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A. POLITY & GOVERNANCE

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1. SC Allows Sub-Classification of SCs and STs

- In Aug 2024, in a historic judgement, a **seven-judge Bench of the Supreme Court** redefined **how the quota system for Scheduled Castes (SCs) and Scheduled Tribes (STs) will function**.
 - This has marked a significant change since the introduction of reservations in 1950.
- With a **6:1 ruling**, the Bench led by Chief Justice of India (CJI) D.Y. Chandrachud **allowed states to create sub-classifications within SC and ST categories**.
 - This permits the allocation of specific sub-quotas to the most disadvantaged communities within these groups.
- The verdict **overturns the Supreme Court's 2004 decision in E.V. Chinnaiah v. State of Andhra Pradesh**, which held that **SC/ST groups were a "homogenous group" and could not be further subdivided**.

Context and Historical Background

Article 341 of the Constitution

- Presidential Power:** Article 341 allows the **President** to list "**castes, races, or tribes**" that were subjected to untouchability and thus entitled to special reservations.
- SC Reservation Quota:** SCs are granted **15% reservation in education and government employment**.

Underrepresentation and Legal Challenges

- Over the years, certain groups within the SC list have remained underrepresented, making states to extend additional protections to these groups. However, such efforts have faced legal challenges.
- 1975 Punjab Notification:** In 1975, Punjab issued a notification **giving 1st preference in SC reservations for the Balmiki and Mazhabi Sikh communities**, two of the most disadvantaged groups in the state.

- This was **challenged in 2004** after the Supreme Court struck down a similar law in **Andhra Pradesh in E V Chinnaiah**.
- 2004 E.V. Chinnaiah Case:** The Supreme Court ruled that no state could alter the SC list or create sub-classifications.
 - Violation of Article 14:** The Court held that **sub-classifications violated the right to equality under Article 14**.
 - Article 341:** Only the President, under **Article 341**, can issue such notification, and **Parliament** can make additions or deletions to the list.

High Court Rulings and Further Challenges

- Punjab & Haryana High Court 2006:** Based on this ruling, in 2006, the **Punjab & Haryana High Court** in *Dr. Kishan Pal v State of Punjab* struck down the Panjab govt's 1975 notification.
- In response, the Punjab govt. passed **Punjab Scheduled Caste and Backward Classes (Reservation in Services) Act, 2006**, reintroducing the **1st preference in reservations for the Balmiki and Mazhabi Sikh communities**.
 - The Act was **challenged by Davinder Singh**, a member of a non-Balmiki, non-Mazhabi SC group, leading to the Punjab & Haryana High Court striking it down again in 2010.
- This has led to an appeal in the Supreme Court. In 2014, the case was referred to a **five-judge Constitution Bench** to reconsider the **E.V. Chinnaiah** ruling.

Supreme Court's Rethink and 2024 Verdict

- Justice Arun Mishra-led Bench (2020):** In 2020, a **five-judge Bench** in *Davinder Singh v. State of Punjab* found that the **2004 decision** required a fresh examination.
 - The Court recognized that there were **"unequals within the list"** of SCs, STs, and other backward classes.
- Referral to Seven-Judge Bench (2024):** Since the 2020 Bench, like **E.V. Chinnaiah**, had five judges, the case was referred to a **seven-judge Bench** to resolve the issue.



What is the recent SC's Verdict on Sub-Classifications of SCs and STs?

1. **Sub-Classifications Allowed:** The Court ruled that states are now permitted to constitutionally sub-classify SCs and STs based on different levels of backwardness.
 - a. A seven-judge Bench allowed states to sub-divide SCs within the existing 15% reservation quota to ensure that the most disadvantaged groups receive enhanced support.
 - b. The Chief Justice of India emphasized the difference between “sub-classification” and “sub-categorization,” warning against using these measures for political gains rather than for genuine upliftment.
 - c. Sub-classification must be founded on empirical data (data obtained using scientific methods) and historical records of systemic discrimination, not on arbitrary or political reasons.
 - d. States need to base these sub-classifications on verified evidence to guarantee fairness and effectiveness.
 - e. The Court ruled that reserving 100% of any category’s seats is not allowed. Moreover, such sub-classifications can be challenged in court to avoid potential political misuse.
2. **Application of ‘Creamy Layer’ Principle:** The Court extended the ‘creamy layer’ principle, previously applied only to Other Backward Classes (OBCs) as established in the Indra Sawhney case, to SCs and STs.
 - a. This mandates states to identify and exclude the creamy layer from benefiting from reservations.
 - b. The judgement addresses the need for a more refined approach to reservations, ensuring that the truly disadvantaged groups receive benefits.

Indra Sawhney v Union of India

1. Indra Sawhney v Union of India, also known as the Mandal verdict, was a landmark public interest litigation case. It was delivered by a 9-judge constitution bench of the Supreme Court of India in 1992.

2. The case challenged the government’s decision to implement the recommendations of the Mandal Commission.
3. It recommended a 27% reservation for Other Backward Classes (OBCs) in central government jobs.

Reservation Limited to First Generation: The Court specified that reservation benefits should be restricted to the 1st generation.

- a. Once a family has benefitted from reservations and achieved a higher social status, the next generation should no longer be eligible for the same benefits.
3. **Rationale for the Verdict:** The Court recognized that systemic discrimination has hindered the progress of certain groups within SCs and STs.
 - a. Thus, sub-classification under Article 14 of the Constitution is necessary to address these inequalities.
 - b. This ruling allows states to refine their reservation policies, ensuring better support for the most disadvantaged among SCs and STs.

What Are the Arguments for and Against Sub-Classification?

Arguments in favour of Sub-Classification

1. **Enhanced Flexibility:** Allows the central and state governments to create policies that better address the specific needs of the most disadvantaged groups within SC/ST communities.
2. **Alignment with Social Justice:** Promotes social justice by directing benefits to those most in need within the SC/ST communities.
3. **Constitutional Provisions:**
 - a. Article 16(4): This provision allows for reservations for backward classes who are underrepresented in state services.
 - b. Article 15(4): This permits the state to make special provisions for the advancement of socially and educationally backward classes, including SCs and STs.
 - c. Article 342A: Provides states with the flexibility to maintain their own lists of socially and economically backward classes.





Arguments Against Sub-Classification

- Homogeneity of SCs and STs:** It may weaken the unified status of SCs and STs, which are recognized as homogeneous groups under the Presidential list.
- Potential for Inequality:** It could lead to further divisions within the SC community, possibly worsening inequalities.

- Scheduled Castes were not pre-existing before the Constitution and are recognized to provide benefits to the communities included in the list.

What is the basis for sub-classification?

- States must demonstrate a **valid need for expanded protections**, provide empirical evidence, and offer a **“reasonable” basis for creating sub-groups**. This reasoning **can be further examined in court**.
- Representation in public services must be **“effective representation”** and **not just “numerical representation.”**
- Therefore, even if a SC community is adequately represented in terms of numbers, they may still face barriers to effective representation if they are not promoted to higher positions.
- The state must show, using quantifiable data, that the group or caste being separated from the larger SC category is more disadvantaged and underrepresented.

Significance of the Supreme Court Verdict

- Reversing Previous Judgement:** The Supreme Court has overturned the **E.V. Chinnaiah** judgment, which had declared SCs and STs cannot not be subdivided for reservations under **Article 341** of the Constitution.

Does the new judgement violet Article 14 or Article 341?

The Chief Justice of India clarified that the new ruling, allowing sub-classification of SCs and STs, does not violate **Articles 14 or 341** of the Constitution.

- Impact on State Laws** The decision supports various state laws, previously invalidated, like those in Punjab and Tamil Nadu, giving states the power to create sub-categories within SC and ST groups.
 - The **1975 notification** from the Punjab government, which divided SC reservations into **Valmikis and Mazhabi Sikhs**, was initially upheld but later challenged due to the **E.V. Chinnaiah** judgment.
- Future of Reservations:** States now have the authority to implement sub-classification policies, which could result in more tailored and effective reservation systems.
 - This ruling **sets a new precedent for how reservations can be structured** and may influence similar cases and policies across the nation.

Challenges for Sub-Classification and Solutions

Challenges	Solutions
Gathering reliable and comprehensive data on the socio-economic conditions of various sub-groups within SCs and STs is crucial as ensuring data accuracy and avoiding biases can be difficult.	States must use empirical evidence as well as consider historical discrimination, economic disparities, and social factors in their decisions, avoiding political motives and ensuring fairness.
Sub-classification is intended to uplift the most disadvantaged sub-groups, but balancing the interests of different groups is a complex task.	Develop clear, objective criteria for sub-classification, focusing on socio-economic indicators rather than solely caste or tribal affiliations.
Sub-classification could lead to variations in how different states implement reservations. Balancing this diversity with the need for uniformity in reservation policies is a significant challenge.	Recognize sub-classification as a temporary measure . The long-term focus should be on the overall socio-economic development and empowerment of SCs and STs, with a gradual reduction in the reliance on reservations as conditions improve.

Are all castes in the SC list to be treated similarly?

- The Supreme Court rejected the idea that all castes in the SC list should be treated the same.
- The **inclusion [in the Presidential list under Article 341] does not automatically create a uniform or homogeneous group** that cannot be further divided.

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Sub-classification policies may face opposition from political groups, both supporting and opposing changes to reservation systems, which could lead to delays and conflicts.	Involve representatives from various SC/ST sub-groups in policy formulation. Ensure transparency in the sub-classification process.
Sub-classification might intensify existing social tensions within SC/ST communities, potentially creating divisions and intra-community conflicts.	Continuously monitor the impact of sub-classification and adjust policies as necessary to ensure the intended beneficiaries are receiving the benefits.

Conclusion

This Supreme Court verdict marks a significant shift in India's approach to reservations, aiming to create a more nuanced and effective system. While it presents opportunities for targeted development, it also brings challenges that will require careful navigation by policymakers, administrators, and communities alike.

2. Not every 'insult' against SC/ST can be considered as offence

- In August 2024, the **Supreme Court of India** issued an important ruling regarding the **Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989**.
 - The Court addressed a key issue, whether **insults or intimidation** directed at individuals from **Scheduled Castes (SC) or Scheduled Tribes (ST)** automatically qualify as **offenses under the Act**.
- This judgment was delivered in the context of an **anticipatory bail case for a YouTube channel editor**, who was accused of offenses under the Act.
 - The case involved allegations against the editor for making derogatory remarks about a **Member of the Legislative Assembly (MLA)** who belongs to the SC community.

Supreme Court Ruling on Insults Under the SC/ST Act, 1989

- Applicability of the Act:** The Supreme Court clarified that **insults or intimidations directed at SC or ST individuals do not automatically constitute an offense under the SC/ST (Prevention of Atrocities) Act, 1989**.
- Link to Caste Identity:** For the Act to apply, the insult or intimidation must be **explicitly related to the caste identity** of the victim.
- Interpretation of 'Intent to Humiliate':** Under **Section 3(1)(r) of the Act**, the Court held that the insult must be aimed at humiliating the individual specifically based on their caste identity.
 - Simply knowing the victim's SC/ST status is not enough; the **intent must be directly tied to caste-based humiliation**.
- Clarification on Section 18**
 - Anticipatory Bail:** The Court clarified that while Section 18 of the Act **generally restricts anticipatory bail, it does not entirely bar it**.
 - Preliminary Inquiry:** Before denying anticipatory bail, courts **must conduct a preliminary examination** to see if the allegations meet the criteria for an offense under the Act.
 - Ruling on Anticipatory Bail:** In this case, the Court granted anticipatory bail to the editor, as there was no evidence that the remarks were intended to humiliate the MLA based on his caste.
 - The Court found that the comments did not indicate caste-based insult.

Anticipatory Bail

- Anticipatory bail is an order given by **either the High Court or the Sessions Court**, directing the release of a person who fears arrest due to accusations of a non-bailable offence.
- Legal Provisions in the CrPC: Section 438 of the Code of Criminal Procedure (CrPC)** previously governed the rules for anticipatory bail.
- Updated Provisions:** In 2023, under the **Bhartiya Nagarik Suraksha Sanhita**, the relevant provisions for anticipatory bail are now outlined in **Section 482**.



About the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989

- Overview:** It is often referred to as the SC/ST Act. It was enacted to protect individuals from Scheduled Castes (SCs) and Scheduled Tribes (STs) against caste-based discrimination and violence.
 - The Act is rooted in Articles 15 and 17 of the Indian Constitution and aims to address the limitations of earlier laws while ensuring the safety and dignity of these marginalized communities.
- Historical Background:** The SC/ST Act builds upon earlier legislation like the Untouchability (Offenses) Act, 1955, and the Protection of Civil Rights Act, 1955, both of which sought to eliminate untouchability and caste-based discrimination.
- Rules and Implementation:** The Central Government holds the authority to establish rules for the implementation of this Act, while State Governments and Union Territories manage the execution with support from the Centre.

Key Provisions:

- The Act identifies specific crimes against SCs and STs, such as physical violence, harassment, and discrimination, categorizing them as “atrocities.”
- Perpetrators (offender) face stricter penalties under this Act than those provided under the Indian Penal Code, 1860 (now replaced by Bharatiya Nyaya Sanhita, 2023).
- Anticipatory Bail Provisions:** Section 18 of the Act excludes the applicability of Section 438 of the Code of Criminal Procedure, 1973 (now Bharatiya Nagrik Suraksha Sanhita, 2023), which typically allows for anticipatory bail.
- Special Courts and Cells:** The Act requires the formation of special courts for fast-tracking cases and the establishment of SC/ST Protection Cells, managed by senior police officers, to ensure proper enforcement.
- Investigations and Time Frame:** Only officers of Deputy Superintendent of Police (DSP) rank or higher are permitted to investigate cases under the Act, and investigations must be completed within a specified period.

- Victim Support:** The Act provides for relief and rehabilitation measures for victims, including financial aid, legal assistance, and various support services.

Exclusions:

- The Act does not apply to offenses between individuals from SC and ST communities.

Recent Amendments

- Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Amendment Act, 2015:**
 - This Amendment broadened the scope of protection for SCs and STs by introducing stricter provisions.
 - New offenses such as garlanding with footwear, forcing manual scavenging, and economic or social boycotts are now punishable.
 - Offenses like sexual exploitation or inappropriate touching of SC/ST women without consent are explicitly recognized.
 - Public servants who fail to fulfil their responsibilities toward SCs/STs may face imprisonment.
- Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Amendment Act, 2018:**
 - The requirement for Senior Superintendent of Police (SSP) approval before making an arrest was removed, allowing for immediate arrests without prior approval.

