansarovar Yatra:** Plans are underway to resume the annual pilgrimage to Kailash Mansarovar, a significant cultural and religious journey for many Indians.

Border Disengagement and Military De-escalation

- **Resolution in Ladakh:** In October 2024, both countries reached an agreement to disengage troops in the Demchok and Depsang regions of eastern Ladakh, aiming to restore the status quo to pre-2020 conditions.
- **Patrolling Protocols:** The agreement includes provisions for resuming joint patrolling along disputed border areas, with the intent to prevent future confrontations.

Economic and Trade Relations

- **Trade Imbalance Concerns:** Despite efforts to restrict Chinese imports, India's trade deficit with China has

surpassed \$100 billion. Discussions have been initiated to address this imbalance and explore avenues for increased Chinese investment in India.

- **Policy Transparency:** Both sides have agreed to address specific economic and trade concerns, emphasizing the need for transparent policies to foster mutual trust and cooperation.

Hydrological Data Sharing and Environmental Cooperation

- **Trans-Border River Data:** India and China have agreed to engage in dialogue over trans-border rivers and share hydrological data, aiming to enhance cooperation on water resource management.
- **Environmental Concerns:** India has expressed concerns over China's construction of a hydropower dam in Tibet and its potential impact on downstream water supplies. Both nations have agreed to continue discussions to address these environmental issues.

Strategic and Security Considerations

- **Troop Deployment:** Despite disengagement agreements, both countries continue large-scale troop deployments along the border, indicating ongoing security concerns. India emphasizes that disengagement should be followed by de-escalation and eventual de-induction of additional forces.
- **Geopolitical Dynamics:** While both nations seek to improve bilateral ties, underlying strategic rivalries persist, influenced by alliances and regional security dynamics.

These developments reflect a cautious yet deliberate effort by both India and China to mend their strained relationship, focusing on diplomatic engagement, economic cooperation, and conflict resolution.

Conclusion: while the recent diplomatic thaw presents opportunities for enhanced cooperation between India and China, it is accompanied by a complex landscape of historical grievances and geopolitical considerations that will require careful navigation in the coming years.

M23 Rebels Push Deeper into Eastern DRC: UN Urges Rwanda to Withdraw Support

News Excerpt:

The Democratic Republic of Congo (DRC) is currently experiencing heightened conflict as M23 rebels, bolstered by alleged Rwandan support, advance across the eastern provinces, capturing key territories and displacing thousands.

The M23, or March 23 Movement, is a rebel group operating in the eastern Democratic Republic of the Congo (DRC).

Origins and Background

- **Formation:** The M23 was formed in April 2012, emerging from earlier rebel groups, particularly the

National Congress for the Defence of the People (CNDP). The name "M23" refers to the date of a peace agreement signed on March 23, 2009, which aimed to integrate **Tutsi fighters into the Congolese army** and address grievances related to ethnic discrimination and violence.

- **Ethnic Composition:** The group is primarily composed of **Congolese Tutsis** and has its roots in the historical tensions between different ethnic groups in the region, particularly following the **Rwandan Genocide** in 1994.

Key Events:

- **Capture of Goma:** In November 2012, M23 captured Goma, the capital of North Kivu province, which drew international condemnation and led to military interventions by the DRC government and United Nations peacekeeping forces.
- **Defeat and Dormancy:** After being pushed back in late 2012 and early 2013, M23 was largely defeated. Many of its leaders fled to Rwanda or Uganda, while some were integrated into the Congolese military.

Recent Resurgence

- **Re-emergence:** In late 2021, M23 re-emerged with renewed military activity, claiming that it was responding to ongoing grievances against the DRC government. By early 2025, they had regained control over significant territories in eastern Congo.
- **Current Activities:** The group is actively engaged in armed conflict against DRC government forces. They have been accused of capturing towns and villages, leading to increased displacement of civilians. Their stated goals include:
 - Protecting the rights of Tutsi populations.
 - Advocating for the repatriation of Congolese Tutsi refugees from neighboring countries.

Background and Recent Developments

- **Rapid Territorial Gains:** The M23 movement, reportedly supported by 4,000 Rwandan troops, now controls significant areas in the mineral-rich eastern DRC. The rebels captured Bukavu, the capital of South Kivu, following their earlier success in Goma, North Kivu's capital.
- **International Reactions:** A UN Security Council resolution condemned the actions of M23 and called on Rwanda to cease its support and withdraw military forces from the DRC. The European Union has also demanded Rwanda end its backing of the rebels.

Humanitarian Impact

- **Mass Displacements:** Over 50,000 Congolese people have fled into neighboring countries like Burundi and Uganda due to the ongoing violence. The situation exacerbates the humanitarian crisis in the region.
- **Local Chaos:** In Uvira, chaos prevails as soldiers flee, and at least 423 prisoners escaped. The town is experiencing lawlessness, punctuated by incidents like the robbery of a bishop by armed men.

Military and Political Dynamics

- **Congolese Army's Retreat:** Congolese forces have largely wS the need for India to develop its **comprehensive national power, including strengthening border infrastructure and reducing dependencies in sensitive areas.**

Jaishankar proposed an approach based on **"mutual respect, mutual sensitivity, and mutual interests"** to foster a multipolar Asia, which he views as essential for a multipolar world.

Weaponization of Economic Capabilities

The minister raised concerns about the **increasing weaponization of economic activities**, where trade and finance are used as tools for political pressure. He highlighted several aspects:

- **Over-Concentration in Manufacturing and Technologies:** The COVID-19 pandemic has revealed the risks of relying heavily on specific nations for manufacturing and emerging technologies.
- **Trust and Transparency in the Digital Era:** Issues related to data residency, usage, and control have become critical, affecting individuals and societies.

Jaishankar urged Indian businesses to apply a **"national security filter"** in their dealings, particularly with China, and to prioritize sourcing from domestic manufacturers when possible. He clarified that this doesn't mean a complete disengagement from China but encourages a preference for Indian options to enhance national security and long-term business interests.

Strategic Autonomy and Economic Growth

Jaishankar linked economic growth with strategic autonomy, suggesting that India's rise in unpredictable global circumstances requires:

- **Political Stability and Inclusive Growth:** Ensuring a stable political environment and broad-based economic development.
- **Focus on Manufacturing and Security:** Enhancing manufacturing capabilities and ensuring food and health security.
- **Continuing Reforms:** Implementing ongoing reforms to strengthen the economy.

He emphasized that strategic autonomy now has significant economic implications, necessitating a balance between internal development and mitigating external risks.

Realism in Key International Relationships

The minister noted a shift towards greater realism in India's relationships with countries like **the US, China, Pakistan, and Israel**. He attributed this to changes within India, including its politics, economics, and security thinking. Specifically, in relation to the US, he mentioned overcoming **"hesitations of history,"** leading to deeper cooperation in various domains such as security, cyber, space, emerging technologies, digital initiatives, science, education, trade, and business.

Relations with Pakistan and Russia

Addressing India's neighboring countries, Jaishankar stated:

- **Pakistan:** He criticized Pakistan for its support of cross-border terrorism, noting that this issue is now adversely affecting Pakistan's own political stability. He expressed a shared interest in the subcontinent for Pakistan to change its approach.
- **Russia:** He highlighted the steady nature of India-Russia relations since 1945 and noted emerging economic opportunities as Russia redirects its focus towards Asia. He emphasized that deeper economic cooperation between India and Russia could have a stabilizing effect on the global economy.

In conclusion, Jaishankar's address underscored the need for India to navigate complex international dynamics by strengthening its internal capabilities, adopting realistic foreign policy approaches, and carefully managing its economic engagements, particularly with nations like China.

ENVIRONMENT

Disposing Bhopal's Union Carbide waste

News Excerpt:

The disposal of hazardous waste from the defunct **Union Carbide facility in Bhopal** is a long-standing environmental and public health challenge. The current effort to incinerate 358 tonnes of waste highlights complexities involving technology, governance, and public resistance.



Background

- **Bhopal Gas Disaster (1984):** Poisonous gas leaked from the Union Carbide plant, killing over 4,000 and injuring thousands.
- **Waste Composition:** Residual hazardous waste at the site includes materials used in fertiliser production.

Current Status:

- Waste has been moved to the **Pithampur TSDF** in Dhar district, over 200 km from Bhopal.
- Incineration plans are on hold due to public protests over potential harmful emissions.

Historical Disposal Efforts

- Attempts in 2007 to dispose of the waste in Ankleshwar, Gujarat, failed due to resistance.

- The Supreme Court designated Pithampur as the site in 2012, and a trial run in 2014 incinerated over 10 tonnes of waste under CPCB supervision.

Environmental and Health Concerns

- **Groundwater Quality:** Tests near the Pithampur site showed contaminants exceeding permissible limits in two wells.
- **Public Health:** Allegations of skin and respiratory diseases near the TSDF were refuted by studies showing these were below the national average.

Protests and Public Resistance

- Protests in Pithampur have included stone-pelting and self-immolation attempts, fueled by fears of toxic emissions.
- Rumors about missing waste transport trucks have exacerbated tensions.

Safety Measures

- Incineration will occur at **1,200°C**, significantly higher than the required threshold to destroy organic compounds like 1-naphthol.
- Additional trial runs of smaller batches (90 kg) will assess emission safety before scaling up.

Government Actions

- A public awareness campaign involving local educators and officials aims to build trust in the disposal process.
- The Madhya Pradesh government has allocated ₹126 crore for waste disposal.

Challenges Ahead

- Securing public confidence remains crucial to moving forward.
- The High Court has set a February 18 deadline for updates on progress.

Significance:

Disposing of Union Carbide's waste is not only an environmental necessity but also a test of the government's ability to balance public concerns, environmental safety, and technological reliability. Success here could serve as a model for handling hazardous waste in India, while failure could deepen mistrust in public institutions.

Directive to protecting sacred groves

News Excerpt:

The **Supreme Court of India** issued a significant directive aimed at protecting **sacred groves**—small forested areas preserved by local communities due to their religious, spiritual, and ecological importance. The court acknowledged these groves as crucial for both biodiversity conservation and cultural heritage. Below are the key aspects of the directive:

Definition and Importance of Sacred Groves

- Sacred groves are small forested areas that hold **religious, cultural, and spiritual significance** for local communities.



- These sites are often dedicated to deities, spirits, or ancestral worship and have been **traditionally protected from deforestation** or exploitation.
- They serve as **biodiversity hotspots**, housing rare and endangered plants and animal species.

Supreme Court's Directive

- The Supreme Court directed **state governments** to take steps to **identify, document, and protect** sacred groves across the country.
- Authorities must work **in collaboration with local communities** to ensure their preservation.
- The directive recognizes these groves as **ecologically sensitive zones** that should be safeguarded from encroachment, development projects, and environmental degradation.

Implementation Measures

- State governments need to **map and document** sacred groves to maintain official records.
- Legal and administrative measures must be introduced to **prevent deforestation or destruction** of these sites.
- Public awareness programs should be initiated to **educate communities** about the ecological and cultural importance of these groves.

Ecological Importance

- Sacred groves act as **natural carbon sinks**, absorbing carbon dioxide and mitigating climate change.
- They serve as **refuges for biodiversity**, providing shelter for various plant, bird, and animal species that may not survive in deforested areas.
- These areas help in maintaining **water resources**, as many sacred groves are located near rivers, ponds, or springs.

Cultural and Traditional Significance

- Many indigenous and rural communities **associate sacred groves with deities** and consider them places of worship.
- These groves often play a role in **traditional festivals and rituals**, reinforcing social cohesion and cultural identity.
- The directive acknowledges the **deep-rooted connection between people and nature**, emphasizing the importance of preserving cultural heritage.

Threats to Sacred Groves

- **Urbanization and industrialization** pose major threats, leading to deforestation and land encroachment.
- **Infrastructure projects** such as roads, mining, and construction activities often lead to the **degradation** of these areas.
- **Lack of legal protection and awareness** has led to many sacred groves being neglected or destroyed over time.

Significance of the Supreme Court's Decision

- The ruling is a **landmark step** in recognizing sacred groves as **environmentally and culturally significant** landscapes.
- It reinforces the **judiciary's role in environmental protection** and acknowledges **traditional conservation practices**.
- By directing state governments to take **proactive steps**, the Supreme Court has ensured that sacred groves receive **formal protection** under environmental laws.

Conclusion

- The Supreme Court's directive highlights the **urgent need to safeguard sacred groves**, balancing **development with environmental conservation and cultural heritage**.
- By formally recognizing their importance, the ruling ensures that these ancient ecosystems and cultural landmarks are preserved for future generations.

Directives to the use of forest land

News Excerpt:

The **Supreme Court of India** has issued a **significant directive to the Centre and State governments** regarding **the use of forest land for linear infrastructure projects** like highways, railways, and pipelines. The ruling aims to prevent the reduction of forest land unless compensatory afforestation measures are taken.

Key Directives from the Supreme Court:

No Reduction of Forest Land without Compensation

- The Court ruled that forest land cannot be used for linear projects unless an equivalent area of non-forest land is provided for afforestation.
- This ensures that any diversion of forest land is balanced by afforestation elsewhere to prevent net loss of green cover.
- The ruling prevents indiscriminate use of forest land for infrastructure projects without adequate environmental safeguards.

Broad Definition of 'Forest' Maintained

- The Court reaffirmed its 1996 judgment in the **T.N. Godavarman Thirumalpad case**, which established a wide-ranging definition of 'forest.'

- According to this definition, **all areas recorded as forests in government records, irrespective of ownership**, are protected under the **Forest Conservation Act, 1980**.
- This means that privately owned or community-managed forested areas also come under the purview of conservation regulations.

Pending Identification Process of Forest Land

- The Court acknowledged that the identification of forest land is an ongoing process under the **Forest Conservation (Amendment) Act, 2023**.
- Until this process is completed, the existing broad definition of 'forest' remains in force, ensuring **protection against unauthorized or premature diversion of forest land**.
- The ruling prevents state governments from taking advantage of unclear definitions to allocate forest land for development without due process.

Prior Approval for Certain Activities on Forest Land

- The Court ruled that **zoos, safaris, or other similar facilities** that require forest land **must obtain prior approval** from the judiciary.
- This ensures that **such developments do not disrupt biodiversity or undermine conservation efforts**.
- The ruling adds an additional layer of scrutiny to prevent misuse of forest land under the guise of eco-tourism or conservation projects.

Implications of the Ruling

- The Supreme Court's directive **strengthens forest conservation efforts** by imposing strict conditions on land diversion for development projects.
- It reinforces **accountability for both the Centre and States** in ensuring that any reduction in forest cover is offset through afforestation.
- The ruling also **protects India's ecological balance** by ensuring that forest land cannot be arbitrarily reclassified or exploited for non-forestry purposes.

This decision marks a crucial step in **safeguarding India's forests** against unregulated infrastructure expansion, ensuring that environmental sustainability remains a priority in development planning.

Olive Ridley Turtles

News Excerpt:

Recently, a significant number of **dead Olive Ridley turtles have washed ashore along Tamil Nadu's coastline, particularly near Chennai**. Estimates suggest that between 300 and 350 turtles have been found dead during this period.



Nesting Season and Arrival

- The Olive Ridley turtles typically arrive near the Tamil Nadu coast around September–October to breed, with their nesting season commencing in late November and concluding in March.
- While some mortality is expected during this period, the unusually high number of deaths early in the season has raised concerns among conservationists and the public.

Locations of Carcass Discoveries:

- According to Supraja Dharini, founder of the Tree Foundation, dead turtles have been reported across various locations, including Neelankarai, Besant Nagar,
- Kovalam, and extending into areas of Kancheepuram district. Additionally, officials have noted deaths in Pulicat, located in Thiruvalluvar district, north of Chennai.

Causes of Mortality:

- The primary cause of these deaths appears to be **entanglement in fishing nets, particularly from commercial trawlers**.
- The turtles often **become bycatch—unintentionally captured non-target marine life—and, being air-breathing creatures, they asphyxiate when unable to surface**.
- This year, an abundance of fish near turtle gathering areas may have attracted more trawlers, exacerbating the issue.
- Post-mortem examinations revealed lesions on the lungs, indicating suffocation, along with bulging eyes and swollen necks, further suggesting drowning.

Regulatory Challenges:

- Despite existing regulations, enforcement remains a significant challenge. **The Tamil Nadu Marine Fisheries Regulation Act, 1983, prohibits fishing by mechanized vessels within five nautical miles of identified nesting and breeding sites during the nesting season**.
- However, reports indicate that many trawlers continue to operate illegally within this zone, often using illegal high-powered engines, exacerbating the threat to marine life.

Conservation Efforts:

- Conservationists advocate for the mandatory use of **Turtle Excluder Devices (TEDs)** in trawl nets. These devices allow captured turtles to escape, reducing mortality. However, adoption has been slow due to concerns among fishermen about potential reductions in fish catch, despite studies indicating minimal impact.
- Additionally, there is a **call for stricter enforcement of existing regulations and increased patrolling to monitor illegal fishing activities.**

Nesting Process:

- During the nesting season, female Olive Ridley turtles come ashore to lay between 100 and 110 eggs in nests they dig using their flippers. After covering the nests with sand to protect against predators, they return to the sea.
- The eggs typically hatch after 45-60 days, with hatchlings making their way to the ocean. In areas with high human disturbance or predation risk, Forest Departments often establish hatcheries, relocating eggs to safer locations until they hatch.

Conclusion:

- The recent surge in Olive Ridley turtle deaths along Tamil Nadu's coast underscores the urgent need for effective enforcement of fishing regulations, widespread adoption of TEDs, and increased awareness among the fishing community.
- Protecting these endangered creatures is crucial for maintaining marine biodiversity and ecological balance.

Exit from Paris Agreement 'threatens' future of renewable energy

News Excerpt:

President Donald Trump's decision to withdraw the United States from the Paris Agreement has significant implications for the future of renewable energy and global climate initiatives. The Paris Agreement, established in 2015, is a landmark international accord aimed at limiting global warming to well below 2 degrees Celsius above pre-industrial levels, with efforts to stay within a 1.5-degree threshold.

Impact on Renewable Energy Initiatives

- The U.S. withdrawal poses challenges to the advancement of renewable energy projects. The Trump administration has implemented policies that favor fossil fuels over clean energy sources.
- This includes halting federal approvals for wind projects and freezing funding for solar initiatives. Such actions create an uncertain environment for investors and developers in the renewable energy sector, potentially slowing the transition to clean energy.

Global Climate Leadership and Cooperation

- The U.S., being one of the world's largest emitters of greenhouse gases, plays a crucial role in international

climate efforts. Its exit from the Paris Agreement may lead other nations to question their commitments, potentially causing a domino effect of reduced participation.

- For instance, **Indonesia has expressed skepticism about the accord following the U.S. withdrawal, highlighting concerns about the fairness of emission targets when major polluters retract their commitments.**

Economic and Employment Considerations

- The shift in U.S. policy towards favoring fossil fuels is expected to have economic repercussions.
- While the administration argues that withdrawing from the Paris Agreement protects American jobs, particularly in the oil and gas industries, it may also hinder growth in the renewable energy sector.
- This sector has been a significant source of new employment opportunities, with industries like wind and solar experiencing rapid growth.
- Curtailing support for these industries could result in job losses and cede technological leadership to other countries investing in clean energy.

Legal and Policy Reversals

- The Trump administration has undertaken a series of executive actions to dismantle previous environmental policies.
- This includes lifting bans on offshore drilling, reversing decisions on pipelines, and dismantling federal offices dedicated to addressing climate change.
- These actions not only reverse progress made in reducing emissions but also create legal uncertainties that could hinder long-term investments in renewable energy infrastructure.

Conclusion

- The U.S. withdrawal from the **Paris Agreement under President Trump represents a significant shift in both domestic and international climate policy.**
- The move threatens to slow the progress of renewable energy development, weaken global cooperation on climate initiatives, and alter the economic landscape of the energy sector.
- The long-term effects will depend on future policy decisions and the responses of other nations to this pivotal change in U.S. climate strategy.

Coal dust is blocking carbon uptake

News Excerpt:

In Odisha, coal dust pollution is significantly affecting local vegetation and ecosystems. Below is a summary of the key issues, organized by subtopics:

Impact on Vegetation

- **Clogging of Leaf Pores:** Coal dust settles on the leaves of plants, obstructing stomatal pores and hindering the

process of photosynthesis. This leads to reduced carbon dioxide absorption and stunted plant growth.

- **Decline in Crop Yields:** Farmers in the region have reported decreased agricultural productivity, attributing it to the accumulation of coal dust on crops, which affects their health and yield.

Environmental Consequences

- **Altered Carbon Sequestration:** The diminished ability of plants to absorb carbon dioxide due to clogged stomata results in lower carbon sequestration rates, potentially exacerbating local carbon emissions.
- **Soil Degradation:** Continuous deposition of coal dust alters soil composition, affecting its fertility and leading to long-term degradation of arable land.

Health Implications

- **Respiratory Issues:** Residents in coal mining areas are experiencing increased respiratory problems, as airborne coal dust particles are inhaled, leading to health complications.
- **Water Contamination:** Coal dust runoff during rains contaminates local water bodies, posing health risks to communities relying on these sources for drinking and irrigation.

Mitigation Efforts

- **Dust Suppression Measures:** Industries are being urged to implement dust control technologies, such as water spraying and green belts, to reduce the dispersion of coal dust into the environment.
- **Policy Interventions:** Environmentalists advocate for stricter regulations and continuous monitoring of air quality to mitigate the adverse effects of coal dust pollution on both ecosystems and human health.

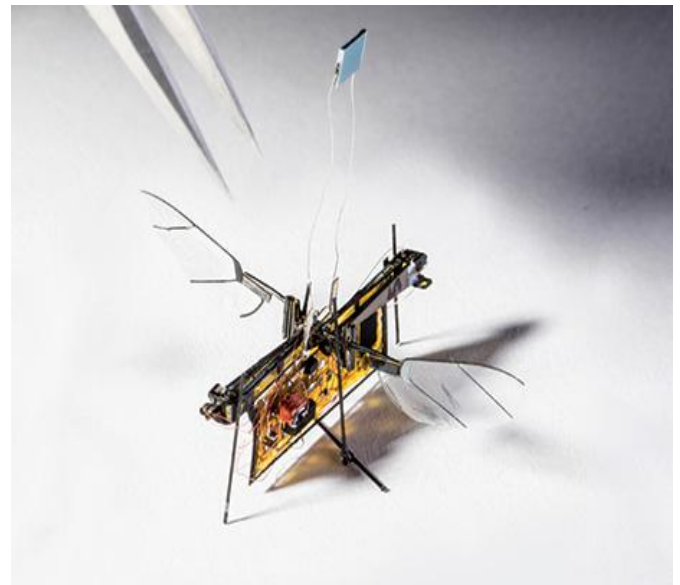
Addressing coal dust pollution in Odisha is crucial to protect local vegetation, ensure agricultural sustainability, and safeguard public health.

Advanced robotic insect drones

MIT researchers have developed highly advanced robotic insect drones designed to aid in pollination, potentially revolutionizing agricultural productivity. These tiny flying robots could serve as an alternative to natural pollinators, addressing concerns about declining bee populations.

Design and Features

- The robotic insects are **lightweight**, each weighing less than a gram.
- They feature **four flapping wings** arranged in a way that prevents airflow interference, increasing **lift and flight stability**.
- This innovative design also leaves enough room for the **future integration of onboard batteries and sensors**, which could enable full autonomy.



Performance and Capabilities

- These robotic insects demonstrate **exceptional endurance**, being able to **hover for up to 1,000 seconds (over 16 minutes)**—a significant improvement over earlier prototypes.
- They can execute **complex aerial maneuvers**, including rapid ascents, flips, and quick directional changes, with speeds reaching **35 centimeters per second**.
- Their **agility and precision** closely resemble that of real insects, making them suitable for delicate tasks like pollination.

Potential Applications

- The **primary intended use** for these robotic insects is **mechanical pollination**, particularly in **controlled environments** like vertical farms and greenhouses.
- By **efficiently transferring pollen between plants**, these robotic drones could **increase crop yields** and support **sustainable agricultural practices**.
- Apart from agriculture, these robots could also be used for **environmental monitoring**, **search and rescue operations**, and **scientific exploration** in hard-to-reach areas.

Future Developments

- Researchers are working to improve the robots' **autonomy** by integrating **onboard sensors, AI-driven navigation, and independent power sources**.
- These upgrades would allow the robotic insects to **operate outside laboratory conditions**, potentially making them **self-sufficient pollinators** for real-world applications.
- Further research will focus on making them **more energy-efficient, scalable, and capable of cooperative behavior**, similar to natural swarms of bees.