Drawbacks of the SC and ST Act, 1989

- Limited Resources for Special Courts:** The special courts set up to handle cases under the SC/ST Act often lack sufficient resources and proper infrastructure.
 - These courts frequently deal with cases outside the Act’s purview, which leads to delays and backlogs in resolving atrocity cases.
- Inadequate Victim Rehabilitation:** The Act provides only limited provisions for victim rehabilitation, focusing on general social and economic support without clear guidelines.
 - Victims face a range of difficulties—physical, psychological, and social—requiring more detailed rehabilitation measures to ensure they can become self-sufficient.

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3. **Low Awareness:** There is often a lack of awareness among both beneficiaries and law enforcement officials regarding the Act's provisions.
- The strict measures in the Act, such as **allowing arrests without a warrant and including non-bailable offenses**, have led to **allegations of misuse**.
 - The broad scope of the law can result in **false accusations against individuals from non-SC/ST backgrounds**.
4. **Narrow Definition of Crimes:** Certain offenses, such as **blackmailing** that targets SC/ST communities, are **not specifically mentioned** in the Act.
- The Act's **current definition of atrocities may not cover all forms of abuse** faced by SCs and STs, highlighting the need for amendments to include additional crimes.

Judicial Interpretations of the SC and ST Act, 1989

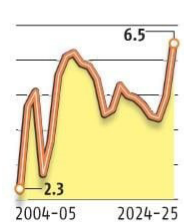
- Kanubhai M. Parmar v. State of Gujarat, 2000:** The Gujarat High Court ruled that the **Act does not apply to crimes occurring between individuals of SC/ST communities**.
 - The ruling indicated that the Act's purpose is to protect SC/ST members from atrocities committed by others outside these communities.
- Raj Mal v. Ratan Singh, 1988:** The Punjab & Haryana High Court clarified that **Special Courts established** under the SC and ST Act are **exclusively for offenses related to the Act**.
 - It stressed that these courts should not be confused with regular magistrate or session courts.
- Arumugam Servai v. State of Tamil Nadu, 2011:** The Supreme Court ruled that **insulting a member of an SC/ST community constitutes an offense** under the SC and ST Act.
- Subhash Kashinath Mahajan v. State of Maharashtra and Others, 2018:** The Supreme Court clarified that **Section 18 of the Act**, which excludes anticipatory bail, is **not an absolute restriction**.
 - Even if anticipatory bail is generally barred, the court can grant it in cases where the allegations of atrocities or violations appear unfounded.

3. Gender Budget Statement 2024-25

- The **Union Budget for 2024-25** highlights a significant **push for women-led development**.
 - The **Gender Budget Statement (GBS)** for current fiscal year marks a milestone by allocating **1% of the Gross Domestic Product (GDP) to pro-women funding**, with a total exceeding **₹3 lakh crore**.
- This is a noteworthy increase from historical averages and reflects the government's commitment to gender-focused financial planning.

A GIANT LEAP

Gender budget as a % of total expenditure



Source: Budget documents

HUGE BOOST FOR RURAL HOUSING

Scheme	Allocation (in ₹ cr)
Rural Housing (PMAY)	54,500.14
Jal Jeevan Mission	34,162.32
MGNREGS	28,888.67
Saksham Anganwadi and Poshan 2.0	15,900
National Health Programme*	15,456.38
NRLM-Aajeevika	15,047
Samagra Shiksha	11,250
LPG connection to poor households	9,094
PM POSHAN	6,233.7
Rooftop Solar	4,555.83
Ayushman Bharat- PMJAY	3,600

*National Health Programme and National Urban Health Mission, Flexible pool for RCH and Health System Strengthening; Note: Figures are BE for FY25
Source: Budget document

About Gender Budgeting

- Definition:** Gender budgeting is a government strategy aimed at ensuring that public resources are distributed and allocated in line with the varying needs and priorities of different genders.
 - It **does not involve creating a separate budget for women** but focusses on addressing their specific needs within existing budgetary frameworks.
 - It ensures that the budget is not only used to reduce inequalities but also to improve the socio-economic conditions of women and girls.
- Background:** India ratified the **Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) (1979)** in 1993, which reinforced its commitment to gender equality.
 - This led to the introduction of the **Gender Budget Statement** in the **2005-06 Indian Budget**. Since then, the GBS has been released along with the Union Budget annually.
- Nodal Agency:** The **Ministry of Women and Child Development (MWCD)** serves as the nodal agency for gender budgeting.



- a. The **Ministry of Finance** has also directed all central ministries and departments to set up **Gender Budget Cells** to facilitate this process.
 - b. Gender budgeting is part of the **Samarthyaa sub-scheme** under the **Mission Shakti initiative**, which is **aimed at empowering women**.
4. **Framework for Gender Budgeting:**
- a. **Situation Analysis:** Assess the current status of different gender groups within a sector.
 - b. **Policy Assessment:** Determine whether policies effectively address identified gender issues.
 - c. **Budget Evaluation:** Ensure that allocated funds are sufficient for gender-sensitive initiatives.
 - d. **Expenditure Monitoring:** Confirm that funds are spent as planned and evaluate outcomes.
 - e. **Impact Assessment:** Measure the effectiveness of policies on the gender conditions initially analysed.

Rationale Behind Gender Budgeting

- 1. Promote Gender Equality through positive discrimination in favour of women.
- 2. Promote higher efficiency through adequate provisions for women.
- 3. Needs and requirements of Genders differ. Gender neutral budgets ignore the gender specific impacts of Budgets.

Key Highlights of the GBS 2024-25

- 1. **Increased Pro-Women Allocations:** The Union Budget for 2024-25 highlights a significant push for women-led development, with allocations for schemes benefiting women rising to about 6.8% of the total budget, up from the historical average of 5%.
- 2. **Introduction of Part C:** A new section (Part C) has been added to the Gender Budget Statement (GBS) to include schemes that allocate up to 30% for women.
 - **Previously, the GBS had two sections:** Part A (100% of funds dedicated to women) and Part B (30% to 99% of expenditure benefits women).
- 3. **1% of GDP Allocation:** The GBS for the current fiscal year marks a milestone by allocating 1% of the Gross Domestic Product (GDP) to pro-women funding, with a total exceeding ₹3 lakh crore. This reflects the government’s commitment to gender-focused financial planning.

Significance

- 1. **Optimizes Resource Allocation:** Focuses on bridging gender gaps by allocating resources where they are most needed.
- 2. **Supports SDGs:** Contributes to achieving **Sustainable Development Goal 5**, which **targets gender equality globally**.
- 3. **Enhances Accountability:** Promotes transparency in how funds are allocated and used, ensuring gender equality commitments are fulfilled.
- 4. **Strengthens Governance:** Integrates gender perspectives into public financial management, resulting in more inclusive and effective governance.

Challenges Related to Gender Budgeting in India and their Solutions

Challenges	Solutions
Over-Reporting: Programs like PM Employment Generation Programme (PMEGP) report inflated allocations without adequate justification (e.g., ₹920 crore, 40% of total allocation).	Enhance Reporting Transparency and Accuracy: Improve gender audits, provide detailed explanations for GBS entries, and ensure allocations reflect actual spending on women’s needs.
Under-Reporting and Missing Allocations: Important programs for women, such as MGNREGS (where women make up 59.3% of workers) and schemes for women entrepreneurs like PM Vishwakarma and SVANidhi , are under-reported or missing.	Ensure Accurate Reporting: Ensure accurate reporting of allocations, reflecting true expenditure on women’s needs.
Neglect of Key Sectors: Areas like transportation, water collection, and water security, which impact women significantly, are often neglected.	Expand Scope and Coverage: Broaden the GBS to include comprehensive coverage of programs that impact women, especially those in neglected sectors.





<p>Inconsistent Methodology: The GBS methodology is outdated, leading to inaccuracies in reporting allocations for women.</p>	<p>Regular Reviews and Updates: Continuously update GBS methodology and conduct periodic reviews to ensure it reflects the latest data and insights.</p>
<p>Lack of Gender Sensitivity in Planning: Many government programs do not incorporate gender considerations in their initial design.</p>	<p>Integrate Gender Sensitivity in Planning: Set clear gender equality targets and ensure programs consider gender needs from the planning stage.</p>

- The 3-member committee was led by **retired Kerala High Court judge Justice K Hema**, with members including **veteran actor Sharada** and **retired IAS officer K B Valsala Kumari**.
- The report highlighting serious issues like sexual abuse, gender discrimination, and mistreatment of women.

What led to the formation of the Justice Hema Committee?

- On February 17, 2017, a leading Malayalam film actress was abducted and sexually assaulted in her car by a group of men. A prominent actor would later be implicated in the case which sparked outrage across Kerala, and brought under the scanner the discriminatory treatment faced by women in the Malayalam film industry.
- The **Women in Cinema Collective (WCC)**, comprising women actors, producers, directors and technicians, was formed in response to this incident.
- On May 18, 2017 the WCC **submitted a petition to the Kerala Chief Minister** demanding an inquiry into the incident, and larger gender issues plaguing the state’s film industry.
- In July, the state government formed a **3-member committee headed** by Justice K Hema, to look into issues of sexual harassment and pervasive gender inequality in the Malayalam film industry. After speaking to multiple women in the industry on a variety of issues, the Committee submitted a 295-page report to Kerala Chief Minister Pinarayi Vijayan in **December 2019**.

Impact of Gender Budgeting in India

Gender budgeting in India has positively influenced women by:

- Identifying and addressing their specific needs through targeted spending.
- Strengthening legal frameworks, such as the **Criminal Law Amendment Act, 2013**, and the **Sexual Harassment of Women at Workplace Act, 2013**.
- Reducing economic disparities between genders and income groups.
- Integrating gender perspectives into broader economic policies.
- Encouraging greater involvement of civil society in the development of economic policies.

Overall, the Gender Budget Statement 2024-25 demonstrates a significant step forward in India’s commitment to gender equality and women’s empowerment. However, continuous efforts are needed to address the challenges and ensure that gender budgeting truly translates into tangible improvements in the lives of women and girls across the country.

4. Hema Committee Report on Malayalam Film Industry

- In August 2024, the Hema Committee report has been released by Kerala government, four-and-a-half years after it was submitted to the Chief Minister.

Key Issues Highlighted in the Report

- Sexual Abuse:** The report details **instances of unwanted physical advances, rape threats**, and using code names for women who might agree to compromises.
- Casting Couch:** The report reveals the widespread practice of the casting couch, where women are coerced (forced) into **offering sexual favours for job opportunities**.
 - Directors and producers often pressure female actors to compromise and those who comply labeled as **“cooperating artists.”**



- b. Women who are forced to work with their abusers resulting in significant emotional trauma.
3. **Safety on Film Sets:** Many female film workers bring parents or close relatives to the set to protect themselves from sexual harassment and demands.
4. **Criminal Influence:** The report highlights the presence of criminal elements in the **Malayalam film industry**.
 - a. It notes that men, sometimes under the influence of alcohol or drugs continuously disturb female artists at hotels which causes significant distress (pain).
5. **Fear of Consequences:** Despite legal protections under the **Bharatiya Nyaya Sanhita (BNS) (earlier Indian Penal Code)** and the **Sexual Harassment of Women at Workplace Act 2013**, women in the film industry fear retaliation and stigmatization (to narrow a person's social identity) and it often prevents them from filing official complaints.
6. **Cyberthreats:** The report mentions significant online harassment faced by both female and male artists like **cyberbullying** (using technology to harass, threaten or target another person), **public threats**, and **defamation**.
 - a. Social media is frequently used to target female artists with explicit and threatening messages.
7. **Inadequate Facilities:** Female artists often avoid drinking water on set due to **poor toilet facilities**, especially during outdoor shoots.
 - a. This issue becomes more challenging during menstruation, when there are difficulties in changing or disposing of sanitary products.
8. **Inhumane Working Conditions:** Junior artists receive **low or no minimum remuneration** and are sometimes **treated worse than slaves**, with work hours extending up to 19 hours.
 - a. **Payments are often delayed** and intermediaries sometimes take a large portion of their earnings.
9. **Legal and Contractual Issues:** Limited knowledge about legal rights and regulations makes it hard for individuals to seek justice.
 - a. **Internal Complaints Committees (ICCs)** are often not functioning properly which make grievance redressal ineffective. There are frequent cases where contracts are not enforced, leading to disputes.

10. **Deep-Rooted Gender Bias:** The Hema Committee Report highlights that the industry is heavily male-dominated. Women are frequently excluded from key roles.

Legal Framework to Address Sexual Exploitation in the Film Industry


1. **Bharatiya Nyaya Sanhita (Indian Penal Code, 1860):**
 - a. **Section 354:** Deals with assault or the use of criminal force against a woman with the intent to outrage (an extremely strong reaction of anger or shock) her modesty.
 - b. **Section 354A:** Deals with physical contact and advances that are unwelcome and explicitly sexual, demanding sexual favours, showing pornography against a woman's will and making sexually coloured remarks.
 - c. **Section 509:** Uttering any word or making any gesture intended to insult the modesty of a woman, etc.
2. **Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013:** Requires workplaces to set up **Internal Complaints Committees (ICC)** to handle sexual harassment complaints.
3. **Information Technology (IT) Act, 2000:** Focuses on the publication and transmission of obscene (indecent) material in electronic forms, including digital film content.
4. **Protection of Children from Sexual Offenses (POCSO) Act, 2012:** Provides safeguards for children against sexual exploitation and abuse, including in films.
5. **Immoral Traffic (Prevention) Act, 1956 (ITPA):** Aims to prevent trafficking for commercial sexual exploitation.

Casting Couch

1. The "casting couch" is a term describing a practice where individuals, often women, are pressured to offer sexual favors for job opportunities, especially in acting roles.
2. It involves individuals in power, like directors or producers, exploiting their position to coerce aspiring actors into unwanted sexual situations.



Key Recommendations of the Report

- 
1. **Internal Complaints Committee (ICC):** The report recommends the mandatory creation of an ICC under the **Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013**.
 - a. The ICC should include members from the **Film Employees Federation of Kerala (FEFKA)** and the **Association of Malayalam Movie Artists (AMMA)**.
 2. **Independent Tribunal Proposal:** Some members suggest setting up an independent tribunal to specifically handle harassment and discrimination cases in the film industry.
 - a. The report recommends conducting tribunal proceedings in-camera to ensure privacy, with names of those involved kept confidential from media coverage.
 3. **Written Contracts:** It is recommended that signing written contracts be mandatory for all categories of employees, including junior artist coordinators, to safeguard everyone's interests in the film industry.
 4. **Gender Awareness Training Program:** A basic gender awareness training program should be mandatory for all cast and crew members before starting production.
 - a. Training materials should be available in both Malayalam and English and made accessible online.
 5. **Women in Producer Roles:** There should be sufficient and timely budgetary support for films that promote gender justice, both in their themes and production processes.
 - a. A single-window system should be established to provide loans at low-interest rates for films produced by women (not as proxies for men) and to streamline the process for obtaining shooting permissions, encouraging more women to join the film industry.

Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 (PoSH Act)

1. Enacted in 2013 which aims to address sexual harassment against women at workplaces.
2. It seeks to ensure a safe and supportive work environment for women by protecting them from sexual harassment.
3. **Definition of Sexual Harassment:** The Act defines sexual harassment to include:
 - a. Unwanted physical contact and sexual advances
 - b. Requests or demands for sexual favours
 - c. Sexually coloured remarks
 - d. Displaying pornography
 - e. Any other unwelcome physical, verbal, or non-verbal behaviour of a sexual nature
4. **Key Provisions:**
 - a. **Prevention and Prohibition:** Employers are legally required to prevent and prohibit sexual harassment in the workplace.
 - b. **Internal Complaints Committee (ICC):** Workplaces with 10 or more employees must **establish an ICC to handle sexual harassment** complaints. These committees have the authority similar to civil courts for collecting evidence.
 - c. **Complaint Process:** The Act provides a structured process for lodging complaints, conducting investigations, and ensuring fair treatment for all parties involved.
 - d. **Penalties:** Failure to comply with the Act can lead to penalties, including fines and possible cancellation of business licenses.

5. Uniform Civil Code: A Path Towards Equality

On the occasion of 78th Independence Day, **PM Narendra Modi called for a Uniform Civil Code (UCC)**, framing it as a “**Secular Civil Code**” as distinct from the existing “**Communal Civil Code**”.

Understanding Uniform Civil Code (UCC)

1. In India, laws are generally applicable to everyone equally. However, personal laws governing matters



like marriage, divorce, inheritance, and adoption differ across religious communities.

2. The UCC aims to create a set of uniform personal laws that apply to all citizens, irrespective of their religion.

Constitutional Framework

1. **Article 44** of the Indian Constitution, a Directive Principle of State Policy (DPSP), directs the state to strive for the implementation of a UCC.
2. Although DPSPs are not legally enforceable, means that no one can go to Court asking to order the government to implement DPSPs, they serve as guiding principles for the government in policymaking.

Historical Context:

1. **British Era:** The British introduced uniform criminal laws but did not standardize family laws, as they were sensitive.
2. **Constituent Assembly Debates:** The UCC was a contentious issue during the drafting of the Constitution, with some Muslim members expressing concerns about its potential impact on their personal laws. However, prominent leaders like K.M. Munshi, Alladi Krishnaswami, and B.R. Ambedkar advocated for its implementation to ensure equality.

Supreme Court's Stance on UCC

The Supreme Court has consistently emphasized the need for a UCC in several landmark cases.

1. **Mohd. Ahmed Khan vs Shah Bano Begum Case, 1985:** The Court noted that “**Article 44 has remained a dead letter**” and supported its implementation.
2. **Sarla Mudgal v. Union of India, 1995 and John Vallamattom v. Union of India, 2003:** The Court emphasized the need for implementing the UCC.
3. **Shayara Bano v. Union of India, 2017:** The Supreme Court declared the practice of triple talaq unconstitutional and recommended legislation to regulate Muslim marriages and divorces.
4. **Jose Paulo Coutinho v. Maria Luiza Valentina Pereira Case, 2019:** The Court praised Goa's UCC and encouraged its adoption across India.

Separation of Powers: Why Courts Can't Force the Legislature to make laws on UCC?

Because Article 37 of the constitution states that courts can't force state to follow DPSP (which includes vision of UCC) while making policy, but still, it is the moral responsibility of the state to follow DPSPs while making policies.

The Law Commission's View

In 2018, the 21st Law Commission, led by Justice Balbir Singh Chauhan, released a consultation paper concluding that a UCC was “neither necessary nor desirable” at that time. The commission suggested focusing on reforms within existing personal laws to address issues of gender inequality.

Significance of the UCC:

The implementation of a UCC carries profound implications for Indian society.

1. **National Integration and Secularism:** A UCC would foster a sense of unity and belonging among citizens, minimize conflicts arising from diverse personal laws, and uphold the constitutional values of equality, fraternity, and dignity.
2. **Gender Justice and Equality:** By ensuring equal rights in matters of marriage, divorce, inheritance, adoption, and maintenance, a UCC would empower women and protect them from discriminatory practices.
3. **Simplification and Rationalization of the Legal System:** A UCC would streamline the legal system by eliminating inconsistencies across multiple personal laws, harmonizing civil and criminal laws, and making laws more accessible to the public.
4. **Modernization and Reform:** A UCC would facilitate the modernization of outdated practices embedded in personal laws and eradicate harmful customs such as triple talaq, polygamy, and child marriage.





Arguments in Favour of UCC	Arguments against UCC
<ol style="list-style-type: none"> 1. Common Code would enable uniform civil principles, which would help in establishing uniformity across the entire Nation. 2. If all the people belonging to different castes, religions, communities etc. starts following the same laws, that would bring peace and reduce riots. 3. It would also help in ending discrimination on grounds of sex, religion, caste etc, and strengthen the secular fabric of the nation. 4. UCC could also ensure Women the Right to a dignified life and control over their life as well as body. 5. Uniform code would help in eliminating many evil, unjust and irrational traditions across the communities. 6. The huge population base of India would be better Administered after the application of UCC. 	<ol style="list-style-type: none"> 1. UCC might hamper the diversity and multiculturalism of India as the unified law can possibly wash away these unique characteristics of the nation. 2. UCC is getting rejection from religious bodies also, on the ground of its possible interference in religious affairs, which is violative of the fundamental right under Article 25 of the constitution. <ul style="list-style-type: none"> □ [Article 25 of the constitution grants the fundamental right to practice and propagation of religion.] 3. Law commission also recommended that there can be gradual reforms in personal laws to bring gender parity but as of now there is no need to bring complete UCC. Diversity strengthen tolerance in the society and uniformity by use of UCC may compromise diversity.

2. **Religious Sensitivities:** Various religious groups have their own traditions and laws. They might see the UCC as a threat to their **rights under Article 25**, which protects religious freedom.
3. **Political and Social Opposition:** The UCC is **often viewed through a political lens, leading to resistance or support based on political interests.** Social concerns include potential disruptions to traditional practices.
4. **Legislative and Legal Hurdles:** Creating a comprehensive UCC requires detailed legislative work and addressing the nuances of different personal laws.

Way Forward:

1. **Unity and Uniformity:** The UCC should respect India’s diversity while promoting unity. The Constitution supports both integration and multicultural approaches.
2. **Discussion and Deliberations with Stakeholders:** Engaging various stakeholders, including religious leaders and community representatives, is crucial to ensure the UCC is fair and acceptable.
3. **Striking a Balance:** Lawmakers should focus on removing practices that conflict with constitutional values while allowing cultural practices that align with principles of equality and justice.
4. **Constitutional Perspective:** The Indian Constitution supports cultural diversity with **Article 29(1) protecting unique cultures. The goal should be to create a fair code that promotes equality.**
5. **Education and Awareness:** It is important to educate citizens about the UCC to ensure its effective implementation.

Conclusion:

The call for a Uniform Civil Code is a significant step towards promoting equality and integration in India. While the UCC offers many benefits, including reducing legal complexities and improving gender justice, its implementation faces challenges due to diverse personal laws and religious sensitivities. A balanced approach that includes stakeholder engagement and respects cultural diversity is essential for successful implementation.

Challenges in Implementing the UCC:

1. **Diverse Personal Laws:** India has many communities with different personal laws, making it hard to unify them into a single code.

Uniform Civil Code in Goa and Uttarakhand

- Goa:** Goa is the only state in India that has a uniform civil code, regardless of religion, gender, or caste. It has a common family law that applies to all its residents, including Hindus, Muslims, and Christians. This common family law covers matters related to marriage, divorce, succession, and adoption.
 - The **Portuguese Civil Code of 1867** continues to be the basis of Goa's uniform civil code. After Goa's liberation and integration into India in 1961, the Goa, Daman, and Diu Administration Act of 1962 authorized the continuation of the Portuguese Civil Code, allowing for amendments and repeals by the competent legislature.
- Uttarakhand:** In March, 2024 Uttarakhand became the **first state in independent India** to enact a Uniform Civil Code (UCC) Act. after President Droupadi Murmu approved the State's UCC Bill, 2024.

6. 5 New Districts in Ladakh

- In August 2024, the **Ministry of Home Affairs** granted approval to **create five new districts in Ladakh**, bringing the total number of districts in the Union Territory to **Seven**.
- This decision aims to **enhance governance and development** in the region and has been well-received by stakeholders.
- The **5 newly** approved districts are:
 - Zaskar
 - Drass
 - Sham
 - Nubra
 - Changthang

Boundaries of existing districts
■ Kargil ■ Leh



What Next?

- The Ladakh administration is to **form a committee** to evaluate the new districts' headquarters, boundaries, structure, and staffing.
- This committee must submit a **detailed report within three months** for the Union Home Ministry's review and further action.



Purpose of the New Districts in Ladakh

- Ease of Governance:** Ladakh is one of India's largest and least populated Union Territories. It has faced governance challenges with just two districts—**Leh and Kargil**.
 - The new districts are intended to address these issues by creating more localized administrative units, improving governance at the grassroots level.
- Geopolitical Importance:** Ladakh's strategic location has also made it a focal point for development, both in terms of civilian and military infrastructure.
- Development Initiatives:** Ladakh is part of the **Prime Minister's Development Package (PMDP)**, which provides substantial funding and infrastructure projects.
 - The creation of new districts is intended to further these developmental goals.

Process of Creation of New Districts in India

- Role of State Govt:** The **power to create, alter, or abolish districts** in India lies with **State governments**. This can be done through an **executive order or by passing a law in the State Assembly**.
 - States often believe that smaller districts enhance administration and governance.
- Role of Central Govt:** The Central government **does not play a role in the creation or alteration** of districts, but it is **involved when a State wants to change the name of a district**.
 - In such cases, clearances from various agencies are required.

Sixth Schedule

- Special Provisions:** The **6th Schedule** provides for the **administration of tribal areas in Assam, Meghalaya, Tripura, and Mizoram** under **Article 244(2)** of the Constitution.



2. Objectives:

- a. **Protection:** Safeguard tribal land and resources and prevent exploitation.
- b. **Autonomous Administration:** Establish Autonomous Districts and Regions with District and Regional Councils.

3. Council Composition:

- a. **District Council:** Up to 30 members, with a maximum of 4 nominated by the Governor and the rest shall be elected on the basis of adult suffrage.
- b. **Regional Council:** Established for autonomous regions with a similar structure.

Conclusion

The formation of **5 new districts** in Ladakh represents a significant administrative step aimed at improving governance and development in a region characterized by its vast and challenging terrain. This move is expected to enhance service delivery, support strategic development, and address local governance issues. However, it also raises questions about the adequacy of local governance structures and political representation.

Background on Ladakh's UT Status and Demands

1. **Ladakh became a Union Territory** after the removal of **Article 370** in 2019, directly governed by the **Union Home Ministry**.
2. The creation of these districts is part of a broader effort to decentralize governance and ensure services reach even the most remote regions.

Primary Demands

1. **Statehood:** There is a push to elevate Ladakh to a full state to grant greater autonomy.
2. **Sixth Schedule Protections:** Advocates seek Constitutional safeguards to protect cultural and land rights under the Sixth Schedule.
3. **Job Reservations:** Calls for job reservations for local youth to ensure equitable opportunities.
4. **Separate Parliamentary Constituencies:** Proposal for distinct constituencies for Leh and Kargil to reflect their unique characteristics.

7. Lateral entry and Civil Service Reforms

1. In August 2024, the **Union Public Service Commission (UPSC)** announced a call for applications for **45 lateral entry positions** at the levels of Joint Secretary, Director, and Deputy Secretary across 24 Central ministries.
 - a. This recruitment aims to bring in expertise from the private sector, state/UT government, and PSU employees on a contractual basis.

Government Cancels Lateral Entry Recruitment

1. The government decided to cancel its plan to recruit through the Lateral Entry Scheme after facing opposition from several groups.
 - These groups argued that the scheme undermined the reservation rights of **Other Backward Classes (OBCs), Scheduled Castes (SCs), and Scheduled Tribes (STs)**.

Understanding the Lateral Entry Scheme**I. What is Lateral Entry Scheme?**

1. Lateral entry refers to the **appointment of professionals from the private sector into senior positions in government organizations**.
2. The scheme aims to introduce specialized skills and new ideas to improve governance.
3. Selected individuals are appointed under this scheme are appointed on a **contract basis for 3 years, which can be extended up to a maximum of 5 years**.

II. Origin and Implementation of Lateral Entry

1. The concept of lateral entry was **1st introduced during the 2004-09** period and was strongly supported by the **2nd Administrative Reforms Commission (ARC)** formed in **2005**.
2. NITI Aayog recommended lateral entry in 2017 to infuse (fill) expertise and innovative perspectives into government functioning.
3. In 2017, both NITI Aayog's **3-year Action Agenda** and the **Sectoral Group of Secretaries (SGoS) on Governance** advocated for the inclusion of skilled professionals at middle and senior management levels in central government.



III. Eligibility

1. Candidates eligible for lateral entry include those with **specialized knowledge and a strong track record** in relevant fields from the private sector, state governments, autonomous organizations, or public sector enterprises.
2. The selection process prioritizes professional achievements and expertise in specific subject areas.

IV. Reservation in Lateral Entry

1. Lateral entry positions are exempt from the reservation policy due to the **“13-point roster” system**, which calculates the representation of various groups (SC, ST, OBC, and EWS) in job vacancies as a percentage of a total of one hundred.
2. Because each lateral entry position is considered a **“Single Post,”** the reservation rules do not apply, meaning these roles are filled without adhering to reservation norms.

Process of Lateral Entry Recruitment

1. **UPSC Role:**
 - a. Conducts the selection process invites online applications, conducts interviews, and recommends candidates.
2. **Department of Personnel and Training (DoPT):**
 - a. **DoPT** requests UPSC to handle the recruitment and appoints recommended candidates for **3-5 year terms**.

The **DoPT** also sets policies for maintaining the integrity of public services, combating corruption, and coordinating activities across various Ministries/Departments.

Arguments in Favour of and Against the Lateral Entry Scheme in Civil Services

Arguments in Favour	Arguments in Against
Bring in specialized skills and expertise to fill knowledge gaps.	Could create a divide between lateral entrants and career bureaucrats , potentially lowering morale among permanent officers.
Introduce innovation and reforms through diverse experiences.	Short tenure limiting significant contributions.
Filling the Gap: Addresses the shortage by filling the deficit with lateral entrants: <ol style="list-style-type: none"> 1. IAS cadre shortage: 22.48% or 1,510 officers. 2. Combined shortage in IAS and IPS: 2,418 officers. 	May compromise objectivity and neutrality due to potential conflicts of interest, especially with recruits’ prior ties to private companies or interest groups.
Shift the government work culture towards efficiency and adaptability.	Outsider Syndrome: Traditional bureaucrats may view lateral entrants as outsiders, leading to resistance and concerns about hierarchy and disruption.