SCIENCE & TECHNOLOGY

The Hidden Dangers of Rhodamine B

News excerpt

Rhodamine B is a synthetic fluorescent dye widely used across multiple industries, but its potential health and environmental hazards have raised serious concerns. The article explores its applications, risks, and the regulatory challenges in curbing its misuse.

Industrial Applications of Rhodamine B Fluorescent Dye Uses:

- Rhodamine B is extensively used in scientific research, including fluorescence microscopy, flow cytometry, and tracer studies.
- It is a preferred dye in textiles, paper printing, cosmetics, and even biotechnology due to its bright coloration and fluorescence.

Illegal Food Adulteration:

- Despite being prohibited for consumption, Rhodamine B has been illegally used in food products such as chili powder, sweets, and beverages to enhance their visual appeal.
- Cases of food adulteration with Rhodamine B have been reported in India, China, and other developing nations, raising public health concerns.

Health Risks of Rhodamine B

- **Potential Carcinogenicity:** In the United States, California lists Rhodamine B under Proposition 65 as a potential carcinogen, mandating warning labels on products that contain the dye.
- Research suggests prolonged exposure may lead to DNA damage, oxidative stress, and tumor formation in animal models.

Toxic Effects on Humans:

- Chronic exposure can result in skin irritation, respiratory issues, and damage to vital organs like the liver and kidneys.
- Accidental ingestion of food adulterated with Rhodamine B has been linked to gastrointestinal disorders, vomiting, and neurological effects.

Impact on Vulnerable Populations:

- Children and pregnant women are particularly at risk due to their higher sensitivity to toxic substances.
- Prolonged exposure in industrial settings can lead to occupational health hazards among workers.

Environmental Impact

Water Pollution:

- Rhodamine B is non-biodegradable and has been found in water bodies due to industrial waste disposal, leading to contamination of drinking water sources.
- Studies show that it affects freshwater microalgae, aquatic life, and disrupts the ecological balance.

Bioaccumulation in the Food Chain:

- Toxic dyes like Rhodamine B can accumulate in aquatic organisms, posing a threat to human health through seafood consumption.

Regulatory Challenges and Need for Stronger Policies Lack of Stringent Enforcement:

- Although banned in food products, weak enforcement in some countries allows for continued illegal use.
- Regulatory agencies need improved testing mechanisms to detect adulterants in food supplies efficiently.

Consumer Awareness and Education:

- Public awareness about food safety and label checking is crucial in preventing accidental consumption of hazardous dyes.
- Encouraging the use of natural food colorants like beetroot extract or turmeric can help reduce reliance on synthetic dyes.

Conclusion:

There is a pressing need for stronger regulation, industrial compliance, and public awareness regarding the dangers of Rhodamine B. Stricter monitoring of food and water sources, better enforcement of bans, and promotion of safer alternatives are crucial steps toward mitigating its health and environmental risks.

ISRO's historic 100th launch

News excerpt

On 29 January 2025, the Indian Space Research Organisation (ISRO) achieved a significant milestone with its 100th launch from the Satish Dhawan Space Centre in Sriharikota, deploying the **NVS-02 navigation** satellite into orbit.



Key Highlights:

Launch Details:

Rocket Used: Geosynchronous Satellite Launch Vehicle (GSLV) F15.

Significance: This mission marked the 17th flight of the GSLV and the 11th utilizing the indigenously developed cryogenic upper stage.

NVS-02 Satellite Features:

- **Purpose:** Part of the second-generation satellites for India's Navigation with Indian Constellation (NavIC) system, enhancing regional navigation services.

Technological Advancements:

- Indigenous Atomic Clocks: Equipped with domestically developed rubidium atomic clocks, aiming for improved accuracy and longer lifespan.
- Enhanced Signals: Transmits navigation signals in L1, L5, and S bands, broadening the range of services.

Post-Launch Developments:

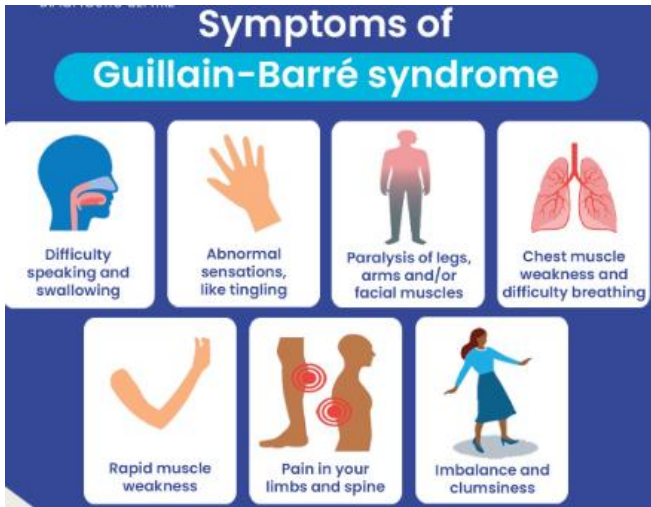
- **Technical Glitch:** Following the successful deployment, ISRO reported a technical issue that stalled the satellite's orbit-raising maneuvers.
- **Current Status:** Efforts are underway to address the anomaly and position the satellite in its intended geostationary orbit.

This mission underscores ISRO's ongoing commitment to advancing indigenous space technology and enhancing India's autonomous navigation capabilities.

Guillain-Barré syndrome (GBS)

News excerpt

The recent studies on Guillain-Barré Syndrome (GBS) conducted by experts at NIMHANS (National Institute of Mental Health and Neurosciences), Bengaluru. The research sheds light on the possible triggers, progression, treatment, and public health implications of GBS.



Key Highlights of the Study

Recent Surge in GBS Cases

- The study highlights a significant increase in GBS cases in India, with 111 cases and one reported death as of January 28, 2025.
- This outbreak is among the most severe globally, following past outbreaks in French Polynesia (2013-14) and Peru (2019).
- The exact cause of the sudden rise in cases is still being investigated, though links to bacterial and viral infections are suspected.

Understanding Guillain-Barré Syndrome (GBS)

- GBS is a rare neurological disorder in which the body's immune system mistakenly attacks the nerves.

Symptoms include:

- Early signs: Muscle weakness, tingling, numbness, and pain.
- Advanced cases: Paralysis, breathing difficulties, and in severe cases, complications affecting the heart and lungs.
- The global incidence rate is 1-2 cases per 100,000 people per year, but the outbreak suggests a higher-than-expected occurrence.

Research Insights from NIMHANS

- Led by Dr. Monojit Debnath and Dr. Madhu Nagappa, the study at NIMHANS focuses on identifying triggers of GBS.
- Findings suggest that GBS is often triggered by infections, particularly:
 - Campylobacter jejuni (a common foodborne bacteria).
 - Other viral infections, including possible links to Zika virus, COVID-19, and other respiratory or gastrointestinal infections.
- Notably, not everyone who gets an infection develops GBS, indicating a complex immune response unique to each individual.

Treatment and Prognosis

- Currently, two primary treatment options exist for GBS:
 - Plasma exchange (plasmapheresis) – Removes harmful antibodies from the blood.
 - Intravenous immunoglobulin (IVIG) – Provides the body with healthy antibodies to fight the disease.
 - Most patients recover completely within a few months, but some experience long-term nerve damage and weakness.
 - The mortality rate remains low, but early diagnosis and treatment are crucial to prevent life-threatening complications.

Public Health Implications and Recommendations

- GBS is not contagious, meaning it does not spread from person to person.

Preventive measures include:

- Maintaining proper hygiene to reduce bacterial and viral infections.
- Safe food handling to prevent Campylobacter jejuni infections.
- Early medical attention for any unusual muscle weakness or paralysis symptoms.

Experts emphasize the need for **better epidemiological studies in developing nations**, where infection rates are high, and GBS risk factors remain understudied.

Conclusion

- The findings from NIMHANS highlight the complex nature of GBS and its association with infections, calling for greater awareness, early diagnosis, and prompt medical care.
- Continued research and public health surveillance are essential to mitigate future outbreaks and improve treatment strategies.

DeepSeek's AI

News excerpt

DeepSeek, a Chinese artificial intelligence (AI) startup, has recently garnered significant attention for its AI chatbot, **DeepSeek-R1**, which rivals leading models like OpenAI's ChatGPT. This development has sparked discussions about China's advancements in AI and potential implications for the United States.



Key Highlights:

- **Efficient AI Development:** DeepSeek's R1 model was developed using approximately 2,000 Nvidia H800 GPUs over 55 days, costing around \$5.58 million. This resource-efficient approach contrasts with the extensive resources typically utilized by Western counterparts.
- **Market Impact:** Following DeepSeek-R1's release, it surpassed ChatGPT as the most-downloaded free app on the U.S. iOS App Store. This led to a significant decline in tech stocks, with companies like Nvidia experiencing notable losses.
- **Data Privacy and Security Concerns:** DeepSeek's practice of storing user data on servers in China has raised national security concerns, particularly in the U.S., due to potential data access by the Chinese government under local laws.
- **Censorship Issues:** The chatbot has been observed to avoid or censor discussions on topics sensitive to the Chinese government, such as the Tiananmen Square incident and Taiwan, leading to concerns about information control.
- **Allegations of Technology Misappropriation:** OpenAI has suggested that DeepSeek may have employed a technique called "distillation," using outputs from models like ChatGPT to train its own AI, raising ethical and legal questions.

DeepSeek's emergence is seen by some as a "Sputnik moment" for American AI, highlighting China's rapid progress in the field and prompting calls for the U.S. to reassess its position in the global AI landscape.

The Kerala paraquat poisoning

News excerpt

The Kerala paraquat poisoning case has garnered national attention due to the brutality of the crime, the use of a highly toxic substance, and the rare death sentence awarded to the accused, Greeshma. The case has also sparked concerns over **the accessibility of lethal poisons like paraquat and their potential misuse.**

- On October 14, 2022, Greeshma invited Sharon Raj to her home in Ramavarmanchirai, Tamil Nadu.
- **She laced an Ayurvedic tonic with paraquat, a deadly herbicide, and offered it to him.**
- Sharon unknowingly consumed the poisoned drink.
- Over the next few days, **he developed severe organ damage and was admitted to a hospital.**
- Despite medical efforts, he succumbed to multiple organ failure on October 25, 2022.

Understanding Paraquat: A Deadly Poison

What is Paraquat?

- Paraquat is a highly toxic herbicide used primarily for weed control in agriculture.
- It is known for its fast-acting toxicity, leading to severe health complications or death upon ingestion.
- The World Health Organization (WHO) classifies paraquat as extremely hazardous.

Effects of Paraquat Poisoning

- Paraquat causes severe internal damage, particularly to the lungs, kidneys, and liver.

Symptoms of poisoning include:

- Immediate burning pain in the mouth and throat.
- Severe nausea, vomiting, and abdominal pain.
- Progressive organ failure, respiratory distress, and eventual death.
- There is no known antidote for paraquat poisoning, making it almost always fatal if consumed in large amounts.

Why is Paraquat Dangerous?

- **Highly Lethal:** Even a small dose can be fatal.
- **No Antidote:** Once ingested, treatment options are very limited.
- **Easily Available in Some Regions:** Despite bans in several countries, paraquat is still used in India and other developing nations.
- **Misuse in Suicides and Homicides:** Due to its availability, paraquat has been frequently used in intentional poisonings.

Global Regulation of Paraquat

- Many countries, including the European Union, China, and Brazil, have banned paraquat due to its toxicity.
- In India, paraquat is still legally available, although some states have proposed stricter regulations.
- Cases like Sharon Raj's murder have reignited the debate on banning paraquat in India.

Legal and Social Implications of the Case

Legal Precedent: Rare Use of the Death Penalty

- The death sentence in this case is unusual for poisoning-related murders.
- The verdict reflects the court's stance that premeditated poisoning is as heinous as violent crimes like brutal physical murders.

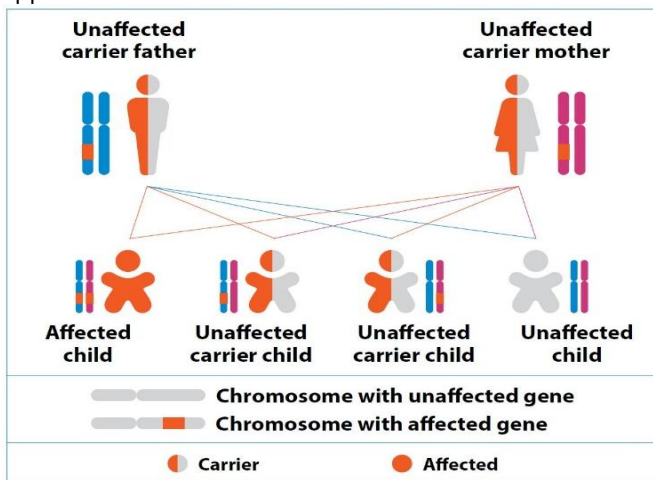
Conclusion: The Kerala paraquat poisoning case is not just a shocking murder case but also a wake-up call about the dangers of easily available toxic substances.

It raises important legal, ethical, and regulatory questions about:

Inherited Retinal Diseases (IRDs)

News excerpt

Inherited Retinal Diseases (IRDs) are a significant cause of vision impairment and blindness, with **over 300 genes linked to these conditions**. Recent advancements in RNA-based therapeutics offer promising avenues for treatment, yet India's unique challenges necessitate a tailored approach.

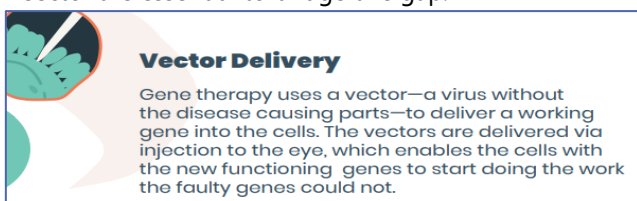


RNA-Based Therapeutics: A New Horizon

- **Mechanism of Action:** RNA-based therapies, particularly antisense oligonucleotides (AONs), target specific genetic mutations responsible for IRDs. By modulating gene expression, they can potentially restore or preserve vision.
- **Current Developments:** Several RNA-based therapies are in clinical trials, including sepfarsen, ultevursen, and QR-1123, aiming to treat specific IRD subtypes.

Challenges in the Indian Context

- **Genetic Diversity:** India's vast genetic diversity complicates the application of RNA therapies. The absence of large-scale genetic studies means that the specific mutations prevalent in the Indian population are not well-mapped.
- **Infrastructure and Awareness:** Limited research infrastructure and public awareness hinder the adoption of advanced therapies. Collaborative efforts between government bodies, research institutions, and the private sector are essential to bridge this gap.



The Path Forward

- **Genetic Mapping Initiatives:** Conducting comprehensive genetic studies to identify prevalent mutations will facilitate the development of targeted RNA therapies suitable for the Indian demographic.
- **Investment in Research:** Allocating resources towards genetic research and precision medicine is crucial. This includes training healthcare professionals and establishing specialized centers for genetic analysis.
- **Public Education:** Raising awareness about IRDs and available treatments can lead to early diagnosis and better management, improving patient outcomes.

In conclusion, while **RNA-based therapeutics** holds significant promise for treating IRDs, **India's unique genetic landscape** and infrastructural challenges require focused efforts to make these therapies accessible and effective for its population.

Low sodium salt alternatives

News excerpt

Sodium, an essential mineral, plays a **crucial role in various bodily functions**, including **nerve impulse transmission, muscle contraction, and fluid balance**. However, excessive sodium intake has been linked to several health issues.

Health Implications of High Sodium Intake

- **Hypertension (High Blood Pressure):** Consuming too much sodium can lead to elevated blood pressure, increasing the risk of heart disease and stroke.
- **Cardiovascular Diseases:** A high-sodium diet is associated with an increased risk of cardiovascular ailments, including heart attacks and strokes.
- **Kidney Disease:** Excessive sodium can strain the kidneys, potentially leading to kidney disease over time.
- **Fluid Retention and Edema:** High sodium levels can cause the body to retain water, leading to swelling in various parts.

Recommended Sodium Intake

- Health organizations generally recommend that adults consume **less than 2,300 milligrams of sodium per day**, roughly equivalent to one teaspoon of table salt.
- Individuals with health conditions like hypertension may need to limit their intake further, aiming for no more than 1,500 milligrams daily.

Sources of Excess Sodium

- A **significant portion of dietary sodium** comes from processed and restaurant foods. To manage sodium intake effectively, it's advisable **to reduce consumption** of processed foods, check food labels for sodium content, and opt for fresh, unprocessed foods when possible.

- Balancing **sodium intake is vital for maintaining optimal health**. By being mindful of dietary choices and understanding the sources of sodium, individuals can take proactive steps to reduce their risk of associated health issues.

New definition for Obesity

News Excerpt

A recent commission by **The Lancet** has proposed a redefinition of obesity, moving beyond the traditional reliance on Body Mass Index (BMI) to incorporate a more comprehensive assessment of an individual's health.

Limitations of BMI:

- **Inadequate Health Indicator:** BMI, calculated as weight divided by height squared, does not distinguish between fat and muscle mass, nor does it account for fat distribution. This can lead to misclassification, where individuals with high muscle mass are labeled as overweight or obese, while those with normal BMI but high body fat percentage remain undiagnosed.

Proposed Comprehensive Assessment:

- **Inclusion of Additional Metrics:** The commission recommends supplementing BMI with measures such as waist circumference, waist-to-hip ratio, and waist-to-height ratio. These metrics provide insights into abdominal fat, which is closely linked to health risks like cardiovascular diseases and type 2 diabetes.
- **Advanced Diagnostic Tools:** Utilizing body scans and other technologies can offer precise evaluations of body fat percentage and distribution, leading to a more accurate health assessment.

New Classification System:

- **Clinical Obesity:** Defined by the presence of excess body fat that adversely affects tissue and organ function, leading to health complications.
- **Pre-Clinical Obesity:** Characterized by excess adiposity without immediate health issues but with a potential risk for future complications.

Implications for Diagnosis and Treatment

- **Personalized Healthcare:** This nuanced approach allows for tailored interventions, ensuring that individuals receive appropriate treatment based on their specific health profiles rather than a one-size-fits-all model.
- **Policy and Public Health:** The commission emphasizes the need for evidence-based public health policies and equitable access to treatments, moving away from attributing obesity solely to personal responsibility.

Conclusion:

By redefining obesity through a more holistic lens, the commission aims to enhance the accuracy of diagnoses, improve patient outcomes, and inform more effective public health strategies.

On amplifiers

An **amplifier** is an electronic device that **increases the power of a signal**, making weak signals stronger without altering their original content. It achieves this by utilizing energy from a power supply to boost the amplitude of the input signal, resulting in a proportionally larger output signal.

Working Principle of Amplifiers

- Amplifiers operate on the principle of **using a smaller input signal to control a larger amount of power** from a power supply.
- This process involves the **input signal modulating the energy** from the power source, thereby producing an amplified version of the original signal at the output.

Types of Amplifiers

Amplifiers are categorized based on their design, functionality, and application. Some common types include:

- **Audio Frequency Amplifiers:** Designed to amplify signals in the audible range (20 Hz to 20 kHz), commonly used in audio equipment to drive speakers.
- **Radio Frequency (RF) Amplifiers:** Amplify high-frequency signals in radio communication systems, operating in the MHz to GHz range.
- **Intermediate Frequency (IF) Amplifiers:** Used in receivers to amplify signals at a fixed intermediate frequency, improving selectivity and sensitivity.
- **Ultrasonic Amplifiers:** Amplify signals beyond the audible range, typically above 20 kHz, used in applications like ultrasonic testing and cleaning.

Amplifier Classes

Amplifiers are also classified into different classes based on their circuit configuration and operation:

- **Class A Amplifiers:** Operate with output transistors conducting during the entire input signal cycle, offering high linearity but lower efficiency.
- **Class B Amplifiers:** Output transistors conduct for half of the input signal cycle, improving efficiency but potentially introducing distortion.
- **Class AB Amplifiers:** Combine features of Class A and B, with transistors conducting for more than half but less than the entire signal cycle, balancing efficiency and linearity.
- **Class D Amplifiers:** Utilize pulse-width modulation techniques, where output transistors switch on and off rapidly, achieving high efficiency suitable for audio applications.

Understanding the working principles and classifications of amplifiers is essential for selecting the appropriate type for specific applications, ensuring optimal performance in electronic systems.

Hypersonic weapons race

News excerpt

The Defence Research and Development Organisation (DRDO) of India has recently achieved a significant milestone in hypersonic technology by successfully conducting a ground test of the Active Cooled Scramjet Combustor for a duration of 120 seconds. This marks the **first time such a test has been accomplished in India.**

Significance of the Test

The successful ground test is a crucial step toward developing next-generation hypersonic missiles. It validates multiple critical technologies, including:

- **Successful Ignition and Stable Combustion:** Demonstrating the engine's ability to ignite and maintain stable combustion at hypersonic speeds.
- **Indigenous Endothermic Scramjet Fuel:** Developed collaboratively by DRDL and industry partners, this fuel is essential for efficient engine performance.
- **Thermal Barrier Coating (TBC):** A state-of-the-art ceramic coating developed by DRDL and the Department of Science & Technology Laboratory, designed to withstand extreme temperatures encountered during hypersonic flight.



Implications for India's Defense Capabilities

- This achievement positions India among a select group of nations with advanced hypersonic technology capabilities.
- Hypersonic missiles, capable of traveling at speeds **exceeding Mach 5**, are considered game-changers in modern warfare due to their speed and maneuverability, making them difficult to detect and intercept.
- India is actively pursuing multiple hypersonic projects, including the **BrahMos-II missile in collaboration with Russia and the Hypersonic Technology Demonstrator Vehicle (HSTDV).**
- The recent test signifies a substantial advancement in these endeavors, bringing India closer to the development and deployment of indigenous hypersonic weapons.
- In summary, DRDO's successful ground test of the Active Cooled Scramjet Combustor represents a pivotal advancement in India's hypersonic technology development, enhancing the nation's defense capabilities and strategic position.

Finance Ministry's Advisory on AI Tools

News excerpt

In **January 2025**, the **Finance Ministry of India** issued an internal advisory instructing its employees **not to use AI-powered tools such as ChatGPT and DeepSeek** on official devices or for government-related work. This directive, dated **January 29, 2025**, was issued due to concerns over **data security, confidentiality, and potential misuse of sensitive government information.**

Reason for the Advisory

- The ministry cited **data security risks** associated with AI tools, particularly **Large Language Models (LLMs)** like ChatGPT and DeepSeek.
- Since these AI models operate **on cloud-based systems**, there is a risk that **confidential government data** could be inadvertently shared with third-party servers.
- Government officials handle **sensitive financial and policy-related information**, and using AI models for official tasks could lead to **data leaks, cyber threats, or foreign access to classified information.**

Scope and Implementation of the Directive

- The advisory **prohibits the use of AI tools on official devices**, including **government-issued computers and mobile phones.**
- Employees have been instructed **not to input confidential or sensitive government data** into these AI models, even if accessed on personal devices.
- The directive aligns with India's **data protection laws and cybersecurity policies**, reinforcing the government's **cautious stance on AI adoption.**

Global Context and Similar Restrictions

- India is not alone in imposing such restrictions. Several other countries have raised similar concerns regarding AI-driven chatbots and LLMs:
 - **Australia** and **Italy** have already imposed **restrictions on AI chatbots** in government work.
 - The **European Union (EU)** has been working on an **AI Act** to regulate the use of artificial intelligence in sensitive sectors.
 - Some **corporations and banks worldwide** have also restricted the use of AI tools in their internal operations.

Timing and Industry Implications

- The advisory was made public on social media **just before OpenAI's CEO, Sam Altman, was scheduled to visit India** for discussions on AI policy with the country's IT Minister.
- While neither the **Finance Ministry, OpenAI, nor DeepSeek** have officially commented on the directive, at least **three government officials** have confirmed its authenticity.
- This move highlights the Indian government's **cautious yet proactive approach** towards AI integration, ensuring national security is prioritized while exploring AI's potential in governance.

Future Considerations

- While the directive **restricts AI tools in sensitive government work**, India is still keen on **developing AI-based solutions** for public administration under strict regulations.
- The government may work on **India-specific AI frameworks** to regulate the use of such technologies within official operations.
- The advisory could be a **precursor to broader AI governance policies**, ensuring that India remains **self-reliant in AI development** while safeguarding national security.

Conclusion

- The Finance Ministry's directive underscores the **growing concerns around AI-powered chatbots and their implications on data privacy**.
- While AI models like ChatGPT and DeepSeek offer significant advantages in productivity, the risks associated with **handling sensitive government data** remain a major challenge.
- The decision reflects India's **balanced approach**—embracing AI innovation while **protecting its digital sovereignty and national interests**.

The Einstein Ring Phenomenon

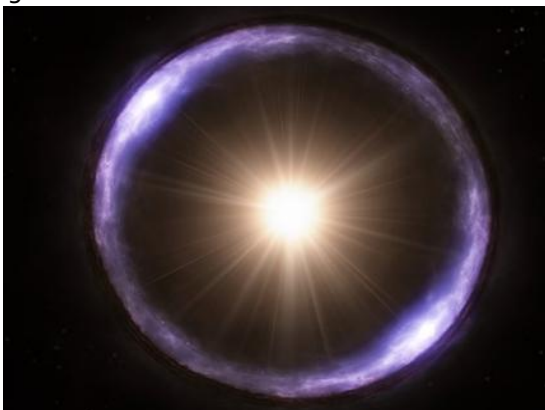
News excerpt

An **Einstein ring** is a rare and fascinating astronomical event where the light from a distant galaxy or star appears as a nearly perfect ring around a **massive foreground object**, such as another galaxy or a black hole. This stunning visual effect is caused by **gravitational lensing**, a phenomenon first predicted by **Albert Einstein** in his **General Theory of Relativity** in 1915.

What Causes an Einstein Ring?

The Role of Gravitational Lensing

- According to **Einstein's theory of relativity**, massive objects like galaxies **bend space-time** around them.
- When light from a **faraway galaxy or quasar** passes through this curved space-time near a massive object in the foreground, it **gets bent and magnified**, creating a ring-like structure.



Perfect Alignment is Key

- For an **Einstein ring to appear**, the **distant light source**, the **massive foreground object (lens)**, and the **Earth** must be **perfectly aligned** along the same line of sight.
- If the alignment is slightly off, we see **partial arcs or multiple images** instead of a full ring.

Importance of Einstein Rings in Astronomy

A Tool to Study Dark Matter

- Since **dark matter** does not emit light, its presence is difficult to detect directly.
- However, Einstein rings help **map dark matter** by analyzing how light bends around galaxies, revealing the distribution of unseen mass.

Measuring the Expansion of the Universe

- The bending of light provides critical data for **calculating cosmic distances**, which in turn helps refine measurements of the **universe's expansion rate** (linked to **dark energy**).

Studying the Structure of Galaxies and Black Holes

- By analyzing the distortions in Einstein rings, scientists can determine the **mass and shape** of lensing objects, including **galaxies, black holes, and galaxy clusters**.

A Recent Discovery of an Einstein Ring

The Euclid Space Telescope's Observation

- Recently, the **Euclid Space Telescope**, launched by the **European Space Agency (ESA)**, captured a near-perfect Einstein ring.
- This newly discovered ring provides valuable information on how **gravity affects light across vast cosmic distances**.

James Webb Space Telescope's Contribution

- The **James Webb Space Telescope (JWST)** has also observed multiple Einstein rings in **unprecedented detail**.
- These observations help refine theories on **gravitational lensing, black holes, and the early universe**.

Einstein Rings vs. Other Lensing Effects

Strong Lensing (Einstein Rings & Arcs)

- When a **massive galaxy or black hole** acts as a lens, it can create **full Einstein rings** or **arc-like distortions** of the background object.

Weak Lensing

- In cases where the alignment is less precise, we observe **subtle distortions** rather than full rings. This technique is widely used to **map large-scale dark matter structures**.

Why Do Einstein Rings Matter?

Validates Einstein's Theory of Relativity

- Einstein's prediction of **gravity bending light** was first confirmed in 1919 during a **solar eclipse**, and Einstein rings continue to provide further proof.

Provides a Natural Cosmic Telescope

- Gravitational lensing naturally magnifies distant objects, helping astronomers study **faint galaxies from the early universe** without needing more powerful telescopes.

Expands Our Understanding of the Cosmos

- By analyzing Einstein rings, scientists gain deeper insights into **dark matter, galaxy evolution, and cosmic expansion**, bringing us closer to answering fundamental questions about the universe.

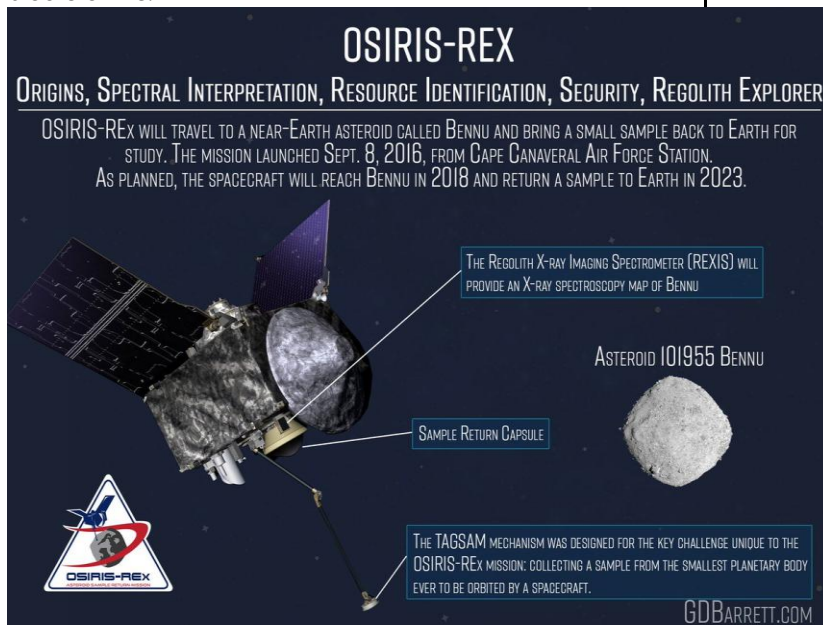
Conclusion

- Einstein rings are not just breathtaking celestial formations; they are **essential tools in modern astrophysics**.
- Their study continues to revolutionize our understanding of **gravity, dark matter, and the universe's structure**, proving that **Einstein's ideas from over a century ago remain as relevant as ever**.

NASA's OSIRIS-REx mission

News excerpt

NASA's OSIRIS-REx mission has delivered groundbreaking findings from the asteroid **Bennu**, revealing **key organic compounds and minerals** essential for life. These discoveries **strengthen the theory** that asteroids may have played a crucial role in seeding Earth with the building blocks of life.



Key Discoveries from Bennu's Samples

Amino Acids and Nucleobases – The Ingredients of Life

- Scientists detected **14 of the 20 amino acids** necessary for building proteins in terrestrial life.
- They also found **all five nucleobases—adenine, thymine, cytosine, guanine, and uracil**—which form the foundation of **DNA and RNA**.

- The presence of these complex molecules suggests that **prebiotic chemistry**—the chemical processes leading to life—**occurred naturally in space**.

Water-Rich Minerals – Clues of Past Liquid Water

- Researchers found **hydrated minerals** like **calcite and halite**, which are known to form in **liquid water**.
- This suggests that **Bennu's parent body**—a much larger celestial object—once had **water-rich environments**, similar to early Earth.
- The presence of **water-altered minerals** indicates that asteroids like Bennu could have delivered both **water and life-essential compounds** to Earth.

Organic Molecules and Ammonia – More Signs of Habitability

- The samples contain **high levels of ammonia** and **complex organic molecules**, further supporting the idea that essential chemicals for life were widespread in the early solar system.
- Ammonia plays a key role in forming **amino acids and nucleotides**, reinforcing the hypothesis that such compounds **could have arrived on Earth via asteroids**.

Implications for the Origins of Life

- These discoveries **bolster the "Panspermia Hypothesis"**, which suggests that asteroids and comets **delivered key ingredients for life** to Earth billions of years ago.
- The fact that Bennu contains **prebiotic molecules and traces of water** implies that similar conditions **may exist elsewhere in the solar system**, increasing the possibility of extraterrestrial life.

- The findings **support ongoing exploration of asteroids** and planetary bodies such as **Mars, Europa (Jupiter's moon), and Enceladus (Saturn's moon)**, which could also harbor the chemical precursors of life.

What's Next for OSIRIS-REx?

- Scientists will **continue analyzing the Bennu samples** to understand the full extent of their chemical diversity.
- Future research will focus on **deciphering how these organic compounds formed**, whether through **interstellar processes, asteroid collisions, or solar radiation**.
- The mission has also set the stage for **future asteroid explorations**, including NASA's planned missions to **Apophis and other near-Earth objects**.

These discoveries mark a **major breakthrough in astrobiology and planetary science**, providing **strong evidence that asteroids contain essential ingredients for life** and could have contributed to life's origins on Earth.

INTERNAL SECURITY

U.S.'s new rule for exporting AI chips

News Excerpt

The United States has recently **updated its export controls on artificial intelligence (AI) chips, introducing a tiered system to regulate their distribution.** This system categorizes countries into different tiers, each with specific restrictions and allowances concerning the export of advanced AI chips.

Tiered Classification of Countries

- **First Tier:** This tier includes nations that are close allies of the U.S., such as Canada, Germany, the United Kingdom, and Japan. Countries in this category are exempt from the new export restrictions, allowing them to continue receiving advanced AI chips without additional limitations.
- **Second Tier:** Countries in this tier are subject to a default cap of 50,000 advanced graphics processing units (GPUs). However, they have the option to apply for an increase in this cap if needed.
- **Third Tier:** This tier comprises nations that are subject to the most stringent restrictions. Exports of advanced AI chips to these countries are heavily limited or entirely prohibited.

Implications for the Semiconductor Industry

- The new export controls have significant implications for major U.S. semiconductor companies, particularly Nvidia and Advanced Micro Devices (AMD).
- Nvidia has expressed concerns that these restrictions could undermine America's leadership in semiconductor technology.
- Similarly, Oracle has warned that the rules might shrink the U.S. chip market by 80%, potentially affecting the cloud industry.

Exemptions and Criticisms

- While key allies are exempt from these restrictions, countries like Brazil and Israel are placed in the second tier, subjecting them to the default GPU cap.
- Critics argue that such limitations could drive these nations to seek alternative suppliers, possibly from China, thereby impacting U.S. market dominance.

In summary, the U.S. has implemented a tiered system to regulate the export of advanced AI chips, aiming to balance national security concerns with the interests of its allies and the semiconductor industry.

Trump & Musk Criticize USAID

The **U.S. Agency for International Development (USAID)**, established in 1961, has been a key player in global humanitarian and development initiatives. However, recent political shifts have put the agency under scrutiny,

particularly from former U.S. President Donald Trump and billionaire Elon Musk.

Trump and Musk's Criticism of USAID

- **Allegations of Inefficiency** – Both Trump and Musk argue that USAID's operations are inefficient and do not align with U.S. strategic interests.
- **Calls for Reevaluation** – They advocate for reducing funding, restructuring the agency, and scrutinizing its foreign aid programs.

Proposed Budget Cuts and Restructuring

- **Massive Workforce Reduction** – Reports suggest that USAID's workforce may be slashed from over 10,000 employees to just **294 staff members.**
- **Potential Merger with the State Department** – The Trump administration is considering integrating USAID into the **U.S. State Department** to centralize foreign aid operations.

USAID's Role in India

- **Historical Contributions** – USAID has played a key role in India's development by supporting **agricultural universities, financial markets, and infrastructure projects.**
- **Recent Controversy** – Allegations surfaced that USAID allocated **\$21 million to influence voter turnout in India.** However, investigations clarified that the funds were for **Bangladesh, not India.**
- **Indian Government's Concern** – Despite the clarification, India has raised concerns and is currently reviewing **USAID's activities in the country.**

Broader Implications of USAID's Downsizing

- **Shift in U.S. Foreign Policy** – The move reflects a **broader trend of reducing foreign aid** and focusing on domestic priorities.
- **Uncertain Future for Development Programs** – Countries like India, where USAID has been a key development partner, may face **funding cuts or project cancellations.**
- **Geopolitical Consequences** – A weaker USAID could open opportunities for **China and other global players** to expand their influence in developing nations.

Conclusion

- The Trump administration, with support from Elon Musk, is pushing for a radical transformation of USAID.
- While their critique focuses on **efficiency and strategic alignment**, the proposed changes could **disrupt global development initiatives** and alter the **U.S.'s geopolitical influence** in key regions like India.

Supreme Court Orders Assam to Deport 63 Foreigners

News Excerpt

The Supreme Court of India has reprimanded the **Assam government** for its failure to deport **63 individuals**

declared as “foreigners”, questioning the prolonged detention and inaction. The Court directed the state to **initiate deportation within two weeks** and submit a compliance report. However, the deportation process is far from straightforward due to several legal, logistical, and diplomatic challenges.

Supreme Court’s Directive to Assam

- The **Supreme Court expressed strong displeasure** over the Assam government’s inaction, stating, “**Are you waiting for some muhurat (auspicious time)?**”
- It ordered that **all 63 detainees, who have been declared foreigners, be deported immediately** and demanded a status report within two weeks.
- The case highlights **India’s broader struggle with undocumented immigrants** and the difficulty in implementing deportation policies.

Challenges in Deporting the Detainees

Unclear Nationalities

- Many detainees **refuse to disclose their country of origin**, making it difficult to establish their nationality.
- Without confirmation from a foreign country, **India cannot forcibly deport them**, as no nation is obligated to accept individuals without proof of citizenship.

Lack of Documentation

- Most detainees **do not possess passports or other valid travel documents**, creating hurdles in securing exit permits.
- Even if deportation orders are issued, **host countries may refuse entry without necessary documentation**.

Diplomatic Roadblocks

- Deportation requires **bilateral cooperation**, and in many cases, countries **deny responsibility** for individuals lacking proof of citizenship.
- If a detainee is suspected to be from **Bangladesh**, India must coordinate with Dhaka, which may **demand evidence before accepting deportees**.
- In the past, **similar deportation cases have dragged on for years due to diplomatic red tape**.

Long-Term Detention as a Human Rights Concern

- Since deportation is uncertain, many declared foreigners **linguish in detention centers for years** with no clear resolution.
- This raises **serious human rights issues**, including violations of personal liberty and dignity.
- The Supreme Court acknowledged this concern, stating that **prolonged detention is not a viable solution**.

Implications of the Supreme Court Order

Pressure on the Assam Government

- The Assam government is under **immense pressure to comply with the order** while navigating **legal and diplomatic obstacles**.
- Failure to deport the detainees within the timeline could **invite further judicial action or contempt charges**.

Need for Clearer Immigration Policies

- The case underscores the **lack of a structured policy for handling undocumented immigrants** in India.
- Experts argue for **clearer guidelines on nationality verification, repatriation agreements, and detention procedures**.

Potential for Political and Diplomatic Fallout

- If deportation is unsuccessful, the issue could **strain India’s relations with neighboring countries** like Bangladesh.
- Within Assam, this issue **remains politically sensitive**, given its long history with migration-related tensions.

Conclusion: A Complex Task Ahead

- The Supreme Court’s order has **put Assam in the spotlight**, forcing the state to **act swiftly on deportation orders**.
- However, the **lack of documentation, diplomatic hurdles, and human rights concerns** make implementation extremely challenging.
- Moving forward, India may need to **strengthen its immigration laws, enhance diplomatic negotiations, and establish clear frameworks for handling undocumented migrants** to prevent such legal limbo in the future.

DISASTER MANAGEMENT

Understanding and Managing Glacial Lake Outburst Floods (GLOFs): The Case of the 2023 Sikkim Disaster

News Excerpt

In 2023, a devastating flood in Sikkim, attributed to a Glacial Lake Outburst Flood (GLOF), resulted in significant loss of life and infrastructure damage.

A recent study by a team of international scientists concluded that this disaster was not caused by a cloudburst, as initially believed, but by a “Himalayan tsunami” triggered by the collapse of a massive amount of rock, ice, and sediment into a glacial lake.



Causes and Impacts of the 2023 Sikkim GLOF

- **Trigger Event:** The study revealed that the collapse of 14.7 million cubic meters of frozen lateral moraine into the South Lhonal Lake (SLL) at an altitude of 5,200 meters triggered the GLOF. This event created a 20-meter-high tsunami-like wave that breached the lake, releasing 50 million cubic meters of water.
- **Downstream Effects:** The ensuing flood eroded approximately 270 million cubic meters of sediment, overwhelming infrastructure along the Teesta River, including a 1,200-megawatt hydropower dam at Chungthang.
- **Human and Economic Impact:** The disaster resulted in 55 confirmed deaths, with 74 others reported missing. It damaged over 25,999 buildings, 31 major bridges, and impacted four dams directly, while inundating 276 square kilometers of agricultural land and triggering 45 landslides.

Role of Climate Change

- **Glacial Instability:** The study highlighted that climate change is likely exacerbating the instability of glacial lakes by thawing permafrost, increasing the risk of such disasters.
- **Future Risks:** With thousands of similar lakes in the Himalayan region, the threat from GLOFs is expected to grow as warming continues.

Legal and Policy Frameworks for Disaster Management

India's **Disaster Management Act, 2005**, provides a comprehensive framework for managing disasters. Here are some provisions and potential solutions based on this Act:

- **National Disaster Management Authority (NDMA):**
 - **Risk Assessment and Mitigation:** The NDMA should conduct regular risk assessments for glacial lakes and develop strategies to mitigate GLOF risks.
 - **Early Warning Systems:** Implementing effective early warning systems can help evacuate people in time, reducing casualties.
- **State Disaster Management Authorities (SDMAs):**
 - **Local Preparedness:** SDMAs should ensure that local communities are prepared for potential disasters through awareness programs and emergency drills.
 - **Infrastructure Planning:** Encourage the design and construction of infrastructure that can withstand natural disasters.
- **National Disaster Response Fund (NDRF):**
 - **Financial Support:** The NDRF can provide critical financial assistance for relief and rehabilitation efforts following a disaster.
- **Environmental Considerations:**
 - **Environmental Impact Assessments:** Ensure that environmental impact assessments are conducted for all projects in sensitive regions to minimize the risk of exacerbating natural hazards.

Solutions and Recommendations

- **Monitoring and Surveillance:**
 - **Regular Monitoring:** Regularly monitor glacial lakes for signs of instability using advanced technologies like satellite imaging and seismic monitoring.
 - **Predictive Modeling:** Use numerical modeling to predict potential GLOF events and prepare response plans accordingly.
- **Infrastructure Development:**
 - **Disaster-Resilient Infrastructure:** Invest in building infrastructure that is resilient to floods and landslides, such as flood-resistant housing and evacuation routes.
 - **Hydropower Projects:** Ensure that hydropower projects are designed with GLOF risks in mind, incorporating safety measures to mitigate potential impacts.
- **Community Engagement:**
 - **Awareness Programs:** Conduct regular awareness programs to educate local communities about GLOF risks and emergency response procedures.
 - **Participatory Planning:** Involve local communities in disaster management planning to ensure that their needs and concerns are addressed.
- **International Cooperation:**
 - **Global Best Practices:** Collaborate with international organizations to adopt best practices in GLOF management and climate change mitigation.
 - **Research and Development:** Engage in research to better understand the impacts of climate change on glacial lakes and develop innovative solutions to manage these risks.

In conclusion, managing GLOFs requires a comprehensive approach that includes monitoring, infrastructure development, community engagement, and legal frameworks. By leveraging India's Disaster Management Act, 2005, and adopting proactive strategies, the country can better prepare for and mitigate the impacts of such disasters in the future.

Coalition for Disaster Resilient Infrastructure (CDRI): Strengthening Global Disaster Preparedness

News Excerpt

In an increasingly interconnected world, the risk of disasters affecting critical infrastructure has become a pressing concern. **The Coalition for Disaster Resilient Infrastructure (CDRI), launched by India in 2019**, is a pivotal initiative aimed at promoting the resilience of infrastructure systems to climate and disaster risks.

Introduction to CDRI

- **Mission and Structure:** CDRI is an international partnership involving national governments, UN

agencies, multilateral development banks, the private sector, and knowledge institutions. Its primary goal is to share best practices and promote standards for resilient infrastructure development, supporting sustainable development globally.

- **Importance:** CDRI recognizes that modern infrastructure is often a networked system that transcends national boundaries. Disruptions in one part of the network can have cascading effects, impacting livelihoods and economic activities across regions.

Key Initiatives and Objectives

- **Promoting Best Practices:**
 - **Capacity Building:** CDRI focuses on providing access to capacity-building programs for member countries to enhance their ability to design and manage resilient infrastructure.
 - **Standardization:** It works towards standardizing designs, processes, and regulations related to infrastructure creation and management.
- **Infrastructure for Resilient Island States (IRIS):**
 - **Launch and Purpose:** Launched by Prime Minister Narendra Modi at COP26 in 2021, IRIS aims to protect critical infrastructure in small island states against natural disasters. These states are particularly vulnerable to climate change impacts.
 - **Impact:** Small island states have faced significant economic losses due to disasters, with some losing up to 9% of their GDP in single events.
- **Infrastructure Resilience Accelerator Fund (IRAF):**
 - **Establishment:** Announced at COP27 in 2022, IRAF is supported by UNDP and UNDRR to support global action on disaster resilience, especially in developing countries and Small Island Developing States (SIDS).

Economic Benefits of Resilient Infrastructure

- **Cost-Benefit Analysis:** CDRI estimates that every dollar invested in making infrastructure more resilient in low- and middle-income countries can potentially save losses of over \$4 when a disaster strikes.

India's Role in CDRI

- **Global Leadership:** By initiating CDRI, India positions itself as a leader in global disaster-resilient initiatives, reflecting its commitment to sustainable development and disaster management.
- **National Context:** In India, **over 58% of the land is vulnerable to earthquakes, 12% to floods, and more than 10% to forest fires.** The country's extensive telecommunications network, spanning the entire nation, is highly susceptible to these hazards.

Disaster Management in India: Legal Framework

- **Disaster Management Act, 2005:**
 - **Establishment of NDMA and SDMA:** The Act created the National Disaster Management Authority (NDMA) and State Disaster Management Authorities (SDMAs) to spearhead disaster management efforts.

- **NDRF and NIDM:** It also led to the formation of the National Disaster Response Force (NDRF) and the National Institute of Disaster Management (NIDM).
- **Disaster Management (Amendment) Bill, 2024:**
 - **Urban Disaster Management Authorities:** The Bill proposes setting up Urban Disaster Management Authorities to address the unique needs of metropolitan cities.
 - **Mandatory SDRF:** It makes the State Disaster Relief Fund (SDRF) mandatory for all states and provides legal status to the National Crisis Management Committee.
 - **National Disaster Database:** The NDMA is tasked with maintaining a national disaster database to track disaster assessments, fund allocations, and preparedness plans.

Conclusion

In conclusion, CDRI plays a crucial role in enhancing global disaster preparedness by promoting resilient infrastructure. Its initiatives, such as IRIS and IRAF, are particularly significant for vulnerable regions like small island states. By leveraging international cooperation and best practices, CDRI supports sustainable development and reduces the economic impacts of disasters. As nations continue to face increasing disaster risks, initiatives like CDRI will be essential in building a more resilient future.

ART & CULTURE

Script of the Indus Valley Civilisation

News Excerpt

The Indus Valley Civilisation (IVC), flourishing between circa 3300–1300 BCE across present-day Pakistan and northwest India, represents one of the world's earliest urban societies. Among its enduring mysteries is a unique script found on **seals, pottery, tablets, and artifacts**, primarily excavated from sites like Harappa and Mohenjo-Daro.

The script comprises **around 400 distinct symbols, often arranged in short sequences.** These symbols are **logo-syllabic, combining logograms (symbols representing words or concepts) and syllabic signs (representing sounds).** Despite over a century of study, the script remains undeciphered, leaving gaps in our understanding of the IVC's socio-political organization, religious practices, and economic systems.

Challenges in Decipherment

The Indus script's enigmatic nature stems from several hurdles:

- **Short inscriptions:** Most texts contain fewer than 10 symbols, with the average being five. Unlike lengthy Egyptian hieroglyphic texts or Mesopotamian cuneiform tablets, these brief sequences offer minimal linguistic context.

- **Absence of bilingual texts:** The Rosetta Stone, which enabled the decipherment of Egyptian hieroglyphs by providing Greek translations, has no Indus counterpart. Without a parallel text in a known language, decoding efforts rely on speculative leaps.
- **Uncertain linguistic roots:** Scholars debate whether the script encodes a Dravidian language (like Tamil), an early Indo-Aryan language, or an entirely extinct language family. This ambiguity complicates attempts to map symbols to sounds or meanings.
- **Functional ambiguity:** Some researchers, like Steve Farmer, argue the script may represent proto-writing—non-linguistic symbols for administrative or ritual purposes—rather than a full-fledged writing system.

Historical Decipherment Attempts

Early 20th-century scholars, such as G.R. Hunter and S.R. Rao, proposed links to Sanskrit or Dravidian languages, often driven by nationalist or cultural biases. For instance:

- Asko Parpola, a Finnish Indologist, suggested Dravidian roots, correlating symbols with fish-related words (e.g., min for fish in Dravidian) to infer phonetic values.
- Iravatham Mahadevan, an Indian epigraphist, analyzed sign sequences and proposed grammatical structures akin to Old Tamil.