Mission Karmayogi

Mission Karmayogi is a new **capacity-building scheme for civil servants** aimed at upgrading the post-recruitment training mechanism of the officers and employees at all levels. It aims to prepare Indian civil servants for the future by making them more creative, constructive, imaginative, innovative, proactive, professional, progressive, transparent and technology-enabled.

ARC Recommendations on the Lateral Entry Scheme

First Administrative Reforms Commission (ARC) (1966):

1. Established under the **chairmanship of Morarji Desai**, the 1st ARC aimed to **professionalize and reform the training and management of civil service personnel**.
2. Although it **did not directly recommend lateral entry**, it highlighted the importance of having specialized skills in the bureaucracy, setting the stage for future discussions on the topic.

Second ARC (2005):

1. The 2nd ARC specifically advocated for lateral entry into higher government positions to bring in specialized expertise.
2. It suggested recruiting professionals from diverse sectors for short-term or contractual appointments, emphasizing a transparent and merit-based selection process.



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Enhances governance by involving multiple stakeholders, including the private sector and non-profits, in the decision-making process.	High experience requirements for lateral entrants might deter top talent, who may already be at the peak of their careers in the private sector by the required age.
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Global Context

- Countries such as the United States, the UK, Australia, and New Zealand have provisions for lateral entry:
 - United States:** Known as the “Spoils System,” where political appointees are often favored.
 - UK and Ireland:** Selection based on work experience in both civil and private sectors.

Conclusion

Lateral entry can be beneficial, much like competition in any field, but it requires careful consideration of criteria for entry, job roles, the number of personnel, and training to ensure it promotes positive change. Reforms to the traditional seniority-based system are also necessary for comprehensive administrative improvement.

8. The ‘Right to be Forgotten’ from Judicial Records

The **Supreme Court of India** decided to examine whether the “**right to be forgotten**,” a component of the **right to privacy**, extends to **judicial orders**, which are generally considered **public records**.

- The **Bench**, led by **Chief Justice of India D.Y. Chandrachud**, cautioned about the serious implications of removing **judgments** from the **public domain** following **acquittal** in **criminal cases**.

Background:

The **Madras High Court** had ordered the legal search portal **Indian Kanoon** to remove a **judgment** that acquitted a man in a **rape case** from its **website**.

Arguments:

- Acquitted Individual:** The individual argued that the **public availability** of the judgment on the portal led to the denial of his **Australian citizenship**.
- Indian Kanoon:** The portal argued that **court records** are **public documents** and cannot be subjected to

removal orders based on individual privacy claims. Additionally, **Indian Kanoon** cited a potential violation of **Article 14** (equality before law), as it was the only party involved in the proceedings despite other legal databases hosting the same verdict.

Legal Principle and Precedents:

Right to be Forgotten: This refers to the ability to have one’s **digital footprint**, such as **news articles**, **videos**, or **photographs**, removed or erased from **search engine results** or **databases**.

Data Protection Regime in India:

- The current **data protection laws** in India do not recognize this **right**.
- The **2018 and 2019 drafts** of the **Digital Personal Data Protection Act, 2023** mentioned the **right to be forgotten**, but the final version only includes a simpler right to “**erasure**.”

Madras High Court Interpretation: The court considered **court records** as “**personal data**” of the **litigants**, extending the application of the **2023 Act** to **judicial forums**.

Indian Kanoon’s Challenge: The portal argued that the legislation does not apply to **personal data** made public by a “**person**” obligated to do so under existing laws, which would exempt **High Courts** from the Act.

Historical Context

- 2017 Supreme Court Ruling:** The **Supreme Court** recognized the **right to privacy** as a fundamental right, including “**informational privacy**.” **Justice Kaul** emphasized the importance of the **right to be forgotten** in the **digital age**.
- International Precedents:** The right is recognized in the **European Union Regulation** of 2016 and the **General Data Protection Regulation (GDPR)** of 2018.

What is the Right to Be Forgotten?

The **right to be forgotten** allows individuals to request the removal of their **personal data** from **digital platforms** when it is outdated, irrelevant, or harmful to their **privacy**.

European Context

- Establishment:** The right to be forgotten was established by the **Luxembourg-based Court of Justice of the European Union (CJEU)** in 2014.



- Google Spain Case:** This landmark case required Google to remove ‘inadequate, irrelevant, or no longer relevant’ data upon request.
- CJEU Ruling:** The court ruled that search engines must address requests to remove information that is no longer relevant or excessive in light of the time elapsed.
- General Data Protection Regulation (GDPR):** In the EU, the right to be forgotten is enshrined in Article 17 of the GDPR, which emphasizes informational self-determination and the right to control personal data.

Other Nations

- Adoption:** Countries like Canada, the United Kingdom, Argentina, and Japan have adopted similar laws.
- Canada:** In 2023, a Canadian court upheld the right to demand search blocks on personal data.
- California:**
 - 2015 Online Eraser Law:** Allows minors to remove their posted information.
 - 2023 DELETE Act:** Extends this right to adults, allowing them to delete personal information collected by data brokers.

How is the Right to Be Forgotten Interpreted in India?

India does not have a specific statutory framework for the right to be forgotten. However, the concept has been referenced in the context of privacy and digital rights.

Judicial Recognition

- 2017 Ruling in Justice K.S. Puttaswamy v. Union of India:** Recognized the right to privacy as a fundamental right under the Constitution, implicitly including the right to be forgotten. Clarified that this right should not be absolute and outlined scenarios where it may not apply, such as for public interest, public health, archiving, research, or legal claims.
- Stated that the recognition of such a right would only mean that an individual should be able to remove their personal data when it is no longer relevant or serves no legitimate interest.

Digital Personal Data Protection Act, 2023

- Recognizes the right to “erasure,” but the application of these laws to court records and publicly available data remains unclear, with conflicting interpretations in the courts.

Information Technology Rules, 2021

- Obligates intermediaries to remove or disable access to content violating privacy within 24 hours of a complaint.

What are the Judicial Precedents Related to the Right to Be Forgotten?

- Rajagopal vs. State of Tamil Nadu Case, 1994:** Discussed the “right to be let alone” but distinguished it from the publication of public records, such as court decisions, which remain a legitimate subject for public comment.
- Dharamraj Bhanushankar Dave vs. State of Gujarat, 2017:** The Gujarat High Court denied a request to remove details of an acquittal from public records, emphasizing that court orders should remain accessible.
- Orissa High Court (2020):** Dealing with a criminal case involving “revenge porn,” the court emphasized the need for extensive debate on the right to be forgotten. Noted that the implementation of this right presents complex issues requiring clear legal boundaries and redressal mechanisms.
- Delhi High Court (2021):** Extended the right to be forgotten in a criminal case, allowing the removal of details from search results to protect the petitioner’s social life and career prospects.
- Supreme Court Order (July 2022):** Directed its registry to create a mechanism for removing the personal details of a couple involved in a contentious marital dispute from search engines. This expanded the interpretation of the right to be forgotten.
- Kerala High Court (December 2023):** Ruled that the right to be forgotten cannot be applied to ongoing court proceedings, citing concerns about open justice and public interest. Suggested that legislative clarity is needed but acknowledged that the right could be considered depending on specific case details and time elapsed.



7. Himachal Pradesh High Court (July 2024):

Directed the **redaction of names** of both the accused and the victim in a rape case, highlighting that once acquitted, an individual should not continue to carry the **stigma** of the accusations.

What Challenges Arise from Inconsistent Judicial Approaches?

- Lack of Uniformity:** Varied rulings by different **High Courts** create confusion about the application of the **right to be forgotten**, leading to **inconsistent enforcement** and potential **legal uncertainty**.
- Balancing Privacy and Public Interest:** Courts struggle to balance **individual privacy rights** with the principle of **open justice** and **public access to information**, making it difficult to establish clear **guidelines**.
- Impact on Public Records:** The distinction between **personal privacy** and **public records**, as discussed in **Rajagopal vs. State of Tamil Nadu, 1994**, poses challenges. Courts must navigate how to protect **personal privacy** without undermining the **accessibility** and **legitimacy** of **public court records**.
- Need for Legislative Clarity:** The absence of a comprehensive **legal framework** contributes to the inconsistent application of the **right**, highlighting the need for **legislative intervention** to define clear **standards** and **procedures**.
- Potential for Overreach:** Courts' differing approaches may prompt concerns about **overreach** and the **integrity** of **digital records**. There is a risk that **private entities** might face undue pressure to **remove content**, potentially affecting the **accuracy** and **completeness** of **online information**.
- Balancing Rights:** Courts need to balance the **Right to Be Forgotten** with **freedom of speech** and **expression**. Additionally, there is a need for clear guidelines to resolve conflicts between the **Right to Be Forgotten** and the **Right to Information Act, 2005**.
- Other Challenges:** Enforcing the **Right to Be Forgotten** across **digital platforms** and **jurisdictions** is challenging due to **compliance issues** and **technical constraints** like **data replication**. Ensuring

compliance from **search engines, websites**, and other **intermediaries** requires robust **legal** and **technical mechanisms**. Complete removal of **information** from the internet can be **technically difficult**. **Restriction to journalism** could hinder journalists' ability to disclose certain people's **histories** and **past activities**, affecting the **democratic role** of **journalism**.

Why 'Right to Be Forgotten' Should Be Adopted?

- Control Over Personal Information:** Individuals should have the right to **control** their **personal information** and **identity** in the digital age. **Governments** and **private entities** can significantly interfere with **privacy** by tracking and recording **online activities**. Many instances of **personal information**, such as **intimate photos** or **private details**, are shared online without **consent**. The **Right to Be Forgotten** addresses this issue by allowing individuals to **remove** such content from **public access**.
- Mitigating Digital Damage:** The presence of **outdated** or **incorrect information** can have long-lasting negative effects on an individual's **life**, including their **personal relationships** and **professional opportunities**. This right helps **mitigate** such harms by allowing for the **removal** of **outdated** or **irrelevant data**. Individuals should not be continually penalized for their **past**, especially when they have **moved on** or **changed**. The right ensures they are not unjustly judged based on **outdated information**.
- Right to Privacy:** There is no right to access **private information** that is unlawfully made **public**. The **Right to Be Forgotten** ensures that individuals are not compelled to live with the repercussions of unlawfully disclosed **personal information**.

What should be done ?

- Legislative Framework:** Enact a comprehensive **data protection law** with the **right to be forgotten**, define clear criteria for **data erasure**, and establish an **independent data protection authority**. This body would possess expertise in **privacy, technology**, and **law**, ensuring consistent and impartial decisions.



2. **Overreach:** Prevent misuse of the **right to be forgotten** through clear **definitions, limitations, and oversight mechanisms**. Develop clear **judicial guidelines** for balancing **privacy and public interest** in **right to be forgotten** cases, considering factors such as the **nature of the information, public interest, and time elapsed** since publication.
3. **Industry Self-Regulation:** Encourage **industry self-regulation** to develop responsible **data handling practices**. Promote **data minimization** and **secure data deletion procedures**. Invest in **research and development** to address technical challenges related to **data deletion** and **anonymization**.
4. **Public Awareness:** Conduct **public awareness campaigns** to educate individuals about **data privacy rights** and responsibilities. Foster a culture of **responsible online behavior**.

Conclusion

The **Right to Be Forgotten** is gaining importance in **legal and technical domains**, reflecting its growing role in **privacy protections**. In India, the lack of specific **legislation** means this right is currently addressed through the **judiciary**, but future **legislation** is anticipated to provide a clearer framework with ongoing efforts to recognize this right.

The **Supreme Court's** examination of the **"right to be forgotten"** in the context of **judicial records** highlights the delicate balance between **privacy and public interest**. The lack of a comprehensive **legal framework** and inconsistent **precedents** underscore the need for clear **judicial guidelines** to ensure **uniform application** of this right.

9. The Waqf (Amendment) Bill, 2024: Proposed Reforms and Concerns

1. In August 2024, the Union Minister of Minority Affairs introduced the Waqf (Amendment) Bill 2024 in the Lok Sabha, which aims to amend the **Waqf Act of 1995**.
2. The **Bill** renames the Act to **'United Waqf Management, Empowerment, Efficiency and Development Act, 1995'**.

3. The Bill aims to significantly reform the **Waqf Act of 1995**, proposing **comprehensive changes to the governance and regulation of Waqf properties** in India.

What is a Waqf Property?

1. A Waqf, also known as **habs** or **mortmain property**, is a **permanent charitable endowment** (facility) established according to **Islamic law**.
2. It involves the **donation of personal property by Muslims** for specific purposes, such as religious, charitable, or even private uses.
3. Although the property is considered to be under the ownership of God, the benefits can be directed toward various beneficiaries.
4. **Formation of a Waqf:** A Waqf can be established through a **written deed, an instrument, or even verbally**. A property can also be recognized as Waqf if it has been used for religious or charitable purposes over a long period.
 - a. Once a property is declared as Waqf, its **status is permanently altered and cannot be changed back**.

Governance Structure for Waqfs in India

1. **Pre-Colonial Governance:** The legal governance of Waqfs in India dates back to **1913** with the enactment of the **Muslim Waqf Validating Act**. This legislation was later replaced by the **Mussalman Wakf Act of 1923**.
2. **Post-Independence Governance:** Following India's independence, the **Central Waqf Act of 1954** was enacted to regulate Waqfs.
 - a. This Act was eventually replaced by the **Waqf Act of 1995**, which currently **governs Waqf properties in India**.

Major Provisions and Institutional Structure of the Waqf Act

1. **Survey Commissioner:** The Waqf Act mandates the appointment of a survey commissioner who is responsible for cataloguing (listing) all Waqf properties.
 - a. The commissioner conducts local investigations, summons witnesses, and gathers public documents to maintain this list.



2. **Mutawalli (Caretaker):** The Act establishes the role of a Mutawalli, who serves as the caretaker and supervisor of Waqf properties.
3. **Management of Waqf Properties:** Waqf properties are managed similarly to Trust properties as outlined in the Indian Trusts Act, 1882.

About Waqf Boards

1. Waqf Boards are state government bodies that oversee Waqf properties within a state.
2. Most states have **separate Waqf Boards for Shia and Sunni communities**, with almost all major mosques in India falling under the jurisdiction of a state's Waqf Board.
3. **Composition:** The Waqf Board is led by a chairperson and includes members such as:
 - a. One or two state government nominees
 - b. Muslim legislators and parliamentarians
 - c. Muslim members of the state Bar Council
 - d. Recognized scholars in Islamic theology
 - e. Mutawallis of Waqfs with an annual income of Rs 1 lakh or more
4. **Powers and Functions:**
 - a. Oversee the administration of Waqf properties and take action to reclaim any lost properties.

- b. Approve the transfer of immovable Waqf properties, such as through sale, gift, mortgage, exchange, or lease. This requires at least a two-thirds majority vote from the Waqf Board members.

About Central Waqf Council (CWC)

1. The Central Waqf Council (CWC) was created in **1964** to **supervise and guide state-level Waqf Boards** across India.
2. **Functions:**
 - a. Offer advice to the central and state governments and Waqf boards on property management.
 - b. Request performance information, including financial records and reports, from Waqf boards.

About Waqf Tribunal

1. The Waqf Act allows for the creation of a Waqf tribunal by state governments to resolve disputes over Waqf properties.
2. Under **Section 6 of the Waqf Act 1995**, the **tribunal's decisions are considered final** in disputes concerning a property's status as Waqf.

Key Changes Introduced by the Waqf Amendment Bill, 2024

Key Changes	Waqf Act 1995	Waqf Amendment (Bill) 2024
Registration	No requirement for mandatory registration.	Mandatory registration of Waqf properties with the District Collector's Office for proper evaluation.
Formation of waqf	-	Introduces a new rule stating that only a lawful property owner who is competent to transfer or dedicate the property can create a Waqf. The Bill states that only a person practicing Islam for at least five years may declare a waqf.
Recognition of Govt. Properties as Waqf	-	Government properties identified as Waqf, either before or after the Act's implementation/commencement of the act, will not be classified as Waqf properties.
Dispute Resolution Regarding Government Land as Waqf	The Waqf Tribunal handled disputes.	The District Collector is now responsible for determining whether a property is Waqf or government land. The Collector's decision is final , with updates to revenue records and reports to the state government.





Oral Recognition of Waqf	Allowed properties to be considered Waqf based on oral recognition.	Eliminates oral declarations as a basis for Waqf recognition. Properties without a valid waqfnama will be considered suspect or disputed and remain inactive until a final decision is made by the District Collector.
Waqf by Use	Included provisions for Waqf by use, allowing a property to be considered Waqf based on its usage even if the original declaration was questionable.	Removes provisions for “Waqf by use,” making any Waqf property without a valid waqfnama suspect .
Appeal Mechanism	The Waqf Tribunal’s decisions were final .	Decisions by the Waqf Board can now be appealed in high courts .
Audit of Waqfs	No provisions for auditing.	Grants the central government the authority to order audits of Waqf properties, conducted by auditors appointed by the Comptroller and Auditor-General of India or other designated officers .
Composition of Waqf Boards	No women or non-Muslim members were allowed.	Allows for the appointment of a non-Muslim CEO and includes at least two non-Muslim members on the state Waqf Boards .

Need for Amendments to the Waqf Act of 1995

- Improving Transparency:** Amendments aim to address mismanagement and corruption in Waqf Boards by enhancing transparency in their financial and administrative operations.
- Reducing Property Disputes:** Clear definitions and mandatory verification of property claims are introduced to minimize disputes over Waqf properties.
- Resolving Jurisdictional Issues:** Changes are intended to align Waqf Tribunal decisions with principles of natural justice, addressing the inability to appeal in civil courts.
- Promoting Women’s Empowerment:** Inclusion of women as Waqf Board members is proposed to enhance representation and empowerment.

Joint Committee on Waqf Bill 2024

Under the chairmanship of Lok Sabha MP **Jagdambika Pal**, the Joint Committee on the Waqf (Amendment) Bill, 2024 has been constituted to review the bill’s broader implications. The committee is composed of **31 members**. This includes **21 members from the Lok Sabha and 10 members** from the Rajya Sabha. The committee’s task is to carefully examine the potential impact of the proposed bill on Waqf management and associated areas.

Concerns About the Waqf (Amendment) Bill 2024

- Infringement (breach) on Religious Rights:** The bill is seen as violating **Article 25** by limiting the Muslim community’s autonomy over religious affairs.
- Increased Government Oversight:** Greater government control over Waqf properties, including district collector involvement, may lead to bureaucratic delays and overreach.
- Non-Muslim Inclusion:** Including non-Muslims in Waqf Boards could compromise the religious integrity and cultural understanding of these bodies.
- Higher Risk of Disputes:** Shifting authority from Waqf Tribunals to district collectors may increase disputes and complicate legal processes.
- Lack of Stakeholder Input:** The bill faces criticism for being drafted without sufficient consultation with the Muslim community and key stakeholders.

Conclusion

The Waqf (Amendment) Bill 2024 proposes significant changes to Waqf property governance. While aiming to improve transparency and efficiency, the Bill has raised concerns about religious freedom and increased government control. The ongoing debate highlights the complexities of balancing religious autonomy with effective property management.



10. Education Ministry defines 'literacy,' 'full literacy'

In August, 2024 Ministry of Education (MoE) defines **Literacy and Full Literacy** under New India Literacy Programme (NILP), a five-year programme (2022-27).

Definition of literacy and full literacy

- To support adult education/literacy as emphasized in NEP 2020 and SDG 4.6 (ensuring all youth and adults achieve literacy and numeracy by 2030), it is essential to define both Literacy and Full Literacy.
 - Literacy:** May be understood as the **ability to read, write, and compute with comprehension**, i.e. to identify, understand, interpret and create along with critical life skills such as digital literacy, financial literacy etc.
 - Full literacy:** To be considered equivalent to 100% literacy, will be achieving 95% literacy in a State/UT that may be considered as equivalent to fully literate.

Criteria for literacy certification:

Non-literate person may be **considered as literate under the NILP**, when she/he has been declared literate **after taking the Foundational Literacy and Numeracy Assessment Test (FLNAT)**.

Significant challenge associated with literacy in India:

- According to the Census 2011, with 25.76 crore non-literate individuals in the 15 years and above age group, comprising 9.08 crore males and 16.68 crore females.
- Despite the progress made under the **Saakshar Bharat programme**, which certified 7.64 crore individuals as literate between 2009-10 and 2017-18, an estimated 18.12 crore adults in India remain non-literate.

Non-literate individuals face disadvantages in **various aspects of life such as financial transactions**, job applications, comprehension of media and technology, understanding of rights and participation in higher productivity sectors.

About New India Literacy Programme (NILP)

- Also known as ULLAS** (Understanding of Lifelong Learning for All in Society).
- Launched by MoE**, it is a Centrally Sponsored Scheme.
- Tenure:** FYs 2022-27 (5 years).
- Objective:**
 - Targets all non-literates of age 15 years and above, with more focus on females and educationally backward states.
 - Target 5 crore learners (1.00 crore per year) by using "Online Teaching, Learning and Assessment System (OTLAS)" in collaboration with National Informatics Centre, NCERT and NIOS.
- Five Components Of NILP**
 - Foundational Literacy and Numeracy (FLN)
 - Critical Life Skills (include financial, literacy, environmental literacy etc.)
 - Basic Education (includes preparatory (classes 3 - 5), middle (6-8), and secondary stage (9-12) equivalency)
 - Vocational Skills
 - Continuing Education (engaging holistic adult education courses in arts, sciences, technology, culture etc.)
- Implemented** through volunteer teachers, students of schools and Higher Education Institutions and Teacher Education Institution.
- It is in alignment with recommendations of NEP2020.
- Need:** Absolute number of non-literates in 15 years and above age group is 25.76 crore (Census 2011).

Government Initiatives Related to Educational Reforms:

- National Programme on Technology Enhanced Learning
- Samagra Shiksha Abhiyan
- RAGYATA (Plan-Review-Arrange-Guide-Yak (talk)-Assign-Track-Appreciate)
- Mid Day Meal Scheme
- Beti Bachao Beti Padhao
- PM SHRI Schools



11. Polygraph Test

OUR ADVANCED DIGITAL POLYGRAPH SYSTEMS WITH INFRARED AND COUNTERMEASURE SENSOR TECHNOLOGY



In August, the **Central Bureau of Investigation (CBI)** carried out a **polygraph test** on the main suspect in the **Kolkata doctor rape-murder case**. This test is meant to check the **truthfulness** of the suspect during the investigation.

What is a Polygraph Test?

A **polygraph test**, often called a **lie detector test**, is designed to measure body changes that might happen when someone is lying.

How It Works:

- Preparation:** The person is connected to a **polygraph machine** using sensors placed on their body. Common sensors include:
 - Heart Rate:** A cuff around the chest.
 - Blood Pressure:** A cuff on the upper arm.
 - Breathing:** Belts around the chest and stomach.
 - Skin Response:** Electrodes on the fingers or palms.
- Questioning:** The examiner asks a series of questions, including:
 - Control Questions:** Known to be true or false.
 - Relevant Questions:** Directly related to the case.
- Data Collection:** The polygraph records the person's body responses while they answer the questions, tracking changes in **heart rate, blood pressure, breathing, and skin conductivity**.

- Analysis:** The examiner looks for significant changes in the body's responses to certain questions. The idea is that lying may cause noticeable **stress** or **anxiety**.

Types of Questions:

- Relevant Questions:** Directly related to the case.
- Control Questions:** For comparison, often about unrelated topics or minor wrongdoings.
- Irrelevant Questions:** Neutral questions that don't relate to the case, used to set a baseline.

Accuracy and Reliability:

- Accuracy:** Polygraph tests aren't perfect. They can wrongly suggest someone is lying (**false positives**) or miss a lie (**false negatives**). Factors like **nervousness** and **health** can affect results.
- Scientific Debate:** Experts disagree on how reliable polygraphs are. Some believe they can be helpful when combined with other methods, while others think physiological signs aren't reliable indicators of lying.

Legal and Practical Use:

- Court Use:** The acceptance of polygraph results in court varies. **Some courts allow them as evidence under certain conditions, while others do not.**
- Employment and Investigations:** Polygraphs are sometimes used in job screenings and criminal cases, but their results are generally seen as supplementary rather than conclusive.

Ethical and Psychological Considerations:

- Privacy Issues:** Using polygraphs **raises privacy concerns because it involves sensitive physical data.**
- Stress Impact:** Taking a polygraph can be **stressful, which might affect the results.**

Supreme Court Judgements:

- Consent Requirement:** According to the Supreme Court ruling in *Selvi & Ors vs State of Karnataka & Anr* (2010), **polygraph tests can only be conducted with the accused's informed consent.**
- Informed Consent:** The accused must **receive a thorough explanation of the test's physical, emotional, and legal implications** and have access to legal counsel.



3. **Guidelines Adherence:** The National Human Rights Commission's 2000 guidelines for polygraph tests must be followed.
4. **Documentation:** Consent must be documented before a judicial magistrate.
5. **Admissibility:** Information obtained through a consensual polygraph test may be admitted in court.

What is a Narco Test?

A **narco analysis test** involves giving the accused a drug, usually **sodium pentothal**, which puts them in a state that makes it harder for them to lie. This is intended to help reveal truthful information.

Differences Between Polygraph Tests and Narco Analysis Tests:

- Methodology:**
 - Polygraph Test:** Uses a machine to measure body responses while the subject answers questions.
 - Narco Analysis Test:** Involves injecting a drug to make the person more open to talking, followed by questioning.
- Accuracy and Reliability:**
 - Polygraph Test:** Its accuracy is debated, with concerns that body responses might not always indicate lying.
 - Narco Analysis Test:** Its reliability is also questioned, as subjects can still lie or hold back information.
- Legal and Ethical Considerations:**
 - Polygraph Test:** Results are often not accepted in court due to reliability concerns, but are used in investigations.
 - Narco Analysis Test:** Considered controversial and often not admissible in court, with significant ethical concerns about **consent** and psychological impact.
- Application and Use:**
 - Polygraph Test:** Used mainly in criminal investigations and job screenings to check for truthfulness.
 - Narco Analysis Test:** Used in investigations, especially when the subject may hesitate to share information, requiring **medical supervision** due to the drug's effects.

12. Delhi HC Questions Missing Provisions for Unnatural Sex in BNS 2023

The Delhi High Court has recently questioned the exclusion of penal provisions related to “unnatural sex” and sodomy in the newly implemented Bharatiya Nyaya Sanhita (BNS) 2023, which has replaced the **Indian Penal Code (IPC) 1860**.

Concerns Over Legal Void

- The court highlighted the absence of provisions in the BNS equivalent to **Section 377** of the IPC, which previously criminalized non-consensual unnatural sex.
- The term “**unnatural sex**” in India encompasses sexual acts deemed to be against the order of nature. This exclusion has raised concerns regarding the protection of vulnerable groups, including the **LGBTQ community** and male victims of sexual assault.

Government's Stance

The central government has acknowledged the concerns but maintained that the courts cannot instruct the legislature on specific legal provisions.

Background

- In 2018, the Supreme Court **decriminalized homosexuality** by removing parts of **Section 377** of the IPC that were considered to infringe on the **fundamental rights** of the LGBTQ community.
- However, the BNS, which came into effect on July 1, 2024, has faced criticism for leaving a significant gap in legal protection against non-consensual sexual acts.
- The ongoing debate centers on the balance between protecting **individual rights** and ensuring comprehensive legal frameworks to address all forms of sexual violence. The Delhi High Court's observations underscore the complexities involved in updating legal codes to reflect evolving societal norms and values.

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B. INTERNATIONAL RELATIONS

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1. Bangladesh Crisis: An Unprecedented Coup

- In August 2024, Sheikh Hasina, the former Prime Minister of Bangladesh, was removed from her position and exiled, bringing an end to her leadership that began in January 2009.
- Significantly at the same day **she** resigned from the post due to intense **protests** over **job quotas**.
- Sheikh Hasina exited via **helicopter**, landing at **Hindon Air Base Ghaziabad**, near **New Delhi**.

Sheikh Hasina's Background

- Early Life:** Sheikh Hasina was born into a **Muslim** family in **East Bengal** (now **Bangladesh**) in **1947**.
 - Her father, **Sheikh Mujibur Rahman**, is known as the **founding father** and first **president** of Bangladesh.
 - He played a crucial role in leading the country's **independence** from **Pakistan** in **1971**. His leadership and vision were instrumental in shaping the new nation.
- Family Tragedy:** Sheikh Hasina had three **brothers**, all of whom were **assassinated** along with their parents on **August 15, 1975**.
 - This tragic event left a profound impact on the family and the nation.
 - Her younger sister, **Sheikh Rehana**, was one of the only survivors of the 1975 assassination, as she was abroad at the time. The sisters have since been closely involved in **political** and **social activities**.

The Bangladesh Liberation War of 1971

- The Bangladesh Liberation War was not just a struggle for independence led by Bangladeshi nationalists—religion played a significant role in sparking the conflict.
- The Pakistani government sought to reshape Bangladeshis into ideal Muslims by distancing them from their Hindu heritage. This idea of religious division was also central to the creation of Pakistan after the British colonization of the subcontinent.