However, these theories faced criticism for relying on circular logic (assuming a language family to decode symbols) or lacking empirical validation. The absence of a Rosetta Stone-like artifact rendered these efforts inconclusive.

Modern Technological Approaches

Recent decades have seen interdisciplinary efforts combining archaeology, linguistics, and data science:

- **Computational linguistics:** Algorithms analyze symbol frequency, positional patterns, and entropy (randomness) to detect linguistic structure. Studies suggest the script's entropy aligns with natural languages, countering proto-writing claims.
- **Artificial Intelligence:** Machine learning models, such as those developed by Rajesh Rao's team at the University of Washington, compare Indus symbols with known scripts (e.g., Sumerian, Old Tamil) to identify statistical parallels.
- **3D imaging and archaeology:** High-resolution scans of seals and artifacts reveal subtle markings, aiding in symbol categorization and contextual analysis (e.g., links to trade or rituals).

Debates: Language vs. Proto-Writing

The academic community remains divided on the script's purpose:

Pro-language arguments:

- **Structured combinations:** Symbols follow positional rules (e.g., certain signs only appear at the beginning or end), hinting at syntax.



- **Statistical patterns:** Symbol repetition and sequencing resemble linguistic systems, as seen in a 2015 study published in Science.

Proto-writing arguments:

- **Non-linguistic function:** Short inscriptions may denote clan names, deities, or trade labels, akin to Mesopotamian numerical tokens.
- **Lack of lengthy texts:** The absence of narratives, laws, or royal decrees undermines the case for a full writing system.

Significance of Decipherment

Cracking the Indus script could revolutionize historical narratives:

- **Socio-political insights:** Reveal governance models, administrative practices, and potential connections to later Vedic or Dravidian cultures.
- **Economic networks:** Decode trade records to map IVC's interactions with Mesopotamia and Central Asia.
- **Cultural legacy:** Uncover religious beliefs, mythologies, or proto-Hindu practices, bridging gaps between IVC and South Asia's later traditions.
- **Linguistic history:** Resolve debates about the region's language evolution, including the origins of Dravidian and Indo-Aryan languages.

Future Prospects

While breakthroughs remain elusive, several pathways offer hope:

- **Bilingual inscriptions:** The discovery of an artifact with Indus symbols and a known script (e.g., Mesopotamian cuneiform) could act as a "Rosetta Stone."
- **Archaeological discoveries:** New excavations in India, Pakistan, or Gulf regions might yield longer texts or contextual clues.
- **Advanced technologies:** AI-driven models, cross-referenced with ancient DNA studies or climatological data, could uncover indirect linguistic evidence.
- **Collaborative frameworks:** Global collaborations, like the Indus Script Research Project, aim to pool expertise across disciplines.

Conclusion: The Indus script's decipherment is akin to assembling a 4,000-year-old puzzle with missing pieces. While challenges persist, advancements in technology and interdisciplinary research are gradually illuminating this ancient enigma. Success would not only unlock the IVC's secrets but also redefine humanity's understanding of early urbanization, language, and cultural continuity in South Asia. The quest demands patience, rigor, and an openness to reimagining history.

Real founder of the Chola Empire

News Excerpt

Kanisetti argued that Queen Sembiyan Mahadevi (late 10th century) was the "real founder" of the Chola Empire as it is historically recognized. Her visionary leadership laid the groundwork for the empire's expansion by:

- **Temple Patronage:** She commissioned over 12 temples, including those beyond the Chola core territories, using temple-building as a political and social strategy. Temples served as hubs to unify communities, integrate them into the Chola state, and build a tax base that later funded military campaigns under rulers like Rajaraja Chola.
- **Cultural Legacy:** She popularized the Nataraja (dancing Shiva) iconography, positioning it prominently in temple architecture. Over 3,000 bronze Nataraja idols were later commissioned, shaping a pan-Indian cultural symbol.
- **Political Acumen:** By blending devotional outreach with administrative pragmatism, she consolidated popular support, enabling her grandnephew Rajaraja Chola to launch expansive conquests.

Educated Women in the Royal Household

Kanisetti highlighted the agency and education of Chola royal women:

- **Literacy and Influence:** The 12 wives of Parantaka Chola were educated in reading, writing, mathematics, and aesthetics, hailing from diverse social backgrounds (e.g., Vellala gentry, regional magnates). Their literacy allowed them to contribute to temple patronage and governance.
- **Intergenerational Impact:** Women like Sembiyan Mahadevi and her predecessors shaped dynastic policies, temple architecture, and cultural integration, reflecting their centrality to Chola statecraft.

Maritime Power and Merchant Guilds

The Cholas' dominance in the Indian Ocean was driven by their symbiotic relationship with Tamil merchant guilds:

- **Economic Networks:** Merchants acted as tax collectors in regions like Java and Sumatra, established settlements in East China Sea ports (13th century), and funded naval expeditions. This network enabled Rajendra Chola's overseas campaigns.

- **Naval Ambiguity:** Despite popular belief in a formal Chola navy, inscriptions from the Brihadeswara Temple reveal that naval contributions (e.g., shipbuilding, logistics) were merchant-led rather than state-organized.

Architectural and Cultural Grandeur

- **Brihadeswara Temple:** Built in just seven years (compared to the 200-year construction of Pisa's Leaning Tower), this temple symbolized Chola ambition. It was 40 times larger than other Chola-era temples, showcasing their ability to mobilize resources and labor.
- **Cultural Blending:** The Cholas absorbed local traditions post-conquest, creating a transregional empire. For instance, they replaced defeated rulers with Chola princes and encouraged Tamil merchants to assimilate into foreign cultures, fostering long-term control over regions like Sri Lanka and Karnataka.

Historical Sources and Methodology

Kanisetti emphasized the use of diverse sources to reconstruct Chola history:

- **Sangam Poetry:** Tamil Sangam-era poems provided insights into emotional and social realities, such as mothers grieving soldiers lost in battle.
- **Inscriptions and Archaeology:** Temple inscriptions detailed administrative practices, while archaeological evidence (e.g., Anuradhapura in Sri Lanka) challenged claims of large-scale destruction, suggesting cities were abandoned rather than razed.

Legacy and Modern Relevance

Kanisetti critiqued simplistic historical binaries (e.g., North vs. South India), urging a nuanced understanding of the Cholas' pluralistic ethos. Their legacy lies in fostering a decentralized, culturally fluid empire that unified India's coastlines and influenced global trade networks.

Gondhali Folk Art

News Excerpt

Gondhali folk art is a rich and vibrant cultural tradition that involves the narration of mythological tales and singing, primarily performed by the Gondhali community. This art form is deeply rooted in the oral traditions of India and has been a significant part of the cultural landscape in regions like Maharashtra, Karnataka, and parts of Andhra, Telangana, and Tamil Nadu.

Origins and Historical Significance



Gondhali art finds mention in the **Manasollasa**, a Sanskrit encyclopedia compiled by King Someshwara of the Kalyani Chalukyan dynasty in the 12th century. It is also referenced in **Nrutya Ratnavali**, a book on art forms by Jayan Raya, commander-in-chief of the **Warangal Kakatiya kingdom**. These historical texts highlight the importance of Gondhali in the cultural heritage of the region.

Performance and Art Form

Gondhali performances are typically all-night events where a team of 3-5 artistes sing and play instruments for hours, interspersed with rituals like **arati**. The songs often focus on women deities such as **Amba Bhavani** and **Yallamma**, drawing tales from the **Puranas** and **Mahabharata**. This art form is not only a source of entertainment but also serves as a means to convey social messages and honor deities.

Community and Tradition

The Gondhali community is believed to have over 90 sub-castes, with around seven of them actively involved in performing this art form. Traditionally, Gondhali has been a male-dominated art form, although women are increasingly participating in it. The training is informal, passed down through generations via the **Smruti-Shruti** tradition, where singers learn from their family members by listening and observing.

Cultural Significance and Modern Context

Gondhali art has played a crucial role in preserving cultural heritage and folklore. Despite its rich history, the community faces challenges due to urbanization and changing lifestyles, which have led to a decline in traditional practices. However, efforts to preserve this art form continue, with some Gondhalis achieving recognition for their contributions, such as veteran artiste Venkappa Ambaji Sugatekar being honored with a Padma Shri.

Instruments and Performance Structure

Gondhali performances involve a variety of instruments, including drums, cymbals, and stringed instruments like the **tuntune**. The performance structure often includes two main parts: **Poorvang**, which involves prayers to the deity, and the main performance, which is a dramatic narration of mythological stories.

Geographic Spread

Gondhali art is prevalent in several regions, including Karnataka, Maharashtra, and parts of Andhra, Telangana, and Tamil Nadu. In Karnataka, the Gondhali community is concentrated along the Karnataka-Maharashtra border, reflecting the historical patronage of the Maratha kingdom and other rulers.

In summary, Gondhali folk art is a vibrant cultural tradition that combines music, narration, and ritualistic performances to honor deities and convey social messages. Despite facing challenges, it remains an integral part of the cultural heritage of India, particularly in regions like Maharashtra and Karnataka.

The Second Edition of the Islamic Arts Biennale: Modernizing Islamic Tradition

The second edition of the Islamic Arts Biennale, titled "And All That Is In Between," is a significant cultural event that aims to modernize Islamic tradition by showcasing a blend of historical artifacts and contemporary art. This biennale is part of Saudi Arabia's broader effort to transform its image and promote cultural exchange.

Venue and Significance

Located at the Western Hajj Terminal of King Abdulaziz International Airport in Jeddah, the biennale holds profound cultural and religious significance. The venue is a major transit point for millions of Muslim pilgrims traveling to Mecca for Hajj and Umrah, making it an ideal location for an



event that seeks to bridge traditional and modern Islamic art.

Exhibition Highlights

- **Kiswa Display:** The biennale features segments of the **kiswa**, the sacred cloth that covers the Kaaba, as its centerpiece. This is the first time the complete kiswa has been displayed publicly outside Mecca.
- **Historical and Contemporary Art:** Over 500 historical objects and 29 contemporary art commissions are on display, more than double the content of the inaugural edition.
- **International Participation:** The event includes contributions from over 30 international institutions, showcasing Islamic art from diverse geographies, including pieces from the Louvre and the Victoria & Albert Museum.

Modernization of Islamic Art

The biennale reflects Saudi Arabia's efforts to modernize its cultural landscape under Crown Prince Mohammed bin Salman's "Vision 2030." It challenges traditional conceptions of Islamic art by featuring works that include human and

animal representations, which were previously discouraged in Wahhabi interpretations of Islam.

Cultural Impact

By bringing together historical artifacts and contemporary art, the biennale aims to re-examine Islamic traditions from a new perspective. It attracts both art enthusiasts and pilgrims, fostering a dialogue between tradition and modernity in Islamic art and culture.

Leadership and Organization

The biennale is led by a team of international artistic directors, including Julian Raby, Amin Jaffer, Abdul Rahman Azzam, and Muhannad Shono, who have curated a diverse and engaging exhibition that reflects the richness of Islamic culture.

In summary, the Islamic Arts Biennale 2025 is a pivotal event in Saudi Arabia's cultural transformation, offering a unique platform for exploring Islamic art and its evolution in the modern world.

The Neapolitan Cornicello: A Symbol of Love, Fortune, and Tradition

The **cornicello**, also known as the Neapolitan horn, is a small, horn-shaped amulet that has become an iconic symbol of Naples, Italy. This traditional charm is deeply rooted in the city's cultural heritage and is associated with good luck, protection against the evil eye, and fertility. The cornicello's origins date back to ancient times, reflecting a blend of Greek and Roman mythology, particularly through its association with the fertility god Priapus.



Origins and Historical Significance

The use of horn-shaped objects as symbols of good fortune and fertility began around 3500 B.C. during the Neolithic period. These early symbols were used to represent animal strength and fertility, which were crucial for the well-being of communities. In ancient Greece and Rome, horns were also used as votive offerings to goddesses like Isis and Venus, further solidifying their connection to fertility and prosperity.

Characteristics and Meaning

- **Shape and Color:** The cornicello is typically red and twisted, resembling a chili pepper. This shape and color are symbolic of fertility and protection, with red signifying victory over enemies and good luck.
- **Materials:** Cornicelli are often made from red coral, terracotta, gold, or silver. The choice of material adds to the charm's perceived protective qualities.
- **Porous Nature:** A key aspect of the cornicello tradition is that it must be porous to absorb negative energies, thus protecting those who possess it.

Cultural Significance in Naples

The cornicello is deeply ingrained in Neapolitan culture, with artisans crafting these charms in various forms and materials. The tradition is kept alive by families who pass down the craft through generations. For instance, the D'Alessandro family continues to produce handmade cornicelli in the heart of Naples, contributing to the city's rich cultural heritage.

Modern Context and Global Recognition

In recent years, the cornicello has gained international recognition, becoming a popular gift, especially on Valentine's Day. Its association with love and fertility makes it a meaningful token exchanged between lovers. Additionally, Neapolitan artists like Lello Esposito have incorporated the cornicello into contemporary art, showcasing its significance in modern contexts. Esposito's giant horn sculptures have been exhibited globally, including at the Bangkok Biennale, further highlighting the charm's cultural importance.

Conclusion

The Neapolitan cornicello is more than just a symbol of good luck; it represents a deep connection to Naples' cultural roots and historical traditions. Its enduring presence in the city's daily life, from small shops to international art exhibitions, underscores the charm's significance as a bridge between ancient superstitions and modern cultural expressions.

THE ECONOMIC SURVEY 2024-25 SUMMARY

Theme

The Economic Survey 2024-25 argues for a philosophical approach to governance by **rolling back regulations significantly to accelerate economic growth and employment amidst unprecedented global challenges.**

It observes that the world is evolving more rapidly than anticipated, with the year 2024 having witnessed political and economic uncertainties the world over, especially Europe, and with **elections in three big democracies** – India, USA and Indonesia.

Deregulation Stimulus

The Economic Survey argues, "Getting out of the way and allowing businesses to focus on their core mission is a significant contribution that governments around the country can make to foster innovation and enhance competitiveness."

The Survey prescribes a **Deregulation Stimulus** to raise the growth average in the next two decades that require reaping the demographic dividend.

The Survey further argues that the Government needs to embrace risk-based regulations and change the operating principle of regulations from 'guilty until proven innocent' to 'innocent until proven guilty'. Adding layers of operational conditions to policies to prevent abuse makes them incomprehensible and regulations needlessly complicated, taking them further from their original purposes and intents.

The Survey also delves into building a trust-based society to achieve economy of scale, just as the information technology sector and the startup ecosystem that emerged in Bengaluru in the ninties. Thereby, the Survey states, "It is a good bet that India public will overcome the challenges and turn them into opportunities on the way to *Viksit Bharat* by 2047.

Facilitating Strategic Investments

In the ecology of developing, developed and Emerging Market Economies, the Survey states that the era of rapid world trade growth has passed and India needs to make an all out effort to attract, promote and facilitate further domestic and foreign investments to become a competitive and innovative economy. The Survey also suggests that private sector strategic investments in strengthening domestic supply-chain capability and resilience will help in the long-term.

Noting the reality of global challenges, the Survey Preface states that domestic growth levers will be relatively more important than external ones in the coming years.

Policy Priorities for Women, Farmers, Youth and Poor

The Survey posits that facilitating productive and enhanced participation of women, farmers, youth and poor in economic activity is the litmus test of inclusive development

policies. **For Youth**, the Survey argues for focus on investment in education, skill, and physical and mental health. **To bring Poor from the periphery to the centre of economic activity by advancing their income and living standards through empowerment**, the Survey argues to provide targeted support to improve their livelihoods and opportunities. **For Women**, the Survey advocates to the Centre and the State Governments to eliminate legal and regulatory hurdles that hold back their participation in the labour force besides undertaking facilitative measures.

Industrial Activity

The Survey notes the positive correlation between States that score high on the 'Ease of Doing Business' parameters and the level of industrial activity, and also stated that aspiring States will need to raise their industrialization quotient.

The Survey also celebrates the success story of indigenisation of the Production-Linked Incentive Scheme in in air-conditioners through Government intervention.

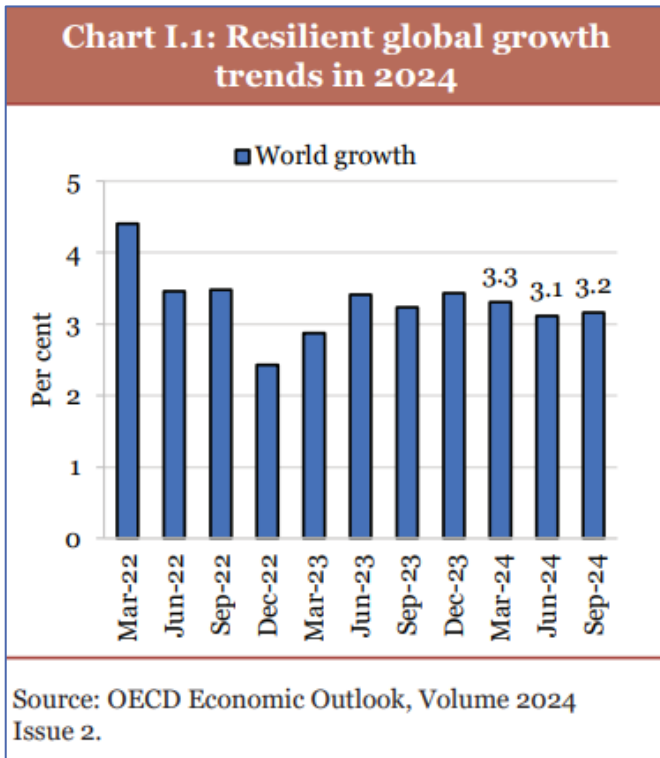
CHAPTER- 1 State of the Economy: Getting Back into the Fast Lane

GLOBAL ECONOMIC SCENARIO

1. The global economy exhibited **steady yet uneven growth** across regions in 2024.
2. A notable trend was the slowdown in **global manufacturing**, especially in Europe and parts of Asia, due to supply chain disruptions and weak external demand.
3. **Geopolitical tensions**, ongoing conflicts, and trade policy risks continue to pose significant challenges to global economic stability.
4. **Cyberattacks** also became more frequent and severe, with growing human and financial consequences due to the increasing digitisation of critical infrastructure.
5. The **global economy on an average grew by 3.3 per cent** in 2023 against the IMF projection of 3.2 per cent growth in the next five years.
6. Within Asia, Japan's growth was hindered by domestic supply disruptions in the early part of the year, while China's growth weakened after the first quarter, affected by sluggish private consumption and investment, alongside challenges in the real estate sector.
7. Inflation rates across economies have trended **downward** steadily, approaching central bank target levels. This has been the result of **tighter monetary policy regimes** across the globe and supply chains adapting to higher levels of economic uncertainty.

DOMESTIC ECONOMY

1. **The real gross domestic product (GDP) growth for FY25 is estimated to be 6.4 per cent.**

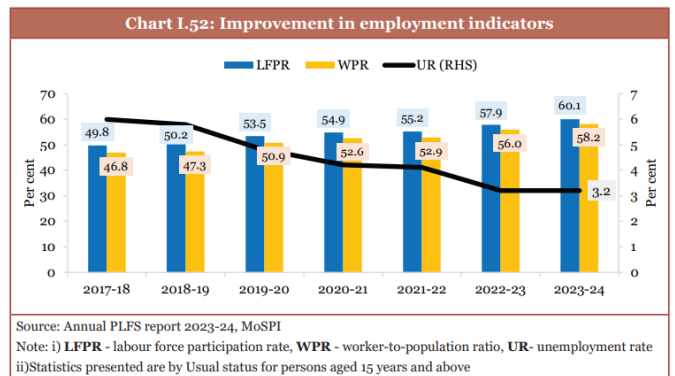


2. **Real gross value added (GVA)** is also estimated to grow by 6.4 per cent for FY25.
3. Agriculture growth remained steady in H1 FY25, with Q2 recording a growth rate of 3.5 per cent, marking an improvement over the previous four quarters. Healthy Kharif production, above-normal monsoons, and an adequate reservoir level supported agricultural growth.



4. The industrial sector grew by 6 per cent in H1 FY25. Q1 saw a strong growth of 8.3 per cent, but growth moderated in Q2. Despite various challenges, India continues to register the fastest growth in manufacturing PMI.

5. **Retail headline inflation** has softened from 5.4 per cent in FY24 to **4.9 per cent in April –December 2024**.
6. Capital expenditure (CAPEX) improved continuously from FY21 to FY24. Post general elections, CAPEX grew YOY by 8.2 per cent during July –November 2024.
7. India accounts for seventh-largest share in global services exports, underscoring India’s global competitiveness in the sector.
8. Data on merchandise trade shows that India’s merchandise exports grew by 1.6 per cent YoY in April –December 2024.
9. During April to December 2024, non-Petroleum and non-Gems & Jewellery exports went up by 9.1 per cent reflecting resilience of India’s merchandise exports amid volatile global conditions.
10. In addition to the services trade surplus, remittances from abroad led to a healthy net inflow of private transfers.
11. As a result of stable capital flows, India’s forex reserves are sufficient to cover 90 per cent of external debt and provide an import cover of more than ten months, thereby safeguarding against external vulnerabilities.
12. Stability in the banking sector is underscored by declining asset impairments, robust capital buffers, and strong operational performance.
13. As per the 2023-24 annual Periodic Labour Force Survey (PLFS) report, the unemployment rate for individuals aged 15 years and above has steadily declined from 6 per cent in 2017-18 to 3.2 per cent in 2023-24.



14. The formal sector in India has seen significant growth, with net Employees’ Provident Fund Organisation (EPFO) subscriptions more than doubling from 61 lakh in FY19 to 131 lakh in FY24.

OUTLOOK AND WAY FORWARD

15. A steady growth trajectory shapes the global economic outlook for 2024, though regional patterns vary.
16. The real GDP growth in **FY26 is expected to grow between 6.3 and 6.8 per cent**, keeping in mind the upsides and downsides to growth.
17. Navigating global headwinds will require strategic and prudent policy management and reinforcing the domestic fundamentals.

18. Thrust on **grassroot level structural reforms** and **deregulation** to reinforce the medium-term growth potential and boost global competitiveness of Indian economy.

CHAPTER- 2 Monetary and Financial Sector Developments: The Card and the Horse

MONETARY DEVELOPMENTS

1. Bank credit has grown at a steady rate with credit growth converging towards deposit growth.
2. **Profitability of Scheduled Commercial Banks improved**, reflected in a fall in gross non-performing assets (GNPAs) and rise in capital to risk weighted asset ratio (CRAR).
3. Credit growth outpaced nominal GDP growth for two successive years. The **credit-GDP gap narrowed to (-) 0.3 per cent in Q1 of FY25** from (-) 10.3 per cent in Q1 of FY23, indicating sustainable bank credit growth.
4. **Banking sector exhibits improvement in asset quality**, robust capital buffers, and strong operational performance.
5. The **gross non-performing assets (GNPAs)** of Scheduled Commercial Banks declined to a 12-year low of **2.6 per cent of gross loans and advances** at the end of September 2024.
6. Under Insolvency and Bankruptcy Code, **₹3.6 lakh crore realized in resolution of 1,068 plans** till September 2024. It amounts to 161 per cent against the liquidation value and 86.1 per cent of the fair value of the assets involved.

FINANCIAL SECTOR

7. Indian stock markets outperformed its emerging market peers despite election-driven market volatility challenges.
8. The total resource mobilisation from primary markets (equity and debt) stands at ₹11.1 lakh crore from April to December 2024, five per cent more than the amount mobilised during FY24.
9. BSE stock market capitalisation to GDP ratio stood at 136 per cent at the end of December 2024, far higher than other Emerging Market Economies like China (65 per cent) and Brazil (37 per cent).
10. India's **insurance** market continued its upward trajectory, with total insurance premiums growing by **7.7 per cent in FY24**, reaching ₹11.2 lakh crore.
11. India's **pension** sector experienced significant growth, with the **total number of pension subscribers growing by 16 per cent** (YoY) as of September 2024.

The traditional dominance of banks in providing credit is beginning to decline, and other participants and products in the financial sector are increasingly filling this role. the

financial markets must work in tandem with the banking sector to bridge the capital requirement gap.

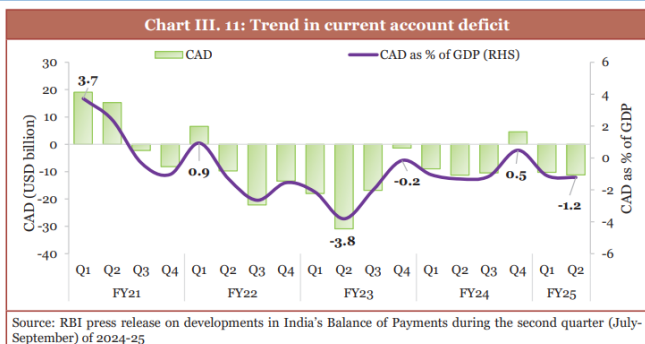
These emerging trends mark the dawn of a new era for India's financial sector. However, they also bring regulatory challenges and potential risks that cannot be overlooked.