- Interestingly, while religion initially united Bangladesh and Pakistan as a single state during the partition, it ultimately became the force that drove them apart.

Some of the important incidents related Making Bangladesh are given-

- Election:** In **1970**, the **Awami League**, led by Sheikh Mujibur Rahman, won a victory in Pakistan's national elections, demanding **autonomy** for **East Pakistan**. The military junta in **West Pakistan** refused to concede power, leading to widespread **protests**.
- Genocide:** The Pakistani military launched **Operation Searchlight** on March 25, 1971, unleashing a brutal crackdown on the Bengali population. **Mass killings, rapes, and displacement** followed.
- Mukti Bahini:** The Bengali resistance forces, known as the **Mukti Bahini**, formed to fight for independence.
- Indian Involvement:** India, concerned about the **refugee crisis** and the potential threat to its security, supported the Mukti Bahini and eventually intervened militarily in December 1971.
- Victory:** The combined forces of the Mukti Bahini and the **Indian Army** defeated the Pakistani army, and **Pakistan** surrendered on **December 16, 1971**.

Aftermath:

- Independence:** Bangladesh emerged as an **independent nation** on December 16, 1971.
- Refugee Crisis:** Millions of **refugees** returned to their homeland.
- Reconstruction:** The new nation faced challenges of **rebuilding** and **economic development**.

Assassination of Sheikh Mujibur Rahman

- On **August 15, 1975**, Sheikh Mujibur Rahman, his wife, and their three sons were **assassinated** by



army officials. This event marked a dark chapter in Bangladesh's history and had profound implications for the country's **political landscape.**

2. Following the assassination, Sheikh Hasina and her younger sister, Sheikh Rehana, were the only survivors, as they were abroad at the time.
 - a. Hasina lived in **exile** in **India** before returning to Bangladesh in **1981**. Upon her return, she assumed leadership of her father's party, the **Awami League**, and began her **political career.**

Political Career of Sheikh Hasina

1. **Pro-Democracy Protests:** Sheikh Hasina allied with other political parties to challenge the **military rule** of **General Hussain Muhammed Ershad.**
 - a. Her leadership during the pro-democracy street protests brought her into the **national spotlight**, establishing her as a strong political figure.
2. **First Term in Office (1996):** Sheikh Hasina first assumed office in **1996**. During her first term, she earned praise for signing a **water-sharing deal** with **India** and a **peace agreement** with **tribal insurgents.** These initiatives aimed to promote **regional cooperation** and internal **stability.** Despite her achievements, Hasina's government faced **criticism** for alleged **corruption** and being overly accommodating to **India.**
3. **Loss of Power (2001):** In **2001**, Hasina lost power to **Begum Khaleda Zia** of the **Bangladesh Nationalist Party (BNP).**
 - a. The rivalry between Hasina and Zia, known as the "**battling begums,**" led to significant **political conflict**, including **violence** and **extrajudicial killings.** This period was marked by intense **political competition** and **instability.**
4. **Return to Power (2009):** Hasina returned to power in **2009**, during a **caretaker government election.** Despite numerous **arrests**, **assassination attempts**, and allegations of **corruption**, she remained a resilient political figure. Her ability to navigate **political challenges** and maintain her position reflects her **political** determination.

Achievements Under Hasina's Leadership:

1. **Economic Transformation:** Under Sheikh Hasina's leadership, Bangladesh has transformed from one of the **world's poorest nations into one of the region's fastest-growing economies.** This transformation has been driven by strategic **economic policies** and investments in key sectors.
2. **Poverty Reduction:** The country's **per capita income** has **tripled** in the last decade, with over **25 million** people lifted out of **poverty.** This significant reduction in poverty levels reflects the government's commitment to inclusive **economic growth** and **social development.**
3. **Garment Industry:** The **garment industry** has been a major driver of Bangladesh's economic growth, constituting the bulk of the country's **exports.** The industry has provided **employment opportunities** and contributed to the country's economic prosperity.
4. **Infrastructure Development:** Hasina's government has invested heavily in **infrastructure**, including the **\$2.9 billion Padma Bridge** across the **Ganges.** This project, funded through **domestic funds**, **loans**, and **development aid**, is a testament to the government's commitment to improving **connectivity** and facilitating **economic activity.**

Controversies and Challenges:

1. **Economic Difficulties:** **Economic difficulties**, exacerbated by the **pandemic**, have led to **inflation**, declining **foreign exchange reserves**, and rising **foreign debt.** These challenges have undermined the previous economic successes and raised concerns about the government's ability to manage the economy effectively.
2. **Job Quota Protests:** The latest unrest in Bangladesh erupted over **job quota reforms** and expanded into broader **anti-government protests.** These protests highlighted the growing dissatisfaction among certain segments of the population with the government's policies.

Quota System History:

1. **Origins of the Quota System (1972 Introduction):** After Bangladesh gained independence in **1971**, the new government introduced a **quota system** to



recognize and reward those who played a significant role in the **liberation struggle**. The system reserved **30% of government and semi-government jobs for the descendants of the freedom fighters who fought against Pakistani forces during the Liberation War**. This included not just veterans but also their children and, later, their grandchildren.

2. **Expansion and Modifications (2011 Extension):** In **2011**, under Prime Minister Sheikh Hasina's administration, the quota benefits were extended to include the **grandchildren** of freedom fighters. This was part of a broader policy to acknowledge the contributions of families who had been part of the independence movement.
3. **Withdrawal of the Quota System (2018 Removal):** In **October 2018**, the government decided to **withdraw** the quota system for freedom fighters, citing concerns about **fairness** and **merit-based recruitment**. This move aimed to streamline the recruitment process and address issues of **nepotism** and **favoritism**.
4. **Legal Challenges and Recent Developments (June, 2024 - High Court Ruling):** The **High Court Division** of Bangladesh's **Supreme Court** ruled that the 2018 decision to remove the quota was **arbitrary**. The court reinstated the **30% quota** after relatives of 1971 veterans filed petitions, arguing that they still represented one of the most disadvantaged groups in the country.
5. **Quota Allocation:** Following this ruling, **56% of government jobs** were reserved for specific groups, including children and grandchildren of freedom fighters, women, and people from 'backward districts.'

Key Developments:

1. **Student Protests:** The reinstatement of quotas triggered recent protests, with students questioning why the third generation of freedom fighters was being provided benefits. They demanded a **total merit-based recruitment** system.
2. **Anti-Government Movement:** The massive protests have turned into a significant anti-government movement **demanding the resignation of Prime Minister Sheikh Hasina, who was voted back to power for a fourth consecutive term seven months ago**.

3. **Non-Cooperation Movement:** The organizers of the **students' protest called for a nationwide non-cooperation movement starting from Sunday (August 4)**. This movement includes refusing to pay taxes and utility bills, and the closure of government and private offices.
4. **Supreme Court Verdict:** Recently, the Supreme Court struck down the controversial quota system. **The top court ordered that 93% of government jobs be allocated on a merit-based system, while 7% were reserved for relatives of veterans who fought in Bangladesh's 1971 war of independence, among other categories. Previously, 30% of such jobs were reserved for relatives of war veterans.**
5. **Sheikh Hasina's Statement controversy:** A controversy erupted meanwhile from an alleged statement of Hasina, claiming she could have continued to remain in power if she had given Bangladesh's "**St Martin's Island and Bay of Bengal to America**". Sheikh Hasina's son, Sajeeb Wazed, however, said that a recent "resignation" statement, allegedly published by a newspaper, was "**completely false and fabricated**".

Ongoing Issues:

The debate over the quota system reflects broader issues related to **employment fairness, historical recognition, and political dynamics** in Bangladesh. The current unrest is fueled by these complex factors, including demands for **reform** and criticisms of both the quota system and the government's handling of the situation.

Impact of the Bangladesh Crisis on India

1. **Potential Loss of a Trusted Ally-** India may have lost a reliable partner with the resignation of Sheikh Hasina as Bangladesh's Prime Minister.
2. **Western Criticism-** The unrest in Bangladesh and Sheikh Hasina's eventual resignation placed India in a challenging diplomatic position, as it tries to balance relations with major international powers. India's ongoing support for Sheikh Hasina has strained ties with Western allies, particularly the US.

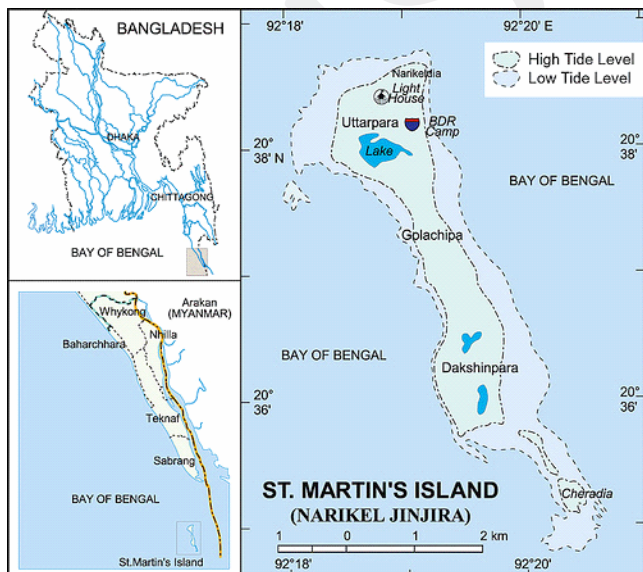




3. **Risk of Anti-Indian Sentiment in Bangladesh-** Sheikh Hasina’s close relationship with India could lead to anti-Indian sentiment among the Bangladeshi public, especially as she seeks refuge in India.
4. **Internal Security Threats:**The most significant concern for India is the potential escalation of tensions in its northeastern states due to infiltration from Bangladesh. Persistent issues in the border areas, such as smuggling, illegal migration (including the Rohingya crisis), militancy, and radicalism, pose serious internal security challenges.
5. **China and Regional Geopolitics-** Sheikh Hasina’s government managed relations with both India and China. It remains uncertain whether the opposition and interim government will adopt a similar approach. China often exploits weaknesses in neighboring countries to expand its influence.
6. **Uncertainties for Indian Investments in Bangladesh-** The political instability in Bangladesh poses significant risks for Indian businesses and investors. Disruptions in trade or delays in payments could negatively impact Indian companies, particularly in the textile industry, where Indian firms own about 25% of the units.

1. Reports have claimed that the US wanted to establish a military base in St. Martin’s Island of Bangladesh.
2. Situated in the northeastern part of the Bay of Bengal, near the Bangladesh-Myanmar border, (approximately 9 km from the Cox’s Bazar-Teknaf peninsula), The **St Martin’s Island** is 7.3 km long with an average elevation of 3.6 meters above sea level. It is the **only coral island in Bangladesh**, known for its coral reefs and as a **breeding ground for sea turtles**.
3. The island was once part of the Teknaf peninsula but submerged around 5,000 years ago. It began to resurface approximately 450 years ago, with the remaining parts emerging in the following century.
4. Arab traders settled there in the 18th century, initially naming it “Jazira” and later “Narikel Jinjira” (Coconut Island). During British rule, it was annexed in 1900. After the 1947 partition of British India, the island became part of Pakistan and then Bangladesh following the 1971 Liberation War.
5. Bangladesh’s sovereignty over the island was confirmed by a 1974 agreement with Myanmar and reaffirmed by the International Tribunal for the Law of the Sea (ITLOS) in 2012.

St Martin’s Island Issue



Importance of St Martin’s Island:	
Geopolitical Importance	The island provides strategic surveillance over the Bay of Bengal, crucial for monitoring Chinese activities.
Regional Influence	Control of the island strengthens oversight of South Asia’s trade routes and military movements.
Economic Value	Situated in Bangladesh’s EEZ, it grants access to marine resources (fish, oil, gas) and is a key tourist destination.
Environmental Significance	Home to vital coral reefs and marine life, important for conservation efforts.
US Strategic Interest	Potential for a US military base to counter China’s influence, affecting regional relations with India and China.

2. Para-Diplomacy in India: Balancing State Interests and National Foreign Policy

1. The recent criticism by the Ministry of External Affairs (MEA) against the Kerala government's appointment of an 'External Cooperation' Official has reignited the debate on the role of states in international engagement, also known as "**para-diplomacy**".
2. The MEA's stance highlights the **constitutional boundaries** and the need for states to operate within their jurisdiction.

What is Para-Diplomacy?

Para-diplomacy refers to the **foreign policy initiatives** undertaken by subnational or federal units, such as states, to promote their own interests on the international stage. It is different from traditional diplomacy, which is the sole domain of **sovereign nation-states** exercised by central governments.

Key Constitutional Provisions:

1. **Seventh Schedule, Union List, Item 10:** This provision clearly specifies that foreign affairs and matters concerning India's relations with foreign countries are the exclusive domain of the Union government.
2. **Article 253:** This article empowers the Parliament to enact laws for implementing international treaties or decisions made at international conferences, further reinforcing the central government's authority in foreign policy matters.
3. **Article 293:** This article restricts states from borrowing from external sources outside India, ensuring that states' financial engagements do not have international implications that could encroach on the Union government's purview.

The Need for Para-Diplomacy

In a diverse country like India, states play a vital role in shaping **foreign policy decision-making**. Para-diplomacy can help states leverage their **regional strengths**, attract **investments**, promote **cultural exchanges**, and contribute to the national foreign policy objectives.

Benefits of Para-Diplomacy

1. **Regional Strengths:** States can focus on their specific advantages to boost trade and cultural exchanges with

foreign countries. Kerala's engagement with Gulf countries, leveraging its diaspora, is a prime example.

2. **Attracting Investment:** States can tailor their policies to attract **foreign direct investment** by showcasing their unique offerings and providing a favorable investment climate. Various states have organized successful investment summits like **Vibrant Gujarat** and **Progressive Punjab**.
3. **Cultural Diplomacy:** States can strengthen their historical and cultural ties through **tourism, cultural exchanges, and educational collaborations**. Tamil Nadu's connections with Sri Lanka and West Bengal's ties with Bangladesh demonstrate this potential.
4. **Contribution to National Foreign Policy:** While the central government retains control over foreign policy, states can build relationships that align with national interests, complementing India's overall diplomatic efforts.
5. **Strengthening Federalism:** Para-diplomacy empowers states and promotes a more decentralized and responsive foreign policy, thus strengthening India's federal system.