CHAPTER-3 External Sector: Getting FDI Right

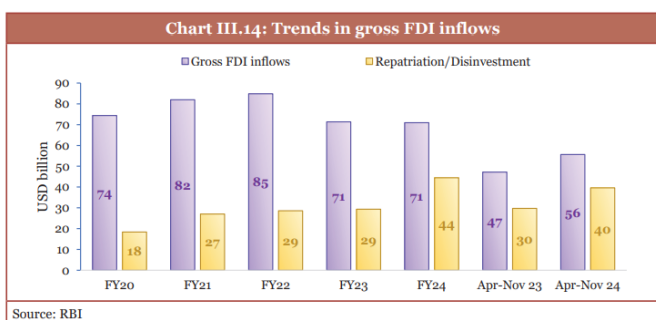
The Survey anticipates challenges that India will face in the near future, such as the threat **of restrictive trade policies** that have the potential to reduce India's exports and widen the current account deficit.

The state produces governance, and the private sector produces goods and services. If both these actors focus on **quality and efficiency**, then despite the trade tensions and protectionism that are likely to come in the way of expanding global trade, India can increase its share in overseas markets and generate resources to sustain a higher level of capital formation

1. India's external sector continues to display **resilience** amidst global uncertainties and headwinds.
2. There has been a noticeable rise in the **political proximity of trade since late 2022**. This indicates a preference for bilateral trade between countries with similar geopolitical stances, i.e., **friend-shoring and nearshoring**.
3. **Overall exports** (merchandise + services) **grew by 6 per cent (YOY)** in the first nine months of FY25. The services sector grew by 11.6 per cent during the same time.
4. India remains a global leader in IT and business services, but there is considerable **untapped potential in travel, transport, and financial services**.
5. India commands **10.2 per cent** of the **global export market** in '**Telecommunications, Computer, & Information Services**', ranking 2nd largest exporter in the world, as per UNCTAD..
6. As of 2024, India has secured its place among the world's largest foreign exchange reserve-holding countries, ranking 4th globally, following China, Japan, and Switzerland.
7. India's B2C e-commerce market was worth USD 83 billion in 2022, and it is anticipated to grow to USD 150 billion by 2026, showing a CAGR of 15.9 per cent.
8. India's current account deficit (**CAD**) stood at **1.2 per cent of GDP** in Q2 of FY25, supported by rising net services receipts and an increase in private transfer receipts.



- Gross Foreign Direct Investment (FDI) inflows recorded a revival in FY25, increasing from USD 47.2 billion in the first eight months of FY24 to USD 55.6 billion in the same period of FY25, a YoY **growth of 17.9 per cent**.
- India's FOREX reserves stood at USD 640.3 billion as of the end of December 2024, **sufficient to cover 10.9 months of imports** and approximately 90 per cent of the country's external debt.



- This increase enhances India's ability to weather external shocks, with reserve adequacy significantly surpassing the IMF's recommended three month import cover for emerging economies.
- The Nominal Effective Exchange Rate (NEER) for the INR remained stable in the 90-92 range from April to November 2024, indicating relative stability in the currency amidst external uncertainties. The Real Effective Exchange Rate (REER), which reflects the real purchasing power of the currency, steadily appreciated from 103.2 in April 2024 to 107.2 in December 2024.
- India's **external debt** remained stable over the past few years, with the external debt to GDP ratio standing at **19.4 per cent at the end of September 2024**.

CHAPTER- 4 Prices and Inflation: Understanding the Dynamics

The persistent inflationary pressures pose several challenges for policymakers and the general public. On the global front, central banks are cautiously unwinding their restrictive policies to balance inflation control with economic recovery. While global inflation peaked in 2022 due to supply chain disruptions and geopolitical tensions, it has declined since then, aided by policy measures.

- As per the IMF, the global inflation rate moderated to 5.7 per cent by 2024 from its peak of 8.7 per cent in 2022.
- Retail inflation** in India saw a reduction from 5.4 per cent in FY24 to **4.9 per cent in FY25 (April-December 2024)**.
- In alignment with the downward trend in headline inflation, core inflation, which excludes volatile food and energy prices has also decreased in most countries
- RBI and the IMF project India's consumer price inflation will gradually align with the target of around 4 per cent in FY26. IMF has projected an inflation rate of 4.4 per cent in FY25 and 4.1 per cent in FY26 for India.**
- India faces a persistent deficit in the production of pulses and oilseeds, along with frequent fluctuations in tomato and onion production, leading to price pressures.
- To address this, focused research is needed to develop climate-resilient crop varieties, enhancing yield and reducing crop damage.
- Promoting extension activities is crucial. Farmers should receive training on best practices, the use of high-yield and disease-resistant seed varieties, and targeted interventions to improve agricultural practices in the major growing regions for pulses, tomatoes, and onions.
- Implementing robust data collection and analysis systems to monitor prices, stocks, and storage and processing facilities is essential in various tiers of government. This data should be used to identify areas for improvement and make informed policy decisions.

CHAPTER- 5 Medium-Term Outlook: Deregulation Drives Growth

The Indian economy is in the middle of a change that represents an unprecedented economic challenge and opportunity. **Geo-Economic Fragmentation (GEF) is replacing globalization** leading to imminent economic realignments and readjustments.

INDIA'S MEDIUM-TERM OUTLOOK

- To realize the vision of *Viksit Bharat* by 2047 India will need to achieve a growth rate of around 8 per cent at constant prices, on average, for about a decade or two.
- Aiyar et al. (2023) define 'geo-economic fragmentation' as a policy-driven reversal of global economic integration often guided by strategic considerations. This process encompasses different channels, including trade, capital, and migration flows.
- Depending on the modelling assumptions, it is estimated that the cost to global output from trade fragmentation could range from 0.2 per cent (in a limited fragmentation/low-cost adjustment scenario) up to 7 per cent of the GDP (in a high fragmentation/high-cost adjustment scenario).

4. Climate is a global public good. It impacts everyone, everywhere, in ways that are still being examined and understood. Studies have quantified that a 1 Deg. Celsius warming reduces global GDP by 12 per cent, and global temperature strongly correlates with extreme climatic events
5. The Medium-term growth outlook for India must consider the new global realities - **GEF, China's manufacturing prowess, and dependency of efforts for energy transition on China.**
6. India to focus on **systematic deregulation** to reinvigorate the domestic levers of growth and empower individuals and organisations to pursue legitimate economic activity with ease.
7. Systemic deregulation or enhancing economic freedom for individuals and small businesses is arguably the **most important policy priority** to bolster India's medium-term growth prospects.
8. Focus of reforms and economic policy must now be on systematic deregulation under Ease of Doing Business 2.0 and **creation of a viable *Mittelstand***, i.e. India's SME sector.
9. In the next step, States must work on liberalising standards and controls, setting legal safeguards for enforcement, reducing tariffs and fees, and applying risk-based regulation.

Table V.1: List of areas of regulation and provisions affecting businesses

Area	Examples of regulations
Legal Status and admin	Municipal laws, citizen charters, accountability in public service delivery
Land	Land revenue, land reform, town and country planning, land ceiling
Building and Construction	Town and country planning, building bye-laws, fire safety laws
Labour	Rules under Union Codes, factories, contract labour, shops laws
Utilities	Water, electricity, building bye-laws, municipal laws
Transport	Motor vehicles laws, motor transport workers laws, carriage of goods
Logistics	Warehousing and logistics policies, building bye-laws
Buying and Selling	Agricultural Produce and Livestock Market Committee laws
Environment	Laws for prevention and control of pollution of water, air
Sector Specific	Excise, food safety, legal metrology

10. India must pursue economic growth by undertaking policy actions that enhance economic freedom, i.e. citizens' unhindered ability to pursue legitimate economic and entrepreneurial aspirations.
11. States should learn from inter-state and inter-country comparisons of regulations to identify opportunities for growth-inducing reforms.
12. Instead of only looking for 'best practices', states should identify the 'minimum necessary, maximum feasible' option for regulation.
13. Concerted actions by states towards deregulation **will lift sentiment, enhance faith and trust in governance, and even improve compliance** as the relationship between the governing and the governed turns into a partnership.

CHAPTER- 6 Investment and Infrastructure: Keeping it Going

1. The central focus of the Government in the last five years was on increasing public spending on infrastructure, and speeding up approvals and resource mobilization.
2. The Union Government's **capital expenditure on key infrastructure sectors** has **grown at a rate of 38.8 per cent** from FY20 to FY24.
3. Under **railway** connectivity, **2031 km of railway network** was commissioned between April and November, 2024, and **17 new pairs of Vande Bharat** trains were introduced between April and October 2024.
4. Under **road** network, **5853 km of National Highways** was constructed in FY25 (April-Dec).
5. Under National Industrial Corridor Development Programme, a total of 383 plots covering **3788 acres have been allotted for industrial use** for various sectors in phase 1.
6. Operational efficiency improved reduction in average container turnaround time in major ports from **48.1 hours in FY24 to 30.4 hours during FY25** (Apr-Nov), significantly improving **port connectivity**.
7. A 15.8 per cent year-on-year increase in renewable energy capacity of solar and wind power by December 2024.
8. The share of renewable energy in India's total installed capacity now stands at 47 per cent.
9. Government schemes like the DDUGJY and the SAUBHAGYA improved electricity access in rural areas, electrifying 18,374 villages and providing electricity to 2.9 crore households.
10. The government's digital connectivity initiatives have gained traction, particularly with the rollout of 5G services across all states and union territories by October 2024.
11. Efforts to provide 4G mobile services to remote areas under the Universal Service Obligation Fund (now Digital Bharat Nidhi) have made significant strides, with over 10,700 villages covered by December 2024.
12. The GI Cloud initiative, known as MeghRaj, is a key component of India's information technology strategy, aimed at delivering ICT services via cloud computing to Central and State/UT Departments.
13. Under the **Jal Jeevan Mission**, over **12 crore families** have gained access of piped drinking water since its launch.
14. Under Phase II of the Swachh Bharat Mission-Grameen, during April to November 2024, 1.92 lakh villages were incrementally declared ODF Plus under the model category, taking the total number of **ODF Plus villages to 3.64 lakh**.

Table VI.1: Achievement under the standard uniform framework to evaluate cities

Protocol	Description	Progress
ODF certified	Complete access to toilets by citizens and ensuring that nobody goes out for open defecation at any time of day or night.	4,576 ULBs
ODF+	ODF and all community and public toilets are clean, hygienic and functional while following basic cleanliness criteria.	3,913 ULBs
ODF++	ODF+ and complete faecal sludge from toilets is safely contained, transported, and treated while ensuring that no untreated sludge is discharged in the open.	1,429 ULBs
Water+	ODF++ and ensuring that no untreated liquid waste (including wastewater) is discharged without proper treatment and ensuring maximum reuse of treated wastewater.	64 ULBs

15. In urban areas, the **Pradhan Mantri Awas Yojana has completed over 89 lakh houses.**
16. City transportation network is expanding rapidly, with metro and rapid rail systems operational or under construction in 29 cities, covering over 1,000 kilometers.
17. Real Estate (Regulation & Development) Act, 2016, ensured regulation and transparency of Real Estate sector. By January 2025, **over 1.38 lakh real estate projects registered**, and 1.38 lakh complaints were resolved.
18. India currently operates 56 active space assets. The government's Space Vision 2047 includes ambitious projects like the **Gaganyaan** mission and the **Chandrayaan-4** Lunar Sample Return Mission.
19. Public sector investment alone cannot meet the requirements of infrastructure, and **private sector participation will be crucial** to bridge the gap.
20. The government has created mechanisms such as the National Infrastructure Pipeline and National Monetisation Pipeline to facilitate private sector involvement in infrastructure.
21. The progress of physical indicators in the current year mirrors the financial progress. Apart from asset creation, our infrastructure programme also emphasises the use of sustainable materials and processes.
22. The strategy to step up private participation needs coordinated action of all stakeholders involved - governments at different tiers, financial market players, project management experts and planners, and the private sector.

CHAPTER-7 Industry: All about Business Reforms

Lately, there have been serious challenges to global manufacturing in terms of persistent geopolitical tensions, aggressive industrial and trade policies, supply chain disruptions, and global trade slowdowns. This has posed a challenge to export demand for India's manufactured products.

1. The industrial sector is expected to **grow by 6.2 per cent in FY-25** (first advance estimates), driven by robust growth in electricity and construction.

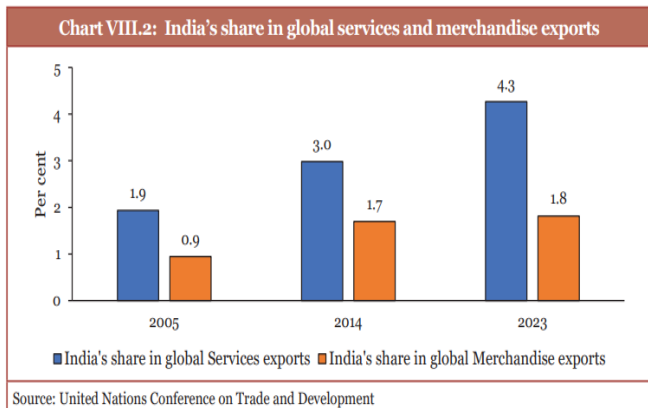
2. The production of capital goods fluctuated between FY20 and FY23, before recording a robust growth in FY24. Yet, the growing reliance on the import of such goods poses a challenge.
3. The government has been actively promoting Smart Manufacturing and Industry 4.0, supporting the establishment of **SAMARTH Udyog centres.**
4. In FY24, the **Indian automobile domestic sales grew by 12.5 per cent.** Recognising the sector's potential, the government has extended the PLI Scheme by one year.
5. The domestic production of electronic goods has grown at a CAGR of 17.5 per cent from FY15 to FY24.
6. **99 per cent of smartphones are now manufactured domestically**, drastically reducing India's dependence on imports.
7. The total **annual turnover of pharmaceuticals in FY24 was ₹4.17 lakh crore**, growing at an average rate of 10.1 per cent in the last five years.
8. The **medical devices industry** in India is experiencing rapid growth, with a CAGR of approximately 15 per cent. Currently, India holds an estimated 1.5 per cent share of the global medical devices market.
9. As per the WIPO Report 2022, **India ranks sixth among the top 10 patent filing offices** globally.
10. Micro, Small and Medium Enterprises (MSME) sector has emerged as a highly vibrant sector of the Indian economy.
11. The launch of TReDS has been an important step taken by Government of India for benefitting the MSMEs and helping them realize their receivables in a time-bound manner at a relatively lower financing cost.
12. To provide equity funding to MSMEs with the potential to scale up, the government launched the **Self-Reliant India Fund** with a corpus of ₹50,000 crore.
13. The government is implementing the Micro and Small Enterprises-Cluster Development Programme to develop clusters across the country.
14. The State-wise analysis presented reveals that they are vastly different in their industrial strengths, weaknesses and accomplishments. It also highlighted that the state of business regulations and reforms varied across States, and these differences are closely related to their industrial progress or the lack of it. This **reiterates the need for appropriate business reforms at the grassroots level.**

CHAPTER- 8 Services -New Challenges for the Old War Horse

The service sector has **been fuelling growth both domestically and globally.** In FY25 so far, services propped up GDP growth when manufacturing has been affected by dampening global merchandise trade.

Services value added accounts for about 62 per cent of the global GDP. Services have been the growth engine for middle-income countries like China, Thailand, and India in the last decade.

India's share in global services exports has been steadily rising for the last two decades.



1. The service sector's contribution to total GVA has risen from 50.6 per cent in FY14 to 55.3 per cent in FY25 (First Advance Estimates).
2. It also provides employment to approximately 30 per cent of the workforce. **Services also contribute indirectly to the GDP through the servicification of manufacturing**, i.e., increasing utilization of services in manufacturing production and post-production value addition
3. The average growth rate of the services sector was 8 per cent in the pre-pandemic years (FY13 -FY20). It stood at 8.3 per cent in the post-pandemic period (FY23–FY25).
4. India held a 4.3 per cent share in global services exports in 2023, ranking seventh worldwide.
5. India's **services export** growth surged to 12.8 per cent during April–November FY25, up from 5.7 per cent in FY24.
6. **Information and computer-related services** grew at a trend rate of 12.8 per cent over the last decade (FY13–FY23), increasing their share of overall GVA from 6.3 per cent to 10.9 per cent.
7. **Indian Railways** recorded an 8 per cent growth in passenger traffic originating in FY24. Revenue-earning freight in FY24 grew by 5.2 per cent.
8. The **tourism** sector's contribution to GDP returned to its pre-pandemic level of 5 per cent in FY23.
9. After the enactment of the Real Estate Regulatory Authority, India ranked 31st out of 89 countries in the **Global Real Estate Transparency Index** in 2024.
10. The services sector, including banking, financial services, and insurance (BFSI), healthcare, telecom, retail, and transport and logistics, stands out for its **rapid AI adoption**, supported by various national initiatives and technologies.

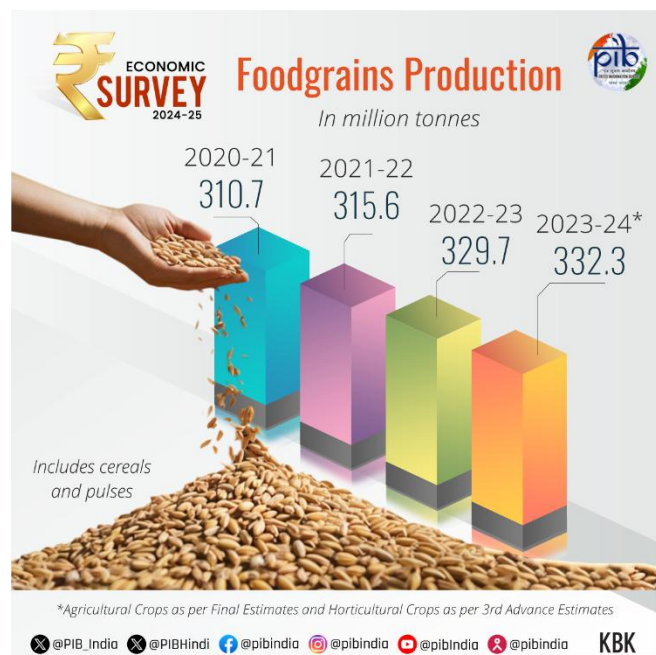
Chapter-9 Agriculture and Food Management: Sector of the Future

India's agricultural sector, despite encountering various challenges, remains a crucial pillar for economic growth and ensuring food security for the nation.

The stability of the sector can be largely attributed to various government initiatives to **enhance productivity, promote crop diversification, and increase farmers' income.**

Climate variability can present significant challenges; however, farmers with diverse income streams are better positioned to navigate these uncertainties.

1. The 'Agriculture and Allied Activities' sector contributes approximately 16 per cent of the country's GDP for FY24 (PE) at current prices.
2. High-value sectors like horticulture, livestock, and fisheries have become key drivers of overall agricultural growth. Given the perishable nature of these high-value commodities, effective post-harvest management and robust marketing infrastructure are essential



3. Kharif foodgrain production for 2024 is expected to reach 1647.05 Lakh Metric Tonnes (LMT), an increase of 89.37 LMT from the previous year.
4. For the fiscal year 2024-25, the MSP for Arhar and Bajra has been increased by 59 per cent and 77 per cent over the weighted average cost of production, respectively.
5. The Kisan Rin Portal (KRP) launched in September 2023 addresses key challenges in the Modified Interest Subvention- Kisan Credit Card (MISS-KCC) scheme. Previously, banks had to submit claims for Interest Subvention (IS) and Prompt Repayment Incentive (PRI) manually to the Reserve Bank of India (RBI) and NABARD, leading to significant delays and inefficiencies. The Kisan Rin Portal digitises this process.

- The fisheries sector has shown the highest compound annual growth rate (CAGR) of 8.7 per cent, followed by livestock with a CAGR of 8 per cent.
- National Food Security Act (NFSA) 2013 and the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) marked a fundamental shift in the approach to food security.
- The provision of free food grains under PMGKAY for another five years, reflects the long-term commitment of Govt towards food and nutrition security.
- As of 31st October, over 11 crore farmers have benefitted under PM-KISAN, while 23.61 lakh farmers are enrolled under PM Kisan Mandhan.
- Improving price discovery and market efficiency is another critical aspect that necessitates attention. Strengthening market infrastructure is essential to facilitate this improvement.

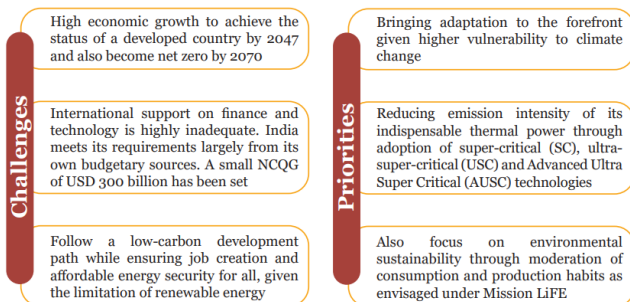
CHAPTER-10 Climate & Environment: Adaptation Matters

India's climate efforts are anchored in its ambitious commitment to achieve net zero emissions by 2070. This long-term goal is entwined with the country's aspirations for high and stable economic growth, which envisions becoming a developed nation by 2047. Realising this vision necessitates a delicate balance.

The Survey lays great emphasis on **the role of public policy in energy security and energy affordability** in enhancing and maintaining competitiveness in the backdrop of climate change.

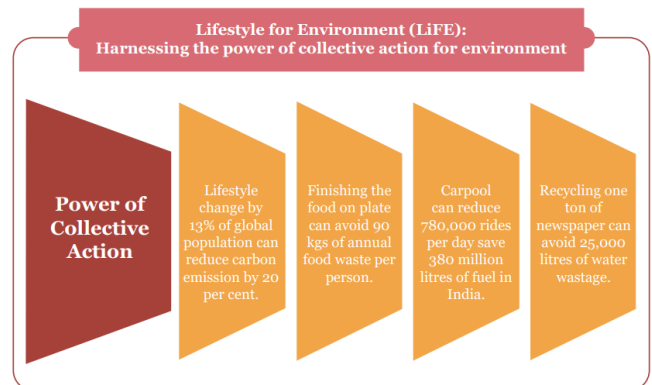
The Survey argues for India to chart its own path to energy transition and diversification away from fossil fuels as electric mobility makes economic sense due to abundant renewable energy and coal. More importantly, the Survey argues, public transportation is a more efficient alternative for viable energy transition given India's vast size and limited land availability.

Challenges and priorities for India



The Survey notes that India's energy transition plans must be mindful of geographical vulnerabilities and avoid deepening India's dependence on external sources for critical imports. The Survey argues for India to focus on adaptation than on emission mitigation.

- India's ambition to achieve developed nation status by 2047 is fundamentally anchored in the vision of inclusive and sustainable development.
- India has installed electricity generation capacity of 2,13,701 megawatts from non-fossil fuel sources, which accounts for 46.8 per cent of the total capacity as of 30 November 2024.
- Lessons learnt from the experiences of developed economies caution against shutting down thermal energy without adequate technological alternatives that allow a stable energy supply.
- Innovation and investment in addressing the problems related to renewable energy - battery storage, grid infrastructure and critical minerals - must be the focus in the short to medium term.
- As per the Forest Survey of India 2024 an additional carbon sink of 2.29 billion tonnes CO2 equivalent has been created between 2005 and 202
- The India-led global movement, Lifestyle for Environment (LiFE), aims to enhance the country's sustainability efforts.
- By 2030, it is estimated that LiFE measures could save consumers around USD 440 billion globally through reduced consumption and lower prices.
- The promotion of pro-environment lifestyle changes, as envisaged under India's LiFE Mission, has significant potential to contribute to climate change mitigation by encouraging low-carbon lifestyles and energy conservation behaviours.



CHAPTER -11 Social Sector -Extending reach and driving empowerment

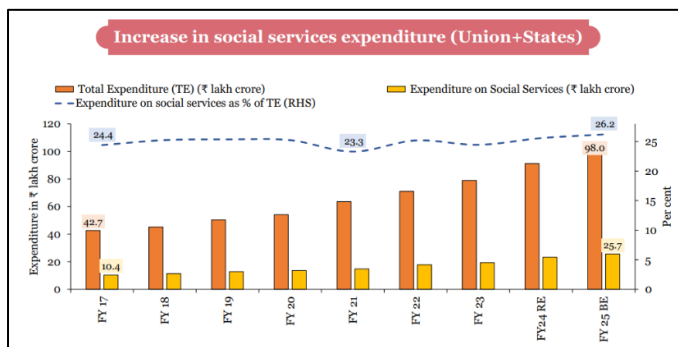
India's economic growth strategy emphasises **inclusivity and welfare for all its citizens**. The government's focus is on empowering citizens through **education, healthcare, skill development, and social infrastructure** development. All these aspects have seen significant progress.