Criticism of Para-Diplomacy

Para-diplomacy also faces certain criticisms:

1. **Constitutional Concerns:** Foreign affairs fall under the **Union List** in the Indian Constitution, and states' involvement in international relations can be seen as an encroachment on the central government's powers.
2. **Resource Constraints:** Establishing and maintaining international partnerships require significant financial resources, which can strain state budgets.
3. **Political Differences:** Divergent political ideologies between the state and central governments can lead to conflicts and a lack of support for para-diplomatic initiatives.
4. **Divergent Interests:** State governments may have interests that clash with national foreign policy objectives, leading to inconsistencies and potential conflicts.
5. **Impact on Bilateral Relations:** State governments' indirect influence on foreign policy decisions can affect India's bilateral relations and its standing on international laws.

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6. **Security Concerns:** Engaging in para-diplomacy, particularly in sensitive regions, might inadvertently **impact national security.**

The Way Forward

To harness the potential of para-diplomacy while addressing its challenges, India needs a balanced approach:

1. **Institutional Mechanisms:** Create effective institutional mechanisms, such as consulates or federal foreign affairs offices under the MEA's supervision, to facilitate state involvement in foreign policy. The **Inter-State Council** can also play a role in coordinating these efforts.
2. **Capacity Building:** Allocate adequate resources and provide training to state officials on international relations, diplomacy, and negotiation skills.
3. **Best Practices Sharing:** Establish platforms for states to share successful para-diplomacy models and learn from each other's experiences.
4. **Regular Assessment:** Implement mechanisms to regularly assess the impact of para-diplomacy initiatives and refine strategies based on feedback and outcomes.
5. **Clear Guidelines:** The **States Division** under the MEA should develop clearer guidelines to strengthen subnational diplomacy and ensure alignment between state and national interests.

By adopting a collaborative and well-structured approach, India can leverage the potential of para-diplomacy to further its national interests on the global stage while respecting the constitutional framework and maintaining a cohesive foreign policy.

3. India hosted 3rd VOGS Summit

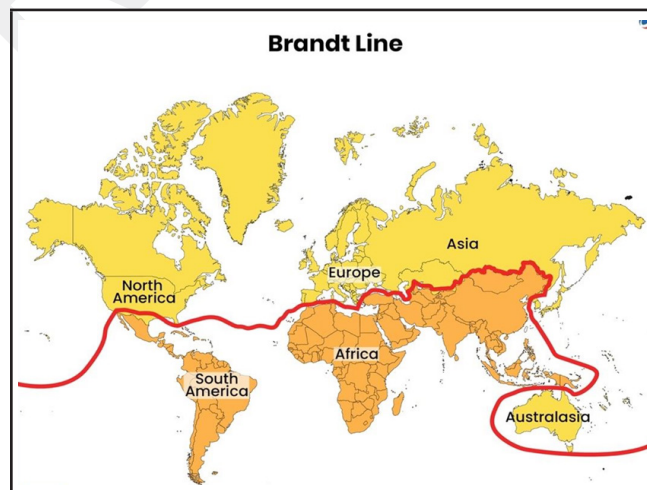
1. In August 2024, India hosted the third Voice of Global South Summit (VOGSS) in virtual format, demonstrating its commitment to championing the causes and concerns of developing nations.
 - a. India previously hosted the 1st and 2nd VOGSS in January and November 2023, respectively, establishing a platform for countries of the Global South to share perspectives and priorities.
 - b. The summit embodies India's philosophy of **"Vasudhaiva Kutumbakam"** (One Earth, One Family, One Future) on the international stage.

Key Highlights of the 3rd VOGSS

1. **Participation:** 123 countries participated, notably excluding China and Pakistan.
2. **Theme:** "An Empowered Global South for a Sustainable Future."
3. **India's Proposals:**
 - a. A human-centric "Global Development Compact" to address the rising debt of developing countries.
 - b. Provision of affordable generic medicines and sharing of natural farming experiences.
 - c. Launch of special funds to boost trade promotion and capacity building.

Understanding the Global South

1. **Definition:** The Global South refers to technically and socially less developed countries primarily located in the Southern Hemisphere, including Africa, Asia, and Latin America.
2. **Challenges:** The Global South faces various challenges such as underrepresentation in global forums, high public debt, obsolete global governance structures, vulnerability to climate change, and divergence from the Global North on key issues.



Significance of the Global South for India

1. The Global South is crucial for India's international influence, economic transformation, and strategic considerations.
2. It offers abundant resources and a vast market for Indian products.
3. Relations with the Global South help counterbalance China's influence.



India's Role as a Voice for the Global South

India is actively positioning itself as a leader of the Global South through various initiatives:

1. **Enhancing connectivity and economic inter-linkages** through infrastructure development and financial assistance.
2. **Capacity building and emerging as a first responder** through initiatives like the India-UN Capacity Building Initiative and Vaccine Maitri.
3. **Leading the global climate agenda** through initiatives like the International Solar Alliance (ISA) and Coalition for Disaster Resilience (CDRI), while supporting the principle of Common but Differentiated Responsibilities (CBDR).
4. **Advocating for issues relevant to the Global South**, such as the inclusion of the African Union in the G20.
5. **Reforming multilateral institutions** by pushing for broader representation, such as expanding the UN Security Council's permanent membership.
6. **Offering alternative mechanisms on issues like democracy and human rights** based on principles like Panchsheel, the Gujral Doctrine, and the Non-Aligned Movement.

Specific Initiatives Showcasing India's Advocacy

1. Social Impact Fund
2. Global South Young Diplomat Forum
3. Induction of the African Union into the G20
4. Vision of Aarogya Maitri (One World-One Health)
5. Opening of India's first overseas Jan Aushadi Kendra in Mauritius

Challenges for India

1. Diverse interests within the Global South
2. Competition with China
3. Balancing strategic partnerships with powers like the USA and Russia while representing the Global South
4. Limited comprehensive national strength and challenges in energy transition

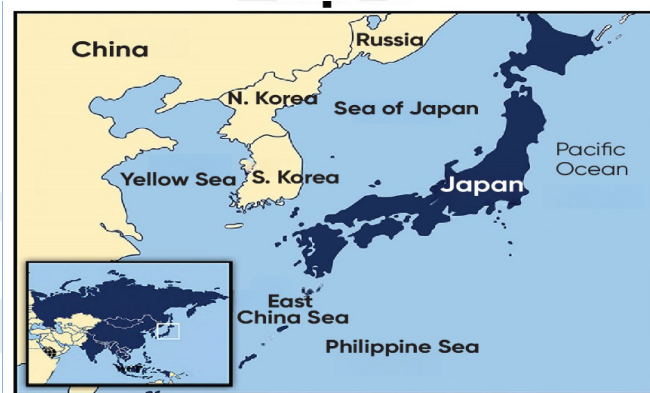
Conclusion

As India rises as a leading power, it is strategically leveraging its cultural ethos and diplomatic initiatives to unite and empower the Global South. By addressing key challenges and advocating for a more inclusive and equitable international order, India is playing a crucial role in amplifying the collective voice of developing nations on the global stage.

4. Third Edition of India-Japan 2+2 dialogue

In August 2024, India and Japan held their **third 2+2 Foreign and Defence Ministerial Meeting** in New Delhi. **What is 2+2 Ministerial Dialogue?**

1. It is a **dialogue mechanism** between the **Defence and Foreign ministers of two nations**.
2. This format facilitates in-depth discussions on **strategic, security, and defence issues, aiming to enhance bilateral relations** and address mutual concerns, which can help in resolving conflicts and building stronger partnerships.
 - Along with **Japan**, India has 2+2 Dialogue Mechanism with the **US, the UK, Australia, Brazil and Russia**.



Key outcomes of the 2+2 Ministerial Dialogue

1. **China's Growing Assertiveness:** Both the India-Japan and India-UK dialogues concentrated on China's increasing military activities, including its aggressive postures in the South China Sea and near Japan's territories.
 - The discussions emphasized adhering to international law and opposing any unilateral attempts to change the status quo by force.
2. **Defense Technology and Capability Building:** The dialogues included discussions on enhancing defense technology exchanges, joint exercises, and cooperation in building resilient supply chains, particularly in critical sectors like defense manufacturing and maritime security.

Progress made in multilateral exercises such as Veer Guardian (2023), Dharma Guardian (Military), JIMEX (naval), SHINYUU Maitri (air force) and Malabar (along with Australia and the US) were emphasised.



3. Regional Security and Strategic Autonomy:

India and its partners emphasized the importance of strategic autonomy while deepening cooperation with other nations in the region.

- These dialogues align with India's broader policy of maintaining balanced relations while protecting its national interests in a complex geopolitical environment.

Areas of Cooperation between India and Japan

1. **Indo-Pacific Region:** Common responses through strategies like Japan's **Free and Open Indo-Pacific** and India's **Indo-Pacific Oceans Initiative**.
2. **Developmental cooperation:** Asia-Africa Growth Corridor, Act East Forum, etc.
3. **Minilaterals:** QUAD Security Dialogue, Supply Chain Resilience Initiative, etc.

How has the India-Japan Relationship Evolved?

The historical connection between Japan and India traces back to the 6th century with the introduction of Buddhism to Japan, which carried significant Indian cultural and philosophical influences.

Post-World War II Relations

In 1949, Indian Prime Minister Jawaharlal Nehru's donation of an elephant to Ueno Zoo (Tokyo) symbolized the beginning of a renewed relationship after World War II. The signing of the peace treaty and the establishment of diplomatic relations in 1952 marked one of Japan's first post-war treaties. Post-World War II, Japan's recovery was supported by Indian iron ore, and Japan began providing yen loans to India starting in 1958.

Strategic Partnerships

1. The relationship was further solidified in the 2000s with the establishment of a "**Global Partnership**." Subsequent meetings between leaders, including the elevation to a "**Special Strategic and Global Partnership**" (SSGP) in 2014, highlighted the growing importance of their bilateral ties. In 2015, the "Japan and India Vision 2025" was announced, outlining a framework for cooperation.
2. **Key Pillars of SGSP**
 - a. Global Partnership for Peace and Security in the Region and the World.

- b. Civil Nuclear Energy, Non-proliferation and Export Control.
- c. Exploring Science, Inspiring Innovation, Developing Technology, Connecting People.

Key Areas of Cooperation

1. **Defence and Security Cooperation:** The "Joint Declaration on Security Cooperation" issued in 2008 set the foundation for ongoing security dialogues, including the "2+2" meetings and the Acquisition and Cross-Servicing Agreement (ACSA) signed in 2020. ACSA was signed to facilitate the reciprocal provision of supplies and services between the defense forces of both nations.
2. **Economic Relations:** Japan and India's economic ties have strengthened, with Japan being a significant investor in India. As of 2021, Japan was India's 13th largest trading partner and 5th largest investor. Key initiatives include the "India-Japan Industrial Competitiveness Partnership" and the "Clean Energy Partnership" aimed at promoting mutual investment and energy cooperation.
3. **Cultural Exchanges:** The year 2017 was designated as the Year of Japan-India Friendly Exchanges. The "Japan-Southwest Asia Exchange Year" in 2022 further underscores Japan's commitment to strengthening ties with India and other Southwest Asian countries.

Recent Developments

1. **Sister-City Ties:** During the 2019 G20 Osaka summit, Japan and India signed a Memorandum of Understanding (MoU) to formalize a sister-city relationship between Ahmedabad and Kobe. This agreement builds on the 2016 MoU, which established a sister-state relationship between Gujarat and Hyogo Prefecture. The sister-city concept developed post-World War II is designed to promote peaceful relations, trade, tourism, and cultural exchange between cities across different countries.
2. **Increased Investment:** Japan has significantly increased its investments in India, pledging 5 trillion yen (approximately USD 42 billion) in 2023 to be invested over the next five years.
3. **Development Assistance:** India has been the largest recipient of Japanese Official Development Assistance



(ODA), with notable projects including the Delhi Metro and the High-Speed Railway initiative using Japan's Shinkansen system. In FY 2022, Japanese assistance included 567.5 billion yen in loans, alongside grants and technical cooperation.

Conclusion:

The 2+2 dialogue format is increasingly becoming India's preferred mechanism for strategic engagement with key global partners. It facilitates focused and coordinated decision-making on defense and foreign policy, ensuring that partnerships evolve in line with shared geopolitical interests and regional security objectives. The India-Japan and India-UK dialogues are vital elements in shaping a stable and rules-based Indo-Pacific and broader global order, reflecting India's growing role as a strategic player on the world stage.

5. PM's visit to Ukraine

1. **In August 2024, PM Narendra Modi** concluded a historic visit to **Ukraine**, marking the first such visit since it became independent in December 1991, and diplomatic ties were established between the two countries in January 1992. This visit holds significant implications for both countries and the broader geopolitical landscape.
 - a. PM Modi traveled to Kyiv from Poland aboard a **'Rail Force One'** train, with the journey expected to take around 10 hours each way.
 - World leaders including US President Joe Biden, French President Emmanuel Macron and German Chancellor Olaf Scholz visited Kyiv by train after the Russian invasion of Ukraine.
 - b. PM Modi has met Zelenskyy thrice — twice after the Russia-Ukraine war started in February 2022.



Key Highlights of the Visit

1. **Strategic Partnership:** Both nations agreed to elevate their **comprehensive partnership to a strategic partnership**, signifying a deepening of ties.
2. **BHISHM Cubes:** India extended its support to Ukraine through the **Bharat Health Initiative for Sahyog Hita & Maitri (BHISHM) cubes** under the 'Aarogya Maitri' project. These portable hospitals provide crucial medical aid in emergencies.
3. **Agreements Signed:** Several agreements were inked in areas such as **agriculture, food industry, medical products regulation, Indian Humanitarian Grant Assistance, and cultural cooperation.**

Significance of PM's Visit to Ukraine

1. **Mending Fences:** India's visit aims to strengthen ties with Ukraine and bridge any gaps that may have emerged in recent times.
2. **Global Mediator:** India is actively positioning itself as a **peacemaker** on the global stage, aiming to exert influence beyond its immediate neighborhood. This role extends beyond the Ukraine crisis, contributing to India's overall **global credibility.**
3. **Shift in Neutrality:** This visit reflects a shift in India's foreign policy from **non-alignment to multi-alignment**, seeking closer ties with all nations.
4. **Balancing Act:** India is navigating a delicate balance between the **West and Russia** amidst the ongoing conflict.
5. **Larger Europe Push:** This visit is part of India's broader effort to engage with Europe, moving beyond its traditional focus on major powers like **Russia, Germany, France, and Britain.**

Role India Can Play in Mediation of Russia-Ukraine War

1. **Upholding International Principles:** India can promote adherence to the **UN Charter, international law, territorial integrity, and sovereignty.**
2. **Global Food Security:** India can emphasize the importance of uninterrupted **agricultural product supply.**
3. **Innovative Solutions:** India can contribute to developing **multi-stakeholder consultations** for broader acceptance of solutions.