In the backdrop of India's rising and alarming consumption of ultra-processed foods (High in Fat, Salt and Sugar or HFSS), the Survey endorses nurturing the **mental, emotional and physical needs of the Indian youth**.

Prioritising mental health in the workplace not only matters for overall well-being and a harmonious society but can also enhance worker productivity.

SOCIAL SERVICES

1. The social services expenditure of the government (combined for Centre and States) **increased at a compound annual growth rate of 15 per cent** from FY21 to FY 25.
2. **Social services include**, education, sports, art and culture; medical and public health, family welfare; water supply and sanitation; housing; urban development; welfare of SCs, STs and OBCs, labour and labour welfare; social security and welfare, nutrition, relief on account of natural calamities etc

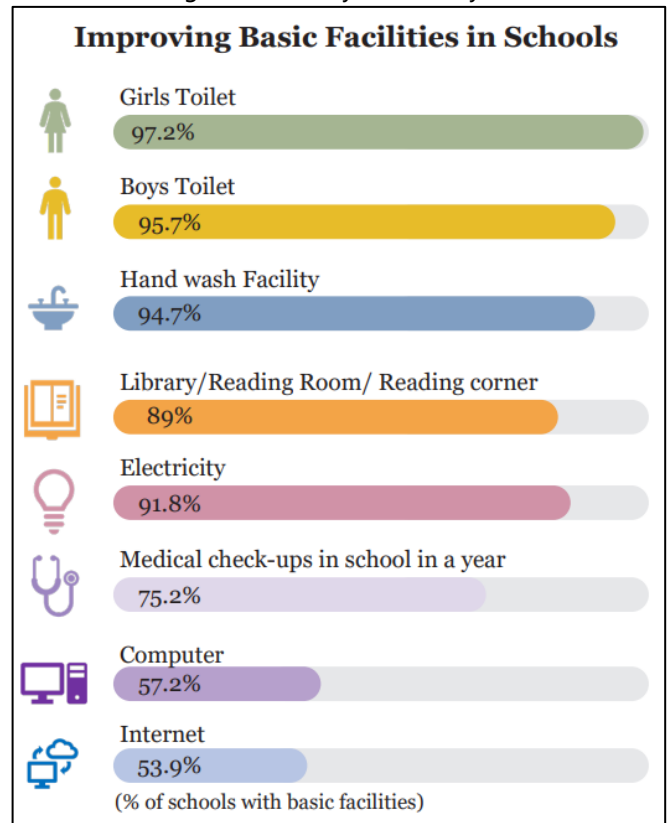


3. The Economic Survey highlights how the welfare policies of the government and the social sector initiatives have resulted in the reduction of inequality marked by rising consumption expenditure. The **Gini coefficient, a measure of inequality in consumption expenditure, is now, declining**. For rural areas it declined to 0.237 in 2023-24 from 0.266 in 2022-23, and for urban areas, it fell to 0.284 in 2023-24 from 0.314 in 2022-23. Various fiscal policies of the government are aiding in reshaping the income distribution.

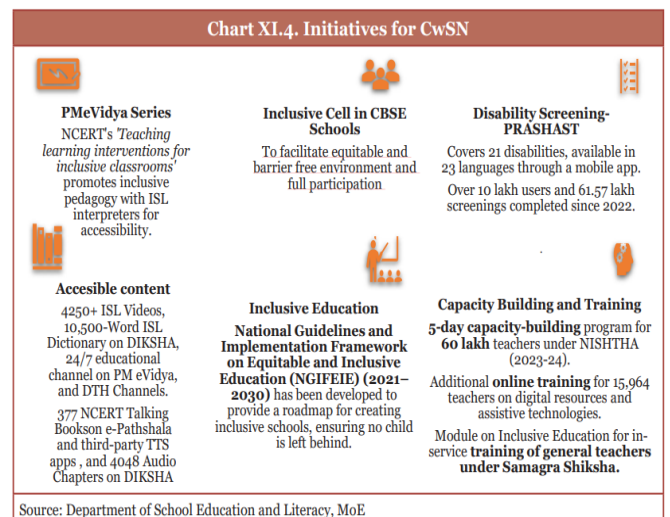
EDUCATION

1. On the **school education front**, the government is working toward meeting the objectives of National Education Policy 2020 through a range of programmes and schemes. These interalia include the Samagra Shiksha Abhiyan, DIKSHA, STARS, PARAKH, PM SHRI, ULLAS, PM POSHAN, etc, as per the Survey.
2. **School dropout rates have steadily declined** in recent years, standing at 1.9 per cent for primary, 5.2 per cent for upper primary, and 14.1 per cent for secondary levels. However, challenges persist, with retention rates.
3. The success of school education hinges not just on the student's academic achievements but also on enhancing their social and emotional learning.
4. **Tim Tim Tare (TTT)** is a pioneering initiative that aims to impart essential life skills to adolescent students across India. Unlike vocational training, which focuses on technical skills, TTT places emphasis on soft skills—key components of personal growth, effective communication, emotional intelligence, and social well-

being. Through TTT, students are empowered to face life's challenges confidently and clearly.

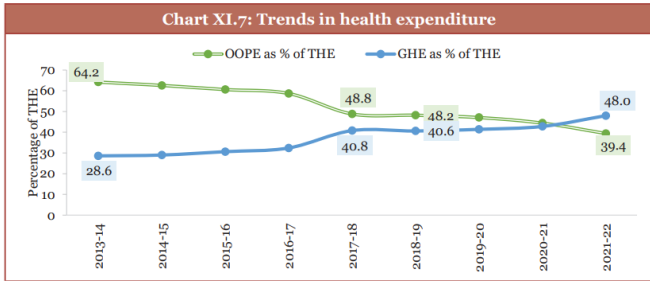


5. Built on the World Health Organization's (WHO) Life Skills Framework, it (TTT) addresses a wide range of 16 core life skills
6. The National Education Policy (NEP) 2020 envisions a future where every child, including Children with Special Needs (CwSN).



HEALTHCARE AND MENTAL HEALTH

1. Government health expenditure increases from 29.0 per cent to 48.0 per cent; the share of out-of-pocket expenditure in total health expenditure declines from 62.6 per cent to 39.4 per cent, reducing financial hardship endured by households.



2. The Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) has played a decisive role in the significant reductions in expenditure with over ₹1.25 lakh crore in savings being recorded.

Health for all

Affordable Medicine and Immunisation
 Over 14,000 Jan Aushadhi Kendras
 Full immunisation coverage for FY 2023-24 at 93.5 per cent nationally

Universal Health Care
 Accessible & Affordable
 Digital Health
 Human Resources
 Insurance

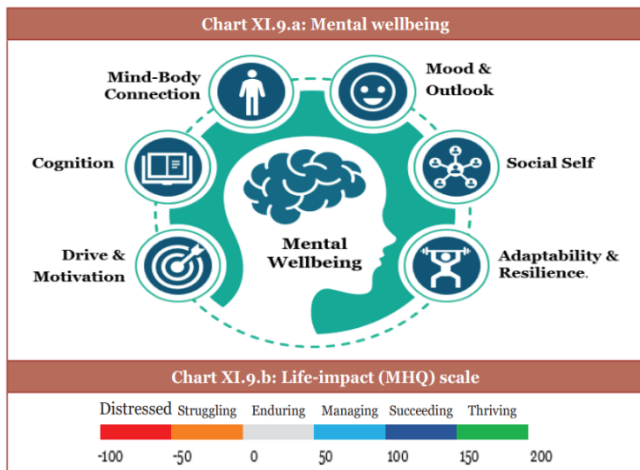
Insuring health and building Care
 Ayushman Bharat Pradhan Mantri Jan Arogya Yojana: Over 36.36 crore Ayushman cards have been issued
 Over 1,75,560 Ayushman Arogya Mandirs operationalised with a footfall of over 370 crore

Disruptive technology provides seamless and equitable Healthcare.

- 72.81 crore ABHA ids created
- Under U-WIN 1.7 crore pregnant women & 5.4 crore children tracked; 26.4 crore vaccine doses monitored
- E-Sanjeevani: Serving 31.19 crore patients

2. Mental well-being is often conflated with happiness or mood. However, it is beyond that. It is the ability to navigate life's challenges and function productively.

3. Data suggests that mental well-being is not static; indeed, there are a myriad of factors, including workplace culture, hours spent working, and lifestyle, that influence mental well-being.



4. A study¹³⁵ by the WHO finds that globally, about 12 billion days are lost annually due to depression and anxiety, amounting to a financial loss of \$1 trillion. In rupee terms, this translates to about ₹7,000 per day.

5. given the direct costs to human welfare and the spirit and sentiment of the nation, putting mental well-being at the centre of the economic agenda is prudent.

6. Convenience, hyper palatability, affordability, longer shelf life and vigorous advertising and marketing strategies have made a conducive environment for the thriving business of UPFs in India. According to the HCES 2022-23, almost 9.6 per cent of the food budget in rural areas and 10.64 per cent in urban areas is spent on beverages, refreshments, and processed food

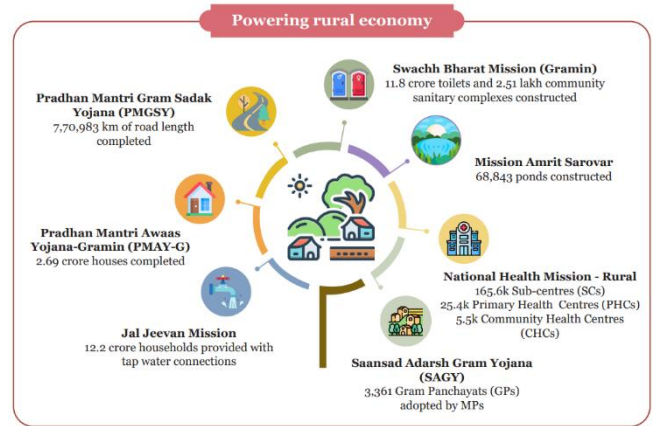
The National Strategy for Artificial Intelligence (2018) developed by NITI Aayog discussed how AI could help address the challenges of quality, accessibility, and affordability for a large section of the population. The strategy emphasised how AI combined with robotics and the Internet of Medical Things (IoMT) can potentially become the 'new nervous system for healthcare'

RURAL ECONOMY

7. The strategy of —Localisation of Sustainable Development Goals (SDGs) has been adopted to ensure that budgets at the Gram Panchayat levels align with the SDG objectives. The call for 'Sabka Saath, Sabka Vikas' and the vision of Viksit Bharat by 2047 lays the roadmap for achieving the SDGs.

8. for India to receive the demographic dividend in full in the coming years, regulatory institutions need to evolve to focus on allowing outcomes to happen without being fixated on inputs.

9. Regulators must develop their assessment parameters and report on their own effectiveness transparently. There is no better way to demand right behaviour than to set an example.



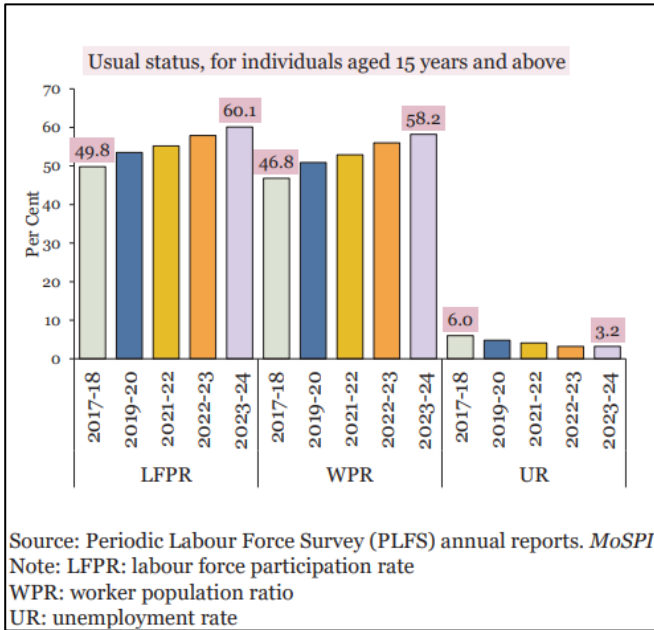
CHAPTER 12: Employment and Skill Development: Existential Priorities

The Economic Survey highlights **continued good performance on the employment front**. It states that India's labour market growth in recent years has been supported by **post-pandemic recovery and increased formalisation**.

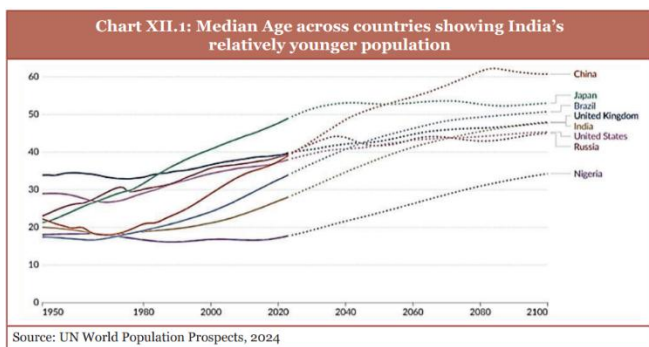
The Economic Survey highlighted that the **Indian economy must generate, on average, 78.5 lakh non-farm jobs annually until 2030** to productively engage its growing working population.

The Survey states that for India's youth to take advantage of technological advances, **skilling and education must enable youth to stay one step ahead of the technological developments.**

1. Indian labour market indicators have improved with the **unemployment rate declining to 3.2 per cent in 2023-24 (July-June) from 6.0 per cent in 2017-18 (July-June).** The labour force participation rate (LFPR) and the worker-to-population ratio (WPR) have also increased.



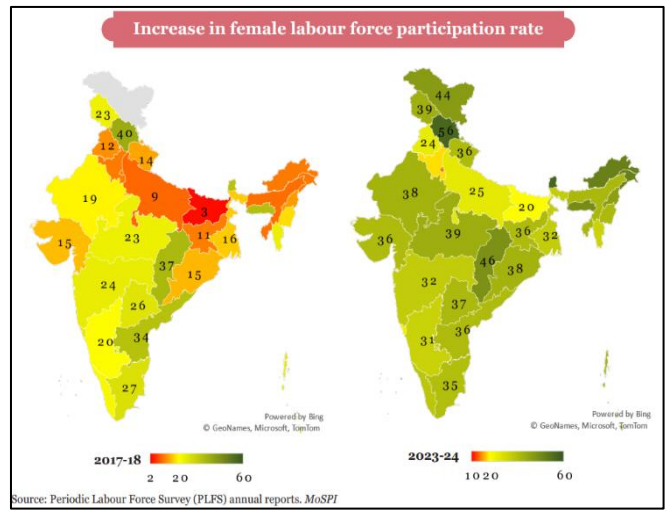
2. With around **26 per cent of the population in the age group of 10-24 years**, India stands at the cusp of a unique demographic opportunity, as one of the youngest nations globally.
3. The declining **dependency ratio**, marked by the falling **child dependency ratio** following declining fertility rates, has contributed to this demographic advantage.



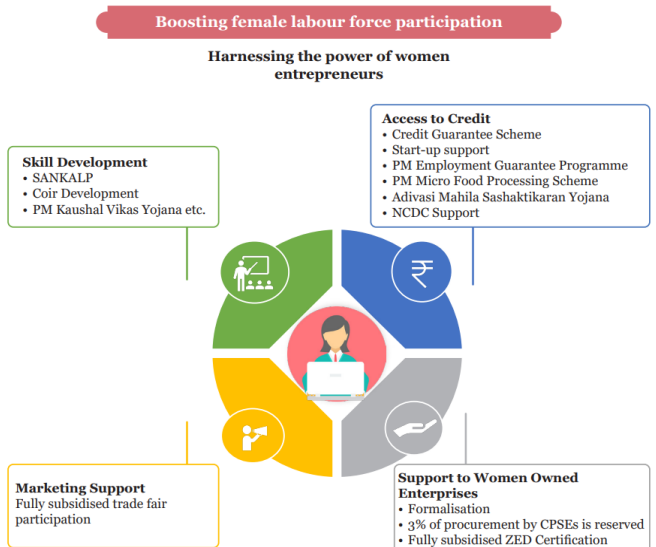
4. The proportion of **self-employed workers in the workforce has risen from 52.2 per cent in 2017-18 to 58.4 per cent in 2023-24.** This shift reflects growing entrepreneurial activity and a preference for flexible work arrangements.
5. **The decline in casual workers, from 24.9 per cent to 19.8 per cent**, also indicates a shift toward more structured forms of self-employment. These changes

suggest an **evolving workforce that embraces flexibility and independence** in response to industry transformations and individual preferences.

6. The FLFPR has improved across states. In 2017-18, **20 states/UTs had FLFPR of less than 20 per cent. This number has gone down to three in 2023-24.** This increase in FLFPR can partly be attributed to better capturing female workers in unpaid work by the PLFS survey. As women cite childcare responsibilities as a consideration in deciding on employment, **childcare facilities and crèches** will go a long way in female participation in the labour force.

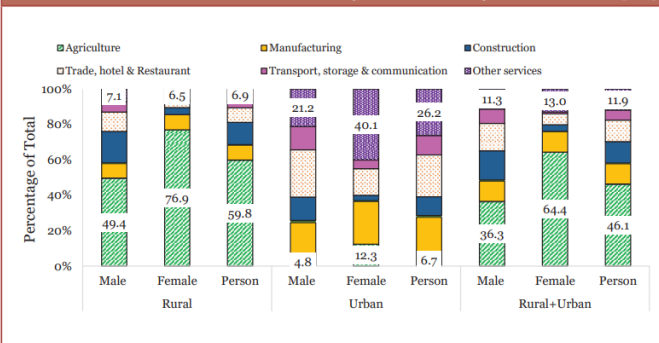


7. Promoting women-owned, growth-oriented enterprises could significantly boost FLFPR and economic growth in rural India.



8. According to the PLFS 2023-24, **the agriculture sector remains dominant in employment, with its share rising from 44.1 per cent in 2017-18 to 46.1 per cent in 2023-24.** The share of industry and services sectors saw declines in employment share, with manufacturing falling from 12.1 per cent to 11.4 per cent, and services from 31.1 per cent to 29.7 per cent during the same period.

Chart XII.8 (a) Distribution of workers by broad industry division in 2023-24



- Nominal wages have shown good growth across all categories, outpacing growth in real wages. Corporate profitability soared to a 15-year peak in FY24, fuelled by robust growth in financials, energy, and automobiles even as wage growth moderated.
- The net payroll additions under the Employees' Provident Fund Organisation (EPFO) have more than doubled in the past six years, signalling healthy growth in formal employment. This indicates that government initiatives are helping foster greater economic formalisation.
- One key aspect of creating an enabling environment for businesses to grow is improving the ease of doing business and increasing flexibility in the labour market. In this regard, the government has worked to simplify labour laws. These reforms aim to foster job creation, enhance transparency, and improve accountability within the system.
- The central government has formulated four Labour Codes, namely, the Code on Wages, 2019; the Code on Social Security, 2020; the Industrial Relations Code, 2020; and the Occupational Safety, Health, and Working Conditions Code, 2020 after simplifying, rationalising, and amalgamating the 29 existing central laws.
- The growing digital economy and renewable energy sectors are providing enhanced opportunities for job creation, essential for achieving Viksit Bharat's vision.
- According to the Ministry of Electronics and Information Technology (MeitY), India's digital economy is projected to surpass USD one trillion by 2025. The key benefit of the digital economy is that it allows and encourages remote working, where gender may not matter as much as in the physical economy. It opens opportunities for women in developing countries with increased financial independence and empowerment
- The government is establishing a resilient and responsive skilled ecosystem to keep pace with emerging global trends such as automation, generative AI, digitalisation, and the effects of climate change.
- According to the PLFS report 2023-24, 4.9 per cent of the youth in the age cohort of 15-29 years have received formal vocational/technical training, while

another 21.2 per cent received training through informal sources. There is a significant improvement in the proportion of skilled people from 2018-19 to 2023-24 across all socio-economic classifications.

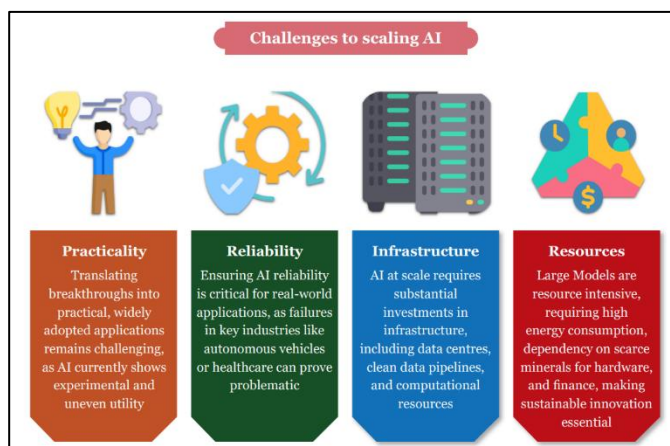
- The recently launched PM-Internship Scheme is emerging as a transformative catalyst for employment generation.
- The SIDH, a transformative digital portal, leverages the digital infrastructure to synergise and empower the skill ecosystem. The NEP 2020 aims to ensure that by 2025, at least 50 per cent of students in school and higher education gain exposure to skill education. Over the next decade, skill education will gradually become a part of all secondary schools
- Together, these measures foster a 'virtuous cycle of job creation,' supporting sustainable employment growth and economic inclusivity.

CHAPTER 13: Labour in the AI Era: Crisis or Catalyst?

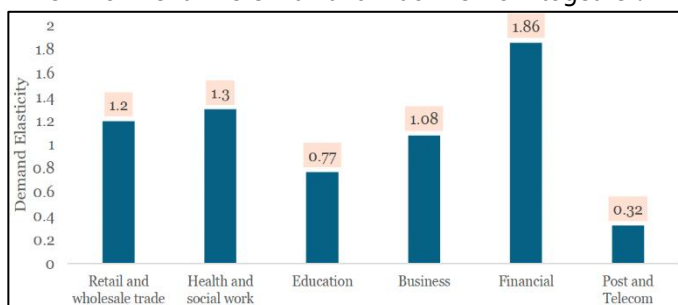
Taking a balanced view on Artificial Intelligence (AI), the Survey argues that AI is not applicable as a one-for-all solution and it does not apply to all the countries unequivocally, particularly so for a labour-rich country like India. Even in countries where AI may fill the shrinking labour force, AI's enormous demand for water and electricity is slowly coming into view, much to the bewilderment of policymakers. Therefore, whether the world is better or worse off with AI is not easily answered now.

It also mentions that for India, a services-driven economy with a youthful and adaptable workforce, the adoption of AI offers the potential to support economic growth and improve labour market outcomes. Prioritising education and skill development will be crucial to equipping workers with the competencies needed to thrive in an AI-augmented landscape.

The Survey brings out the fact that there are at present barriers to large-scale AI adoption which include concerns over reliability, resource inefficiencies, and infrastructure deficits, leading to a window for policymakers to act.



1. Developers of Artificial Intelligence (AI) promise to usher in a new age, where a bulk of the economically valuable work is automated.
2. AI is anticipated to surpass human performance in critical decision-making across various fields, including healthcare, research, criminal justice, education, business, and financial services.
3. Labour and Technology, when integrated in the right way, **have complemented one another rather than being substitutes**. Implementing AI as a tool helps bridge the skill gap in this domain, allowing low-skilled workers to produce outputs closer in quality to the work high-skilled workers do without any tools. **The reduction in skill inequality is a big positive on aggregate** since the overall productivity increases. AI must be seen for and utilised as what it is supposed to be, a tool, as the arc of technological history does **not bend towards the replacement of humans by machines**
4. Fortunately, due to AI presently being in its infancy, India is afforded the time necessary to **strengthen its foundations and mobilise a nationwide institutional response**. Just as history provides a reason for caution, history also provides a cause for optimism about the effectiveness of strong institutions that can foster an environment where man and machine work together.



5. If transitions are not carefully managed, workers can experience long-lasting unemployment, with little prospect of catching up to market demands. As **India's workforce in low-skill and low-value-added services remains vulnerable to AI**, robust enabling institutions are essential to help transition workers to medium- and high-skilled jobs, where AI can augment their efforts rather than replace them.
6. Workers may not immediately benefit from the productivity and profitability gains associated with technological advancements. **Insuring Institutions are intended to provide a soft landing** for workers whose finances have been hit and whose well-being has been affected during the **transitory** period.
7. The future revolves around '**Augmented Intelligence**', **where the workforce integrates both human and machine capabilities**. This approach aims to enhance human potential and improve overall efficiency in job performance, ultimately benefiting society as a whole.

8. Studies and Economists find that **technological change is only labour displacing and brings about mass unemployment if the demand for the product/service offered by the industry is saturated**. If the market has large, unmet needs, then labour augmented by machines increases productivity and employment. This implies that new technology should increase employment if the **demand elasticity** for the sector is high.
9. **What happens to work in the presence of automation?** Often automation does away with sub-tasks within a job, in turn leading to a modification of the job profile rather than the job being suppressed entirely. For instance, **the introduction of labour-saving innovations such as the ATM did not lead to a loss of bank employment**.
10. Demand elasticities can help gauge a sector's ability to raise employment because of productivity enhancements from automation.
11. A **sectoral comparison** of estimates reveals that **demand elasticities are high for sectors such as financial services, trade services, health and social work and business services**.
12. The high elasticity in **financial services** could be indicative that the sector is yet to reach a stage of market saturation. Productivity enhancement may therefore prove employment generating for the financial sector.
13. In the **social work** industry, AI can maximise the effectiveness of frontline workers.
14. The **education sector shows an inelastic** demand for services. Theoretically, this may imply that productivity enhancements through AI-based learning models can lead to a decline in teacher employment. Interestingly, **post and telecom also show low elasticity**. Automation may therefore behave as a labour-displacing force rather than a labour-augmenting one.
15. While initial displacement is to be expected for workers who fail to catch up to the market demands, the magnitude of displacement also **depends on how displacement and productivity effects weigh against each other**.
16. A collaborative effort between the **government, the private sector, and academia** is essential to minimise the adverse societal effects of AI-driven transformation.
17. The Survey also suggests establishing **Artificial Intelligence Centres for Excellence (CoE)** at top educational institutions across India with a Rs. 1 lakh crore financing corpus to catalyse private sector innovation and R&D in sunrise sectors.

GOVERNMENT SCHEMES

Battlefield Tourism Initiative

News Excerpt

The **Battlefield Tourism Initiative** is a government-led effort to open historically significant battle sites and border areas to civilian visitors. This initiative aims to promote tourism, enhance public understanding of military history, and boost local economies in remote regions.

Objectives

Promote National Integration: By allowing citizens to visit sites of historical military significance, the initiative fosters a deeper appreciation for the sacrifices made by the armed forces.

Economic Development: Boost local economies through increased tourism, providing new opportunities for local businesses and communities.

Cultural Awareness: Enhance public understanding of India's military history and the strategic importance of border areas.

Bharat Ranbhoomi Darshan app

The **Bharat Ranbhoomi Darshan** app is a digital initiative aimed at promoting cultural heritage and tourism in India. While specific details about this app might be limited, similar initiatives often focus on providing users with a comprehensive platform to explore India's diverse cultural landscapes, historical sites, and natural wonders. Here's a general overview of how such an app could function:

Key Features of Cultural and Tourism Apps

Interactive Maps and Guides:

- **Location-Based Information:** Users can access detailed maps and guides that highlight important cultural and historical sites across India.
- **Navigation Tools:** The app could include navigation features to help users plan their visits and explore these sites efficiently.

Cultural Insights and Stories:

- **Multimedia Content:** The app might offer multimedia content, such as videos, images, and audio narratives, to provide in-depth insights into India's cultural heritage.
- **Historical Context:** Users can learn about the historical significance and cultural importance of various sites and monuments.

Community Engagement:

- **User Reviews and Ratings:** Users can share their experiences and rate different sites, helping others plan their visits.
- **Social Sharing:** The app could allow users to share their favorite destinations on social media platforms.
- **Personalized Recommendations:** **Customized Itineraries:** Based on user preferences, the app might suggest personalized travel itineraries that include cultural events, festivals, and local experiences.

- **Language Support: Multilingual Interface:** To cater to a diverse user base, the app could offer support for multiple languages, making it accessible to both domestic and international tourists.

Benefits and Impact

- **Promoting Cultural Awareness:** By providing easy access to information about India's rich cultural heritage, the app can foster greater appreciation and understanding among users.
- **Boosting Tourism:** The app can help attract more tourists to lesser-known sites, contributing to local economic development and preserving cultural assets.
- **Digital Preservation:** It can serve as a digital repository for cultural knowledge, helping preserve historical and cultural information for future generations.

If the **Bharat Ranbhoomi Darshan** app follows a similar model, it would likely aim to enhance the cultural and tourism experience in India by leveraging digital technology to connect users with the country's diverse cultural landscapes.

Key Features

- **Collaboration:** Jointly managed by the Ministry of Defence, Ministry of Tourism, and state governments.
- **Safety Protocols:** Coordination with the Indian Army to ensure visitor safety, including risk mitigation and acclimatization protocols.
- **Infrastructure Development:** Improving access and facilities in remote and high-altitude areas to accommodate tourists.

Implementation

- **Site Selection:** 77 forward sites have been identified, including locations in Arunachal Pradesh, Ladakh, Jammu and Kashmir, and Sikkim.
- **Visitor Coordination:** Visitors are required to coordinate with Army units for safety and clearances, facilitated via a single window system.
- **Regulated Access:** Entry to certain high-altitude locations is regulated, with special permits issued for security purposes.

Challenges

- **Security Concerns:** Ensuring the safety of visitors in sensitive border areas.
- **Environmental Impact:** Managing the environmental footprint of increased human activity in fragile ecosystems.
- **Benefits**
- **Economic Growth:** Potential for significant economic benefits through tourism, providing new revenue streams for local communities.
- **Cultural Exchange:** Opportunities for cultural exchange and increased awareness of India's military history and strategic challenges.

Way Forward

Sustainable Practices: Implementing sustainable tourism practices to minimize environmental impact.

Continued Engagement: Ongoing diplomatic efforts to maintain peace and stability in border regions, ensuring the long-term success of the initiative.

This initiative represents a strategic effort to leverage India's rich military history and border landscapes for tourism, while also addressing security and environmental concerns.

Digital India RISC-V (DIRV) Initiative

News Excerpt

The Digital India RISC-V (DIRV) initiative is a government-backed program aimed at promoting the development and adoption of RISC-V based **microprocessors in India**. This initiative is part of the broader **Digital India campaign**, which seeks to transform India into a digitally empowered society and knowledge economy.

Objectives

- **Promote Indigenous Development:** Encourage the creation of homegrown microprocessor technologies to reduce dependency on foreign imports.
- **Enhance Security:** Develop secure and reliable microprocessor solutions for various applications, including strategic and defense sectors.
- **Foster Innovation:** Support research and development in semiconductor technology to drive innovation and technological advancement.

Key Features

- **Open-Source Architecture:** Utilizes the RISC-V architecture, which is open-source and allows for customization and flexibility in processor design.
- **Collaboration:** Involves partnerships between academic institutions, government agencies, and industry players to foster a collaborative ecosystem.
- **Support for Startups:** Provides resources and support to startups and small enterprises to develop RISC-V based products.

Implementation

- **Research and Development:** Funding and support for R&D projects focused on RISC-V technology.
- **Skill Development:** Training programs to build a skilled workforce capable of working with RISC-V technologies.
- **Infrastructure Development:** Establishing facilities and infrastructure to support the design, testing, and manufacturing of RISC-V based microprocessors.

Challenges

- **Global Competition:** Competing with established global semiconductor manufacturers.
- **Technological Expertise:** Building the necessary expertise and capabilities in RISC-V technology within the country.

Benefits

- **Strategic Autonomy:** Reduces reliance on foreign technology, enhancing national security and strategic autonomy.
- **Economic Growth:** Potential to boost the domestic semiconductor industry and create high-tech jobs.

Technological Leadership: Positions India as a leader in the development of open-source microprocessor technologies.

Way Forward

Continued Investment: Sustained investment in R&D and infrastructure to support the growth of the RISC-V ecosystem.

International Collaboration: Engaging in global partnerships to share knowledge and best practices in RISC-V development.

The DIRV initiative represents a significant step towards achieving technological self-reliance and fostering innovation in India's semiconductor industry.

SVAMITVA scheme

News Excerpt

The SVAMITVA (Survey of Villages and Mapping with Improved Technology in Village Areas) scheme, launched by the Government of India on April 24, 2020, aims to provide rural property owners with official documentation of their residential properties. This initiative seeks to empower villagers by granting them legal ownership rights, thereby facilitating access to financial services and reducing property disputes.

Key Objectives of the SVAMITVA Scheme: Creation of Accurate Land Records:

- The scheme involves the use of advanced technologies, such as drones, to conduct comprehensive surveys of rural inhabited areas. This process ensures the

generation of precise land records, which are essential for legal recognition and administrative purposes.

Issuance of Property Cards:

- Upon completion of the surveys, property cards are distributed to the rightful owners. These cards serve as official documents, affirming the owner's legal claim over the property. As of December 6, 2023, the government has issued approximately 1.63 crore property cards under this scheme.

Facilitation of Financial Inclusion:

- With legal ownership documents in hand, rural property owners can leverage their assets to obtain loans and other financial benefits. This access to credit is anticipated to stimulate economic activities and improve the livelihoods of rural populations.

Reduction of Property Disputes:

- The establishment of clear and accurate property records is expected to minimize conflicts arising from ambiguous property boundaries or ownership claims, thereby promoting social harmony in rural areas.

Implementation and Progress:

- The SVAMITVA scheme is being implemented in a phased manner across various states and union territories. Initially, the scheme targeted select villages in Maharashtra, Karnataka, Haryana, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Punjab, and Rajasthan. The government plans to extend the coverage to approximately 6.62 lakh villages nationwide between 2021 and 2025.
- The process begins with drone surveys to map the inhabited areas of villages, followed by the creation of detailed property maps. These maps are then used to generate property cards, which are distributed to the residents, granting them official ownership status.

Challenges and Considerations:

- While the SVAMITVA scheme holds significant promise, its success hinges on effective implementation and addressing potential challenges, such as:

Awareness and Acceptance:

- Ensuring that rural residents understand the benefits of the scheme and actively participate in the surveying process is crucial.

Technological Infrastructure:

- Deploying advanced technologies like drones in remote areas requires robust infrastructure and technical expertise.

Dispute Resolution Mechanisms:

- Establishing efficient systems to handle disputes that may arise during the surveying and documentation process is essential to maintain trust in the scheme.

Conclusion:

The SVAMITVA scheme represents a transformative initiative aimed at empowering rural India through the provision of formal property rights. By creating accurate land records and issuing property cards, the scheme seeks to enhance financial inclusion, reduce disputes, and promote economic

development in rural areas. Continued focus on effective implementation and addressing challenges will be key to realizing the full potential of this ambitious program.

National Health Mission has enhanced workforce

News Excerpt

The National Health Mission (NHM), encompassing both the National Rural Health Mission (NRHM) and the National Urban Health Mission (NUHM), has significantly bolstered India's healthcare infrastructure and workforce, addressing various public health challenges.

Enhancement of Healthcare Workforce

- Under the NHM, there has been a substantial increase in healthcare personnel across the country.
- The mission has deployed approximately 900,000 community health volunteers and 178,000 paid staff, ensuring that essential health services reach even the most remote areas.
- This expansion has been pivotal in improving access to healthcare in underserved regions.

Addressing Public Health Concerns

The NHM has implemented targeted interventions to tackle pressing public health issues, including:

- **Maternal and Child Health:** Initiatives have led to a notable reduction in infant mortality rates, decreasing from 58 per 1,000 live births in 2005 to 34 per 1,000 in 2016.
- **Communicable Diseases:** Focused programs have been launched to control diseases such as tuberculosis, malaria, and HIV/AIDS, contributing to a decline in their prevalence.
- **Non-Communicable Diseases:** The mission has expanded screening and management services for conditions like diabetes and hypertension, promoting early detection and treatment.

Infrastructure Development

The NHM has prioritized the strengthening of healthcare infrastructure by:

- **Establishing Health and Wellness Centers:** These centers provide comprehensive primary healthcare services, including preventive, promotive, and curative care.
- **Upgrading Facilities:** Existing healthcare facilities have been upgraded to meet the Indian Public Health Standards (IPHS), ensuring quality care delivery.

Community Engagement and Outreach

Community participation has been a cornerstone of the NHM's strategy, with initiatives such as:

- **Accredited Social Health Activists (ASHAs):** These community health workers play a crucial role in bridging the gap between the healthcare system and the community, facilitating access to services and promoting health awareness.

- **Health and Nutrition Days:** Regular events are organized to provide maternal and child health services, immunizations, and nutritional support, enhancing community health outcomes.

In summary, the National Health Mission has made significant strides in enhancing India's healthcare workforce and infrastructure, effectively addressing various public health concerns through targeted interventions and community engagement.

National Critical Minerals Mission

News Excerpt



The Indian government has approved the establishment of the **National Critical Minerals Mission (NCMM)** with a budgetary allocation of **₹16,300 crore** over the next seven years.

National Critical Mineral Mission

- Mission to establish effective framework for India's self-reliance in critical mineral sector
- Expenditure of Rs.16,300 crore
- Expected investment of Rs.18,000 crore by PSUs, etc.

Mission will:

- Encompass all stages of the value chain, including mineral exploration, mining, beneficiation, processing, and recovery from end-of-life products
- Intensify exploration of critical minerals within the country and in its offshore areas
- Create a fast track regulatory approval process for critical mineral mining projects
- Offer financial incentives for critical mineral exploration

Key Objectives of the National Critical Minerals Mission:

- **Acquisition of Overseas Assets:** Encourage Indian public sector enterprises and private companies to acquire critical mineral assets abroad, ensuring a steady supply chain for domestic industries.
- **Reducing Import Dependence:** Aim to lessen reliance on foreign sources for essential minerals, thereby enhancing India's strategic autonomy in sectors like defense, electronics, and renewable energy.
- **Strengthening Domestic Value Chains:** Develop and integrate domestic capabilities in mining, processing, and manufacturing to support various industries and promote self-reliance.
- **Supporting Net Zero Goals:** Facilitate the transition to clean energy by securing minerals vital for renewable technologies, aligning with India's commitment to achieve net-zero emissions by 2070.

Strategic Importance of Critical Minerals:

- Critical minerals such as lithium, cobalt, nickel, and rare earth elements are essential for manufacturing electronics, batteries, and renewable energy systems.
- The NCMM aims to secure a robust supply of these minerals through domestic production, international collaborations, and recycling initiatives.

International Collaborations:

- The mission emphasizes forming strategic partnerships with other nations to access and develop critical mineral resources, ensuring a diversified and resilient supply chain.

Alignment with National Initiatives:

- The NCMM complements other national programs like the **Deep Ocean Mission**, which focuses on exploring seabed resources, including polymetallic nodules rich in critical minerals.
- This integrated approach aims to bolster India's mineral security and support sustainable economic growth.
- By establishing the National Critical Minerals Mission, India seeks to proactively address the challenges of critical mineral supply, fostering industrial growth and technological advancement while reducing external dependencies.

National Mission on High Yielding Seeds: A Step Towards Sustainable Agriculture

News Excerpt

On February 1, 2025, Finance Minister Nirmala Sitharaman announced the **National Mission on High Yielding Seeds** during her eighth budget speech for the Modi government. This initiative aims to enhance agricultural productivity and resilience in the face of climate change, focusing on the development and commercialization of high-yielding seed varieties.

Objectives of the National Mission




National Mission on High Yielding Seeds

- To strengthen research ecosystem
- For targeted development and propagation of high-yield seeds with pest resistance and climate resilience
- To improve commercial availability of more than 100 seed varieties released since July 2024



The National Mission on High Yielding Seeds has several key objectives:

- **Strengthening the Research Ecosystem:** The mission seeks to enhance research efforts in developing new seed varieties that are high-yielding, pest-resistant, and climate-resilient.
- **Targeted Development and Propagation:** It focuses on creating and promoting seeds capable of withstanding adverse environmental conditions, ensuring consistent crop output despite challenges posed by global warming.
- **Commercial Availability:** The initiative plans to make over **100 new seed varieties** commercially available, which have been released since July 2024. This includes a diverse range of crops such as cereals, pulses, and oilseeds.

Importance of High-Yielding Seeds for Climate Mitigation

High-yielding seed varieties are essential for addressing climate change impacts on agriculture. A study published in Nature Food highlighted that food systems contribute significantly to greenhouse gas emissions, with agriculture accounting for a substantial portion. The World Bank has also pointed out the need for climate-resilient agricultural practices.

Benefits of High-Yielding Seed Varieties

High-yielding seeds offer several benefits:

- **Reduced Reliance on Irrigation:** These seeds can thrive with less water, which is crucial in drought-prone areas.
- **Tolerance to Adverse Conditions:** They are designed to withstand extreme weather events such as floods and salinity.
- **Higher Nutrient Uptake:** Improved varieties can enhance nutrient absorption from the soil, leading to better crop quality.
- **Increased Productivity:** By producing more crops per unit area, high-yielding seeds can help reduce land-use change and promote food security.

Addressing Land-Use Change

High-yielding varieties produce more crop per unit of agricultural land, which can help mitigate land-use change. Many farming practices, like shifting cultivation, rely on clearing forests for crop cultivation. This disrupts natural carbon sinks. Seed varieties with higher yield and efficiency can potentially help counter these concerns while maintaining high crop output.

Challenges Ahead

Despite the potential benefits, the initiative faces several challenges:

- **Research Limitations:** Developing high-yielding varieties requires extensive scientific research, which may limit their availability for farmers.

- **Monoculture Risks:** There is a concern that promoting specific high-yielding varieties could lead to monocultures, reducing biodiversity and harming soil health. Farmers might prioritize these varieties over traditional crops.
- **Cost and Accessibility:** Ensuring that small and marginal farmers have access to these seeds at affordable prices is crucial. Establishing dedicated seed banking centers could help make high-yielding varieties widely available while preserving traditional crops.

Success Stories

One notable success story in high-yielding seed development is **MGR 100**, a rice variety that has shown significant yield improvements. Developed from a cross involving existing rice varieties, MGR 100 matures quickly and has recorded impressive yields during trials. Such examples demonstrate the potential of targeted research in enhancing agricultural productivity.

Future Directions

As India moves forward with this mission, special attention should be given to developing seed varieties for millets (ragi, bajra, jowar), pulses (tur, chana, moong), and oilseeds (groundnut, mustard, sunflower). These crops can significantly benefit farmers in climate-stressed regions while ensuring sustainable agricultural practices that contribute to food security and environmental conservation.

Conclusion

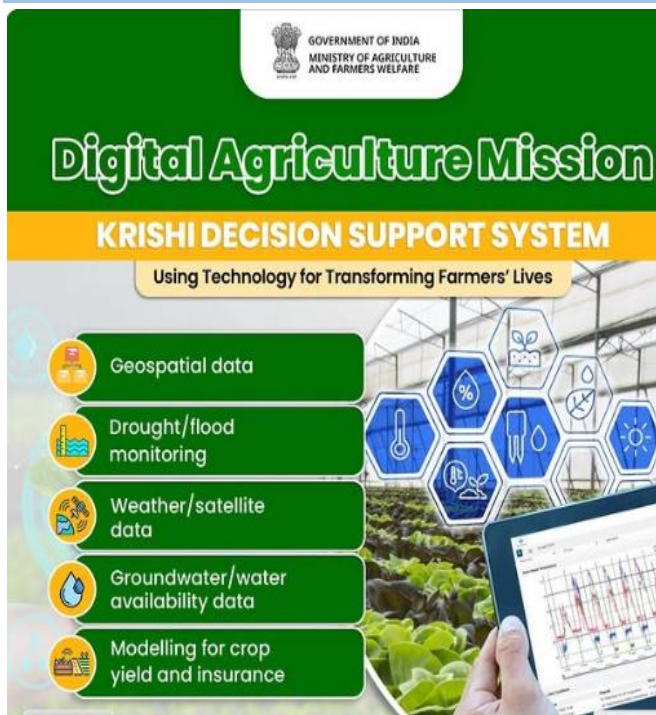
The National Mission on High Yielding Seeds represents a significant step towards modernizing Indian agriculture and ensuring food security amid climate challenges. By focusing on research and development of resilient seed varieties, the government aims to enhance agricultural productivity while addressing environmental concerns. However, careful implementation is essential to balance the promotion of high-yielding varieties with the preservation of traditional crops and biodiversity. Proactive policy measures will be crucial in maximizing the positive impact of this mission while ensuring equitable access for all farmers across India.

Digital Agriculture Mission: Transforming Indian Agriculture through Technology

News Excerpt

In a significant move to modernize and enhance the efficiency of India's agricultural sector, **the government launched the Digital Agriculture Mission on September 2, 2024.**

This ambitious initiative is designed to create a robust digital ecosystem that supports innovative, farmer-centric solutions and provides timely, reliable crop-related information to farmers across the country. With an allocated budget of Rs. 2817 crore, the mission aims to leverage technology to improve agricultural productivity, streamline processes, and empower farmers through digital tools.



Key Components of the Digital Agriculture Mission

- **Agristack Project:**
 - **Foundational Registries:** The Agristack project is a core component of the mission, focusing on creating three foundational databases:
 - **Farmers' Registry:** This database contains detailed demographic information about farmers, enabling them to access various benefits and services digitally.
 - **Geo-referenced Village Maps:** These maps provide spatial data that can be used for planning and implementing agricultural programs effectively.
 - **Crop Sown Registry:** This registry tracks the types of crops sown by farmers, facilitating better crop management and planning.
 - **Implementation:** These registries are created and maintained by state governments and union territories, with the central government providing administrative and technical support.
- **Digital Public Infrastructure for Agriculture:**
 - **Krishi Decision Support System:** This system uses data analytics to provide farmers with actionable insights on best practices, weather forecasts, and market trends, helping them make informed decisions.
 - **Comprehensive Soil Fertility & Profile Map:** This initiative involves mapping soil health across different regions to guide farmers on optimal fertilizer usage and crop selection.
- **National Agriculture Market (e-NAM):**
 - **Virtual Trading Platform:** e-NAM integrates physical wholesale markets across states and union territories, allowing farmers to sell their produce online through a transparent price discovery

mechanism. As of December 31, 2024, 1410 mandis from 23 states and four union territories have been integrated into the e-NAM platform.

- **Benefits:** This platform helps farmers achieve better prices for their produce by providing access to a wider market and reducing intermediaries.

Objectives and Expected Outcomes

- **Empowerment of Farmers:** By providing digital access to information and services, farmers can make more informed decisions about their crops, manage resources more efficiently, and access financial services like credit and insurance more easily.
- **Market Access:** The integration of mandis through e-NAM ensures that farmers can sell their produce at competitive prices, enhancing their income and reducing post-harvest losses.
- **Data-Driven Decision Making:** The creation of comprehensive databases and decision support systems enables policymakers to develop targeted interventions based on accurate data, leading to more effective agricultural policies.
- **Digital Economy Integration:** The mission aims to connect farmers with the digital economy, facilitating online transactions for inputs and produce. This integration can reduce transaction costs and increase transparency in agricultural trade.

Challenges and Opportunities

While the Digital Agriculture Mission presents numerous opportunities for growth and modernization, several challenges need to be addressed:

- **Infrastructure and Connectivity:** The success of digital initiatives depends on robust internet connectivity and digital literacy among farmers, which can vary significantly across different regions.
- **Data Privacy and Security:** Ensuring the privacy and security of sensitive farmer data is crucial to maintaining trust in digital systems.
- **State-Level Implementation:** The effectiveness of the mission will depend on the proactive engagement and coordination of state governments in implementing and maintaining the digital infrastructure.

In conclusion, the Digital Agriculture Mission marks a significant step towards transforming India's agricultural sector through technology. By creating a robust digital ecosystem, the government aims to enhance farmer productivity, improve market access, and foster a more inclusive and efficient agricultural economy. As the mission progresses, addressing the challenges associated with digital adoption will be critical to realizing its full potential.

PHILOSOPHY OF THE MONTH

Cracking the Patriarchal Prism: A Philosophical Exploration

In the complex interplay of gender dynamics, the call to "**retire the male gaze**" signifies a profound shift in societal consciousness—a transition from a patriarchal perspective to one that genuinely incorporates and understands women's experiences. This important philosophical exploration seeks to **dismantle the military-clad constructs of patriarchy, revealing how gender equality is not merely a legal matter** but a pervasive cultural need that requires a fundamental reimagining of societal attitudes.

Understanding the Male Gaze

The male gaze, a term popularized by feminist film theorist Laura Mulvey, describes the **way visual arts and literature depict the world and women from a masculine, and often heterosexual, perspective, which**

objectifies women. This perspective reinforces the notion that women exist primarily through the eyes of men, reducing their identity to objects rather than recognizing them as autonomous individuals with unique lives and experiences.

Legal Perspectives and Gender Sensitivity

Recent judicial observations, such as those made by Justice **Manjula of the Madras High Court** in the case of **Dr. Supraja vs. State** regarding sexual harassment in the workplace, showcase a critical shift toward understanding the issues through a female lens. Justice Manjula advocates for the application of a "**reasonable woman**" standard, **urging that legal frameworks should evolve to reflect women's realities.**

Historical Narratives and Gender Objectification

The narratives surrounding legendary figures in Indian epics, such as Sita from the **Ramayana** and **Draupadi** from the **Mahabharata**, serve as poignant examples of how women have been objectified. **Sita's trials, from forced exile** to the agnipariksha (trial by fire), symbolize the systemic struggles against a patriarchal code that frequently sidelines women's agency. **Draupadi's public humiliation** starkly illustrates how her identity was commodified, rendered a tool for male conflict. These historical perspectives reveal the long-standing impacts of patriarchal thought, necessitating a reevaluation that acknowledges women's autonomy and dignity.

The Imperative of Education and Empathy

Education emerges as a crucial tool in dismantling patriarchal paradigms. Initiatives that promote empathy, respect, and gender sensitivity from a young age are instrumental in reshaping societal norms. **Elizabeth Seshadri advocates for the incorporation of these values into formal education, suggesting that empathy and**

understanding should replace objectification. By instilling the seeds of emotional intelligence in boys and girls alike, we cultivate a generation that views gender dynamics not through a lens of superiority or entitlement but through one of equality and mutual respect.

Philosophical Reflections: The Influence of Feminist Thinkers

Feminist philosophers, such as **Simone de Beauvoir**, have profoundly influenced how we interpret women's roles and identities. De Beauvoir asserted, "One is not born, but rather becomes, a woman," highlighting the societal constructs that shape gender experiences. This idea suggests that **gender roles are not innate but cultivated through**

societal expectations and norms. This calls for a crucial self-reflection among men and women alike, urging a collective dismantling of the systemic norms that perpetuate inequality.

Neuroplasticity and Gender Understanding

Emerging research in **neuroplasticity presents exciting possibilities** for reshaping how individuals understand gender roles. The adaptability of the human brain challenges the fixed nature of patriarchal perspectives, indicating that men can **intentionally reconfigure their cognitive frameworks toward empathy and inclusion.** This suggests a paradigm where societal norms can transform, allowing for a genuinely empathetic understanding of women's experiences.

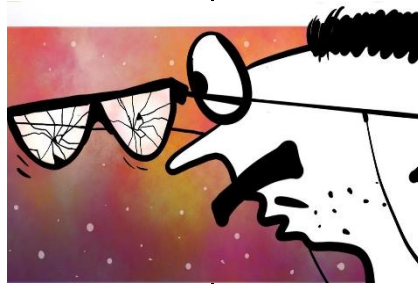
The Path Forward: Collective Responsibility and Action

For meaningful progress toward gender equality, all genders must share collective responsibility in dismantling patriarchal structures. Men are called not to be passive observers but active allies in creating a world where women feel safe, valued, and empowered. Challenging toxic masculinity, calling out discriminatory behaviors, and fostering supportive environments are crucial steps in this transformative journey.

Conclusion: A Call to Listen, Understand, and Transform

In the words of Maya Angelou, "Each time a woman stands up for herself, without knowing it possibly, she stands up for all women." This realization is essential to fostering an uprising that transcends individual experiences and creates a collective consciousness. The journey to gender equality requires a fundamental shift in how society perceives women—not as subjects to be controlled, but as equal partners deserving of respect, dignity, and autonomy.

As we retire the patriarchal prism, the focus must shift toward genuine listening and understanding. It is through this lens that we can begin to deconstruct centuries of oppressive narratives and replace them with lush, vibrant stories that reflect the authentic experiences of women. The time has come for transformation—ushered in by collaborative efforts toward equality and rooted in mutual respect and understanding.



ESSAY

1. It does not matter how slowly you go as long as you do not stop.
2. To be humane is to recognize our common humanity.

CONTEMPORARY ETHICS CASE STUDY

Delhi heavily relies on neighboring states like Himachal Pradesh, Uttarakhand, Punjab, Haryana, and Uttar Pradesh for about 90% of its drinking water supply. The Delhi Jal Board (DJB) sources water from multiple places: 40% from the Yamuna via Haryana, 25% from the Ganga, 22% from the Bhakra Nangal Dam, and 13% from subsurface sources such as Ranney wells and tube-wells.

Despite this, the city's daily water production of 977.79 to 993.76 million gallons falls short of the required 1,290 MGD, highlighting a significant deficit. Issues like high ammonia levels and industrial waste further contaminate the Yamuna, posing health risks and impacting water treatment efficiency. The crisis exacerbates social disparities, with affluent areas enjoying uninterrupted water supply while marginalized communities face severe shortages, resorting to unsafe sources that contribute to waterborne illnesses. Moreover, inadequate water supply hampers sanitation, increases healthcare costs, and disrupts economic stability and educational opportunities.

You are currently posted as the CEO of DJB and one day amid the shortage you are informed that in East Delhi, a major part of the water supply is experiencing a sudden rise in arsenic. The immediate solution involves shutting down the water supply for several days until the levels

reach safe limits. This step will cause scarcity of drinkable water when its availability is already creating a huge public outcry. However, the only alternative is to continue supplying the contaminated water while working on a slower solution, which poses health risks. During this crisis, some media reports have surfaced indicating that water tankers across Delhi are being controlled by a mafia seeking to profit from the situation.

In the evening, a tanker arrived in the Nangloi slum area, where the community was severely affected by water scarcity. As people rushed towards the tanker, a young boy fell in front of the vehicle, triggering a stampede that resulted in the deaths of nine individuals and left thirteen others critically injured.



SCAN THIS QR FOR
MODEL CONTENT

- (a) How would you balance the ethical dilemma of public health versus public convenience?
- (b) What steps would you take as the CEO of Delhi Jal Board to ensure transparency and maintain public trust in the wake of a severe crisis?
- (c) What is the best option available to you and why? Highlight the key ethical principles which you will use to arrive at the solution.

(Answer in 250 words) 20

SPECIES IN NEWS

First Breeding Record of Blue-cheeked Bee-eater in Peninsular India

News Excerpt:

The discovery of a breeding site for the **Blue-cheeked Bee-eater (Merops persicus)** in the salt pans of **Aandivilai near the Manakudy Mangroves in Kanniyakumari district, Tamil Nadu**, marks a significant extension of the bird's known breeding range in the Indian subcontinent.

Discovery and Significance

Historically regarded as a passage migrant and **winter visitor in India, the Blue-cheeked Bee-eater** was primarily known to breed in regions like the **Nile Delta, Pakistan, and Iran.**

Conservation Concerns

Despite the site's designation within the Coastal Regulation Zone (CRZ) and No Development Zone, it faces **threats from habitat destruction** due to **developmental activities and natural events like flooding and erosion.**

Research and Findings

The study, led by researchers from the **Salim Ali Centre for Ornithology and Natural History** and the Kanniyakumari Nature Foundation, was conducted across the Pazhayar Basin covering Periyakulam, Manakudy Mangroves, Puthalam, and Andivilai.



developmental activities and natural events like flooding and erosion.

Baillon's Crake

News Excerpt

As the temperatures rise and the landscape transforms, summer presents a unique opportunity for birdwatchers in **Chennai** to spot the elusive members of the **Rallidae family, particularly the Baillon's crake (Zapornia pusilla).** Known for its **diminutive size and secretive behavior.**

The Elusive Nature of Baillon's Crake

The Baillon's crake, aptly named from the **Latin word "pusilla," meaning "very small,"** often goes unnoticed due to its small stature and preference for **hiding among dense reeds and bulrushes.** Its natural instinct is to remain concealed, and it is only during moments of necessity—such as **bathing or feeding**—that it ventures out into the open.



Behavior and Habitat

While the Baillon's crake may appear outwardly unassuming, its behavior and feeding habits are fascinating. Often probing for food in the soft earth and shallow waters, it displays a series of movements that require **keen observation to fully appreciate.** The crake's vulnerability extends beyond its size; it involves navigating a habitat that is increasingly threatened by urban development and environmental changes.

New Giant Strobilanthes Species Discovered in Arunachal Pradesh's Eastern Himalayas

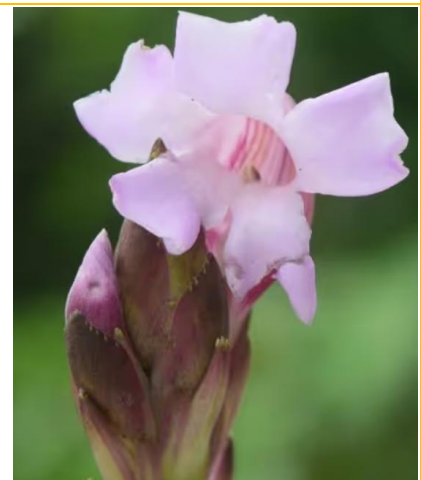
A remarkable botanical discovery has emerged from **Arunachal Pradesh**, where researchers have identified a new species within the genus **Strobilanthes, named Strobilanthes gigantra.** This finding highlights the rich biodiversity of the **Indian Himalayan Region (IHR)** and underscores the ecological significance of the area.

The Biodiversity Hotspot of Arunachal Pradesh

Arunachal Pradesh, known as a biodiversity hotspot, is home to 41 known species of Strobilanthes. The region's rich flora has historically been understudied, making every new discovery a significant contribution to botanical science.

Distinctive Features of Strobilanthes gigantra

Strobilanthes gigantra is notable for its impressive size, often growing to the



The genus *Strobilanthes* is the **second largest within the Acanthaceae family, with approximately 450 species globally, of which 167 species can be found in India.**

The majority are **endemic to the Himalayas and Western Ghats**, making these regions crucial for conservation efforts and biodiversity studies.

stature of a tree. This new species exhibits several unique characteristics that set it apart from its relatives, including:

- **Densely imbricate bracts:** The arrangement of these leaf-like structures adds to the visual appeal of the plant.
- **Uninterrupted inflorescence:** This term refers to the flowering structure, which presents a continuous blooming pattern.
- **Slightly curved corolla tube:** The floral structure not only serves aesthetic purposes but also plays a role in reproduction.
- **Wings on the staminal curtain:** This unique trait aids in the plant's reproductive processes.

Significance of the Discovery: The discovery of *Strobilanthes gigantea* not only enriches the botanical records of Arunachal Pradesh but also reinforces the region's reputation as a vital center for plant diversity. As East Himalayas remain a focal point for biodiversity, the scientific community anticipates more discoveries that will illuminate the intricate web of life present in this remarkable part of the world

New Giant Sunflower Species Discovered in Big Bend National Park, Texas. "wooly devil,"

In a remarkable botanical discovery, researchers from the **California Academy of Sciences** have identified a **new genus and species of plant, named *Ovicula biradiata*, or the "wooly devil," in Big Bend National Park.** This finding represents the first new plant genus discovered within a **U.S. national park in nearly 50 years.**

Discovery Background

The new species flourishes in the **Chihuahuan Desert**, specifically in the park's rocky, arid habitats that experience limited rainfall. **This ephemeral plant** only blooms after rain, showcasing its remarkable adaptation to the **harsh conditions of its environment.**

The genus name *Ovicula* means **"tiny sheep," referencing the plant's woolly appearance and paying homage to the endangered bighorn sheep (*Ovis canadensis*),** while *biradiata* indicates the two ray florets in each flower.

Unique Characteristics

Ovicula biradiata is distinguished by its small, fuzzy flowers, characterized by:

- **Woolly foliage:** Thick, white hairs cover the leaves, contributing to its common name, the "wooly devil."
- **Maroon ray florets:** These striking petals add to the plant's visual appeal, although it does not immediately resemble more familiar sunflower relatives.
- **Ephemeral nature:** The plant's lifecycle is closely tied to rainfall, blooming briefly when conditions allow.



Ecological Significance

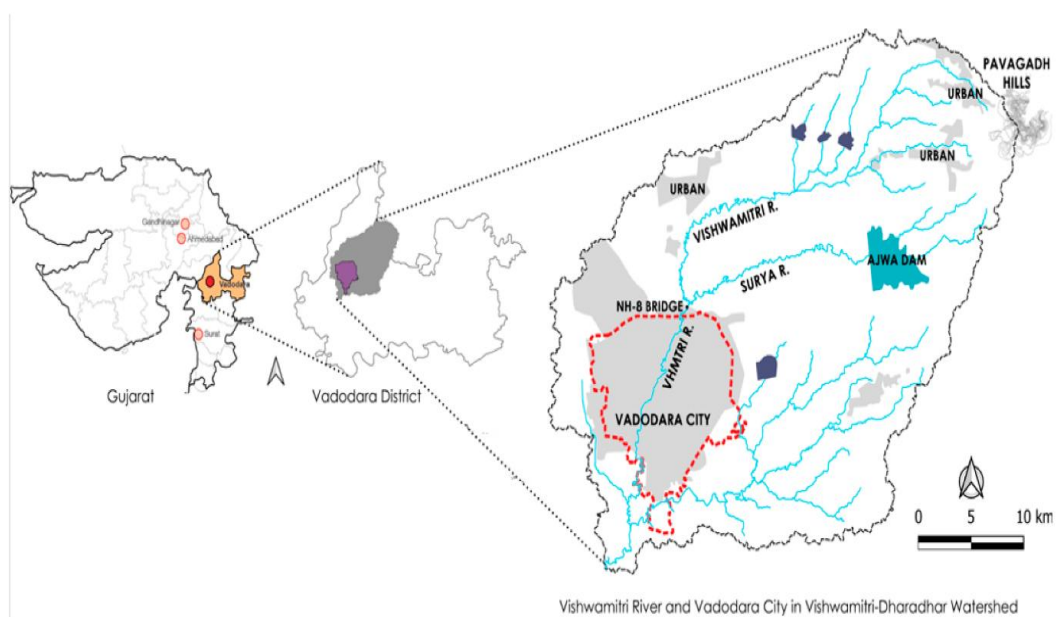
Big Bend National Park, known for its diverse ecosystems ranging from vast desert expanses to towering mountains, is a critical biodiversity hotspot. Despite its extensive botanical surveys over the years, the discovery of the woolly devil emphasizes the potential for more undiscovered species in these protected areas.

"Plants that thrive in deserts have unique adaptations to survive extreme conditions, including water-storing structures and rapid life cycles triggered by rain," said Isaac Lichter Marck, corresponding author and researcher.

Conservation Concerns

Researchers have observed the woolly devil only in three limited locations in the park, raising concerns about its conservation status. As climate conditions become more severe, such specialized plants may face heightened risks of extinction.

PLACES IN NEWS - INDIA

**Vishwamitri River
and
Mugger
Crocodiles**


The Government of Gujarat has conducted a comprehensive crocodile census in the Vishwamitri River, located in Vadodara, to assess the population of mugger or marsh crocodiles (*Crocodylus palustris*).

Vishwamitri River:

- Originating from the Pavagadh hills of the Western Ghats in Gujarat, the Vishwamitri River meanders through Vadodara before merging with the Gulf of Khambhat. It is nourished by its tributaries, the Dhadhar and Khanpur rivers.
- The banks of this river are steeped in history, housing ancient settlements from around 1000 B.C., such as Ankotakka (modern-day Akota), which flourished during the reigns of the Gupta and Vallabhi dynasties.
- Ecologically, the river is distinctive among urban watercourses in hosting diverse wildlife, including mugger crocodiles, freshwater turtles, and monitor lizards.

Mugger Crocodiles:

- These reptiles are primarily found across India, Sri Lanka, Pakistan, and Nepal, with their range extending westward into eastern Iran. They thrive in freshwater environments like rivers, lakes, and marshlands.
- In India, their presence spans 15 states, predominantly within the Ganga River basin (notably Bihar and Jharkhand), the Chambal River (across Rajasthan and Madhya Pradesh), and various locations in Gujarat.

Conservation Status:

- The species is deemed Vulnerable by the International Union for Conservation of Nature (IUCN). It is also listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and under Schedule I of the Indian Wildlife Protection Act of 1972, highlighting the need for stringent conservation efforts.

The census aims to enhance the understanding of the crocodile population dynamics in the **Vishwamitri River** and promote effective conservation strategies to safeguard these vital ecological inhabitants.

**Chirang-Ripu
Elephant Reserve**

The Assam government has officially designated the **Chirang-Ripu Elephant Reserve as the state's eighth national park**, naming it **Sikhna Jwhlwao National Park**. This decision was implemented by the Assam Cabinet on February 16, 2025.

Location and Area

Sikhna Jwhlwao National Park spans **316 square kilometers** and is strategically located along the India-Bhutan border, covering parts of **Kokrajhar** and **Chirang districts**. It is situated

between two prominent national parks: **Manas National Park** to the east and **Raimona National Park** to the west. The park includes the **Haltugaon Forest Division**, **Jharbari forest range** in Kokrajhar, and the **Runikhata Range** in Chirang.

Wildlife and Biodiversity

The park is renowned for its rich biodiversity, hosting a variety of wildlife, including:

- **Golden Langur:** A rare species endemic to the region.
- **Asian Elephants**
- **One-Horned Rhinoceroses**
- **Royal Bengal Tigers**
- **Numerous bird and reptile species**

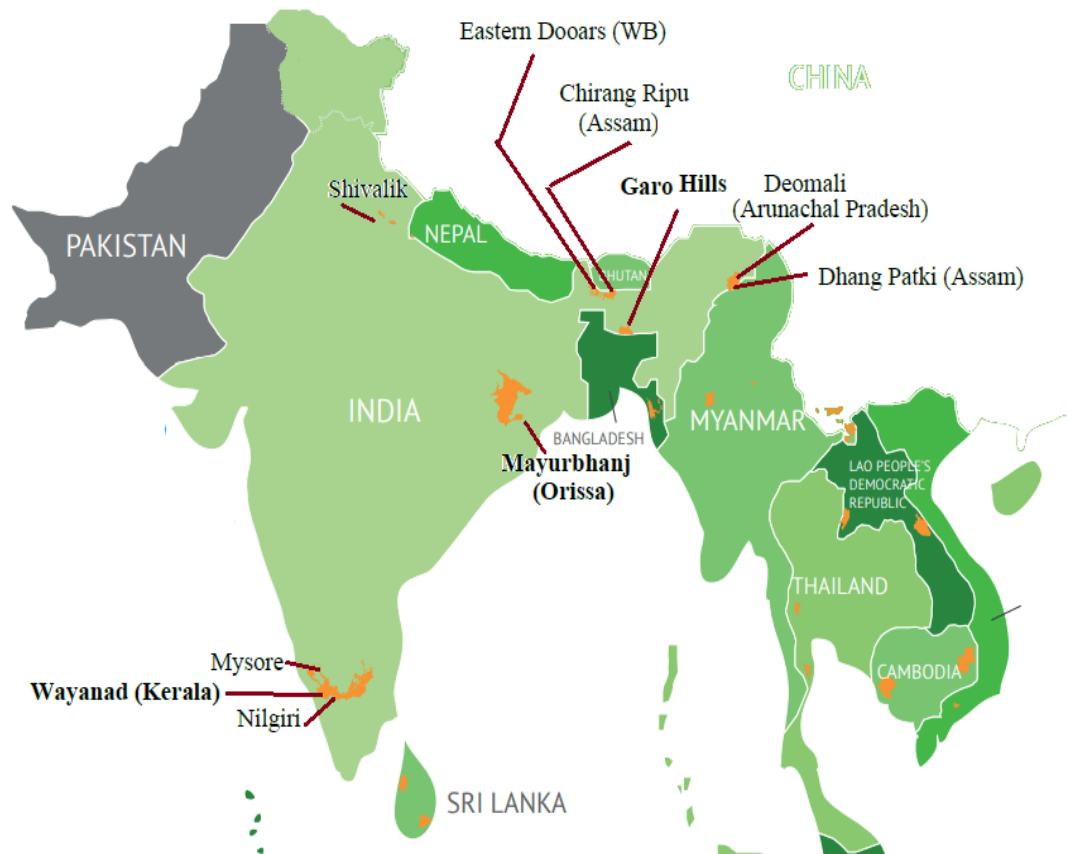
Historical and Cultural Significance

The park is named after **Sikhna Jwhlwao**, a legendary Bodo hero known for his bravery during the Anglo-Bhutan War of 1865. This naming honors his legacy and reflects the region's cultural heritage.

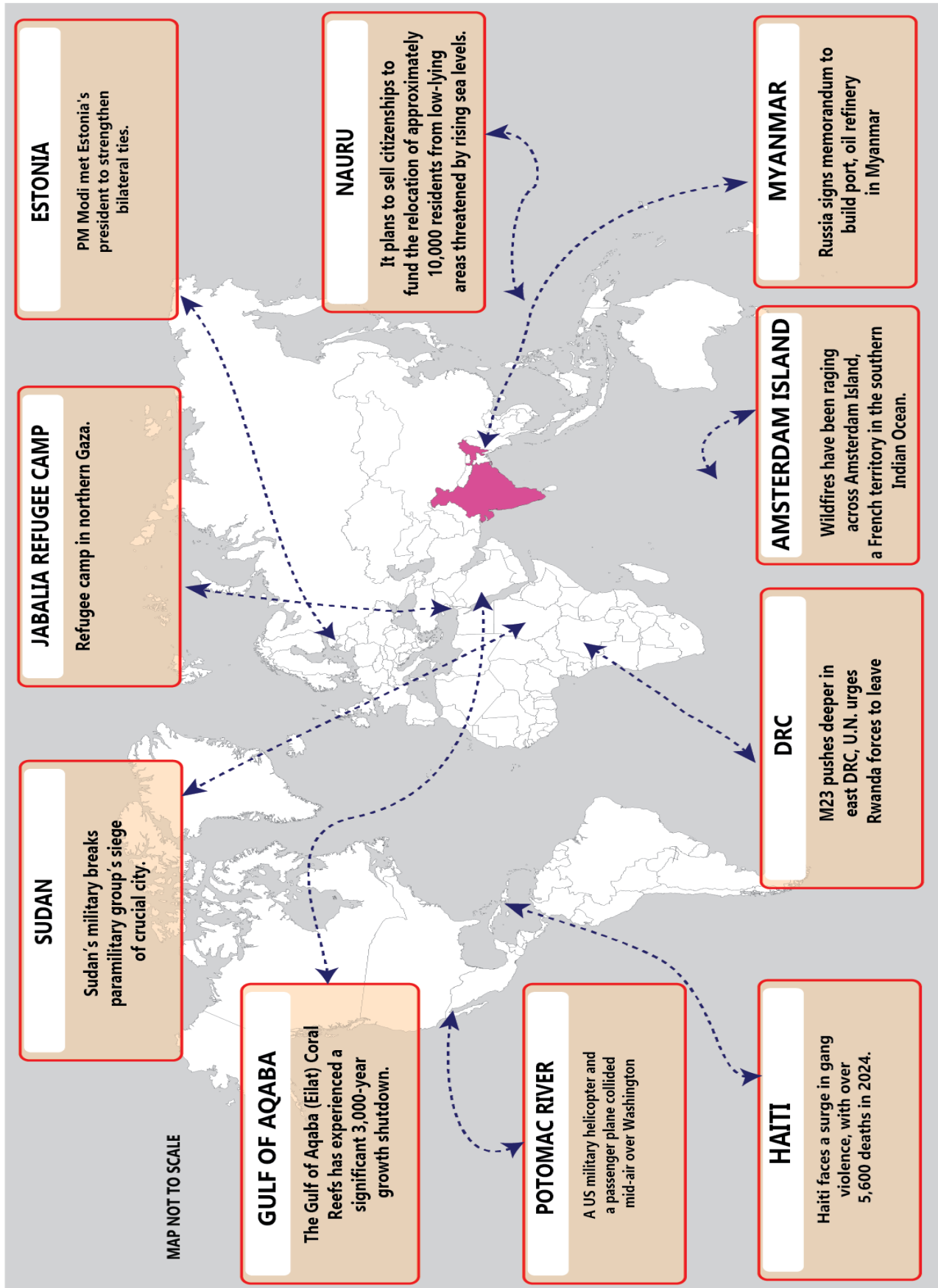
Tourism and Conservation

Sikhna Jwhlwao National Park offers significant tourism potential due to its scenic beauty and biodiversity. The park's establishment is expected to boost local tourism, create job opportunities, and promote sustainable development in the region. Conservation efforts are crucial to maintaining the park's ecological balance and protecting its unique wildlife.

The area is also a critical habitat for Asian elephants and other wildlife species like tigers, rhinos, and various species of primates.



PLACES IN NEWS – WORLD



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