Significance of Ukraine for India

- Defence Cooperation:** India's military hardware, reliant on **Russian and Ukrainian components**, faces maintenance challenges due to the war.
- Trade and Economy:** Bilateral trade, valued at **US \$ 3.386 billion in 2021-22**, encompasses various sectors. **Ukraine** was a key source of **sunflower oil** for India before the war.
- Post-War Recovery:** India and Ukraine are exploring opportunities for **Indian companies** to participate in Ukraine's **reconstruction**, potentially benefiting India's labor market.
- Reformed Multilateralism:** Ukraine supports India's bid for a **permanent seat on a reformed UN Security Council**.

Challenges in India-Ukraine Relationship

- Russia-India Relations:** India's strong ties with Russia necessitate a cautious approach in its support for Ukraine.
- Decline in Trade:** The ongoing war has impacted bilateral trade, with a significant reduction in exports and imports.
- Historical Baggage:** Past disagreements on issues like India's nuclear tests, defense supplies to Pakistan, and Kashmir policy have also posed challenges.

Conclusion

India should proactively mediate and advocate for **dialogue and peaceful resolution** in the Russia-Ukraine conflict. Additionally, revitalizing trade ties through **improved ease of doing business, expanded market access, and harmonized standards** will be crucial for long-term cooperation.

6. India and Poland Elevate Ties to Strategic Partnership

In August 2024, PM Narendra Modi concluded a visit to Poland, marking the **70th anniversary of diplomatic relations** between the two nations. This also marks the first-ever visit by an Indian PM to Poland in 45 years. The visit culminated in the elevation of bilateral ties to a Strategic Partnership and the signing of several key agreements.

Key Highlights of the Official Visit

- Social Security Agreement:** An agreement was reached to protect the interests of cross-border workers.

- Jam Saheb of Nawanagar Youth Exchange Program:** India announced the launch of this program to promote **youth engagement** between the two countries, honoring **the Maharaja Jam Saheb Digvijaysinhji's humanitarian efforts during World War II**.
- Strategic Partnership:** Both countries agreed to upgrade their relationship to a Strategic Partnership and implement a **five-year Action Plan (2024-2028)** to realize its objectives.

Five-Year Action Plan for Strategic Partnership

- Political Dialogue and Security Cooperation:** Annual **political dialogues** at the deputy minister level and regular consultations on security and defense cooperation will be conducted.
- Trade and Investment:** The Joint Commission for Economic Cooperation will meet at least twice every five years, and cooperation in economic security will be enhanced.
- India-EU Cooperation:** Both countries will collaborate on the early conclusion of India-EU trade and investment negotiations and operationalization of the India-EU Trade and Technology Council.
- Terrorism:** Cooperation in designating individuals affiliated with **UNSC 1267-listed** groups will be strengthened.
- Other Areas of Cooperation:** **Cyber Security, circular economy, and waste-water management** are among the additional areas of focus.

7. India-Vietnam Enhance Comprehensive Strategic Partnership

India and Vietnam have announced a new plan to strengthen their '**comprehensive strategic partnership**' over the next five years.

- This initiative was discussed during a **bilateral meeting** between the **Indian Prime Minister** and the **Vietnamese Prime Minister Pham Minh Chinh** in **New Delhi on August 1, 2024**.
- The agreement focuses on enhancing cooperation in various sectors, including **trade, digital payments, and defense**.

Key Highlights of the Bilateral Meeting:

- New Plan of Action (2024-2028):** **India and Vietnam** agreed on a new plan to strengthen their **comprehensive strategic partnership**, established in **2016**. The plan aims to enhance **bilateral trade**,



economic cooperation, technology development, and defense and security partnerships over the next five years.

2. **Digital Payment Connectivity:** The central banks of both countries reached an agreement to establish **digital payment connectivity**. This will enhance **financial transactions** between **India** and **Vietnam**. Both countries are embracing **digital payments**, with **Vietnam** developing cross-border payment connectivity with other **ASEAN** countries.
3. **Credit Line Extension:** **India** will extend a **USD 300 million** credit line to **Vietnam** to support its **military security** and **development projects**. This includes the inauguration of an **Army Software Park** in **Nayachang**, funded by an Indian grant, and increased cooperation on **terrorism** and **cybersecurity**.
4. **Memorandums of Understanding (MoUs) Signed:** Six **MoUs** were signed, covering various areas such as **agricultural research**, **customs capacity building**, **law and justice**, **radio and television**, and **traditional medicines**.
5. **Trade and Economic Goals:** **Vietnam** proposed raising annual **bilateral trade** to **USD 20 billion** from the current **USD 14.8 billion**. Both countries agreed to expedite the review of the **ASEAN-India Trade in Goods Agreement** to enhance trade. **Vietnam** welcomed **Indian investments** in **IT**, **manufacturing**, **textiles**, **semiconductors**, and **renewable energy**.
6. **Strategic Alignment:** Both countries committed to strengthening cooperation in the **Indo-Pacific region**, focusing on maintaining **freedom of navigation** and **overflight** in the **South China Sea**. They emphasized the **peaceful settlement** of disputes based on **international law**, particularly the **United Nations Convention on the Law of the Sea (UNCLOS)** of 1982.
7. **Economic Diplomacy Dialogue:** A new **economic diplomacy dialogue** will be established at the **deputy foreign minister level** to address **trade** and **investment issues**.

Key Facts About Vietnam:

- a. **Capital:** Hanoi
- b. **Official Language:** Vietnamese
- c. **Major Mountain Range:** Annam Cordillera
- d. **Major Rivers:** Mekong River (south) and Red River (north), which form fertile deltas supporting the majority of the population and agriculture.



- e. **Notable Wildlife:** Giant catfish, Indochinese tigers, Saola antelopes, and Sumatran rhinos.
- f. **Deforestation:** Forest cover has been reduced to about **19%**; government replanting efforts are underway to restore woodlands.
- g. **Government Structure:** Socialist state governed by the **Communist Party of Vietnam**; a **president** serves as head of state, while a **prime minister** runs the government.
- h. **Economy:** Main exports include **crude oil**, **seafood**, **rice**, **shoes**, **wooden products**, **machinery**, **electronics**, **coffee**, and **clothing**.

India-Vietnam Relations:

1. **Historical Ties and Diplomatic Relations:** **India** and **Vietnam** share a **Comprehensive Strategic Partnership**. **Mahatma Gandhi** and **President Ho Chi Minh** exchanged messages during their independence struggles. **India** established diplomatic relations with **Vietnam** in **1972**, and relations were elevated to a **Comprehensive Strategic Partnership** in **2016**. The development of **India-Vietnam relations** is guided by a “**Joint Vision for Peace, Prosperity and People**” adopted in **2020**. In **2022**, the two countries celebrated the **50th anniversary** of the establishment of diplomatic relations.
2. **Institutional Mechanisms:** The **18th Joint Commission Meeting (JCM)** on **Economic, Trade, Scientific, and Technological Cooperation** was held on **16th October 2023** in **Hanoi**. Previous **JCM** meetings, **Foreign Office Consultations**, and **Strategic Dialogues** at **Secretary-level** help review bilateral cooperation.
3. **Trade, Economic, and Development Cooperation:**
 - a. **Trade Statistics:** **India-Vietnam** trade from **April 2023** to **March 2024** was **USD 14.82**



billion. India's exports to Vietnam were USD 5.47 billion, and imports were USD 9.35 billion.

b. **Key Exports and Imports:** India exports engineering goods, agricultural products, chemicals, pharmaceuticals, electronic goods, minerals, textiles, and plastics to Vietnam. Imports from Vietnam include computer and electronic goods, mobile phones, machinery, steel, chemicals, footwear, garments, and wooden products.

c. **Investments:**

i. Indian investments in Vietnam are around USD 2 billion, including energy, mineral processing, agro-processing, IT, auto components, pharmaceuticals, hospitality, and infrastructure sectors.

ii. Vietnam's investments in India are about USD 28.55 million, primarily in consumer goods, electronics, construction, IT, and pharmaceuticals.

d. **Development Partnership:**

i. Under the Mekong-Ganga Cooperation framework, India has completed about 45 Quick Impact Projects in over 35 provinces of Vietnam, with another 10 projects at the implementation stage.

ii. The Mekong-Ganga Cooperation (MGC), established in 2000, includes six member countries: Cambodia, Lao PDR, Myanmar, Thailand, Vietnam, and India.

iii. The cooperation focuses on key sectors such as tourism, culture, education, information technology, telecommunications, and transport.

iv. India has supported the conservation and restoration of the UNESCO World Heritage site of 'My Son' in Quang Nam Province, Central Vietnam.

v. The Archaeological Survey of India completed the conservation and restoration of A, H, and K group of temples at the My Son complex site in 2022.

e. **Defense Cooperation:**

i. India and Vietnam have strong defense and security cooperation, with a 2009 MoU on Defense Cooperation and a 2015 Joint Vision on Defense Cooperation providing the framework.

ii. In 2022, the two countries signed a new "Joint Vision Statement on India-Vietnam Defense Partnership towards 2030" and a "Memorandum of Understanding on Mutual Logistics Support."

iii. In 2023, Vietnam was gifted an indigenously built missile corvette INS Kirpan.

iv. Bilateral military-to-military cooperation includes staff talks, exercises, training, visits, and exchanges, such as the VINBAX-2023 Military Exercise.

v. In February 2024, a Vietnamese navy ship participated in the MILAN international maritime exercise in India.

f. **Cultural Exchanges:**

i. MoUs between Indian and Vietnamese institutions promote academic and cultural exchanges.

ii. Conferences and summits like the Northeast India Festival in Ho Chi Minh City foster bilateral cultural ties.

iii. Buddhist links between Vietnam and India represent ancient civilizational connections. Vietnamese Buddhist scholars and pilgrims regularly travel to India, including to the Vietnamese Buddhist pagoda in Bodhgaya.

iv. Yoga is immensely popular across Vietnam, with hundreds of yoga clubs and numerous Indian yoga teachers offering their services.

v. The Swami Vivekananda Indian Cultural Centre in Hanoi promotes further understanding of India and fosters closer links between the two countries through various cultural programs and activities.

Conclusion:

New plan of action for the comprehensive strategic partnership aims to strengthen bilateral trade, economic cooperation, technology development, and defense and security partnerships over the next five years. Both countries are committed to maintaining freedom of navigation and overflight in the South China Sea and emphasizing the peaceful settlement of disputes based on international law. As both countries celebrate the 50th anniversary of the establishment of diplomatic relations, they continue to work together actively to further strengthen their multi-dimensional cooperation.





C. SECURITY

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1. Rhumi-1: India's First Reusable Hybrid Rocket

1. In August 2024, the nation's first-ever reusable hybrid rocket, named **RHUMI-1**, was successfully launched from Thiruvudandhai in Chennai.
2. Developed by the Tamil Nadu-based startup **Space Zone India** in partnership with Martin Group, RHUMI-1 marks a milestone in **cost-effective and sustainable space exploration**.

Payload and Mission

The rocket, launched using a mobile launcher, carried a payload of three **CubeSats** and 50 **PICO satellites**. These satellites are tasked with collecting vital data on **global warming** and climate change, contributing to research and mitigation efforts.

1. **CubeSats:** These nanosatellites weigh between 1 and 10 kg, offering a compact and efficient platform for scientific payloads.
2. **PICO satellites:** Even smaller, these satellites typically weigh between 0.1 and 1 kg, enabling further miniaturization of space-based technology.

RHUMI-1's Innovative Features

RHUMI-1 incorporates several cutting-edge technologies that make it a pioneer in the field of reusable rockets:

1. **Hybrid Rocket Engine:** This innovative engine combines solid and liquid propellants, leading to enhanced efficiency and cost reduction.
2. **Adjustable Launch Angle:** Precise adjustments from 0 to 120 degrees allow for fine-tuned control over its flight path.
3. **Electrically Triggered Parachute System:** A cost-effective and environmentally friendly descent mechanism that ensures safe recovery of rocket components.

4. **Environmentally Friendly:** RHUMI is 100% pyrotechnic-free and contains no TNT, minimizing its environmental impact.

The Significance of Reusable Rockets

Reusable rockets, such as RHUMI-1, revolutionize space travel by offering numerous benefits:

1. **Cost Savings:** By reusing rocket components, launch costs can be reduced by up to 65% compared to traditional single-use rockets.
2. **Reduced Space Debris:** Reusable rockets minimize the amount of debris left in orbit, promoting a cleaner space environment.
3. **Increased Launch Frequency:** Shorter turnaround times enable more frequent launches, opening up opportunities for research, communication, and other space-based activities.

2. Amendment to MQ-9B UAV Deal with U.S.

Defence Acquisition Council (DAC), chaired by the **Defence Minister**, has reviewed and approved amendments to the deal for 31 **MQ-9B High Altitude Long Endurance (HALE)** Unmanned Aerial Vehicles (UAVs) from **General Atomics** of the US.

About the deal:

1. The deal involves purchasing **15 Sea Guardians** for the Indian Navy and 16 Sky Guardians.
2. As part of the agreement, General Atomics will establish a Global Maintenance, Repair, and Overhaul (MRO) facility in India. This facility will count towards the offset obligations of the deal. It is anticipated that the deal will be concluded during the upcoming Quad leaders' summit in December, which will include a visit from the U.S. President.

Other approvals

1. The DAC has also given approval for the scheduled refit of **the aircraft carrier INS Vikramaditya**, which is planned for later this year.



2. The DAC has approved the **first step, known as the Acceptance of Necessity (AoN)**, for procuring the Advanced Land Navigation System (ALNS) for Armoured Fighting Vehicles (AFVs) of the Army. This system, which will be procured from Bharat Electronics Limited, offers high accuracy in navigation and is compatible with defence series maps.
3. The DAC has also approved the procurement of **22 Interceptor Boats** for the Coast Guard. These boats are equipped with the latest technology for quick interception and can operate in shallow waters. They will be used for coastal surveillance, patrolling, search and rescue operations, and medical evacuation.

What is the MQ-9B Predator Drone?

- Description:** The **MQ-9B** drone is a variant of the **MQ-9 “Reaper”**, an unmanned aerial vehicle (UAV) capable of remotely controlled or autonomous flight operations. These are **high-altitude, long-endurance** drones armed with strike missiles that can take out enemy targets with high accuracy.
- Development:** It was developed by **General Atomics Aeronautical Systems (GA-ASI)**, primarily for the **United States Air Force (USAF)**.
- Variants:** The MQ-9B has two variants – **SkyGuardian** and its sibling **SeaGuardian**. The Indian Navy has been operating the MQ-9B Sea Guardian since 2020.

3. INS Arighaat: India's 2nd nuclear submarine

- In August 2024, India commissioned its 2nd nuclear-powered ballistic missile submarine (SSBN), **INS Arighaat** built under the Advanced Technology Vessel (ATV) project.
 - SSBN stands for** “Ship, Submersible, Ballistic, Nuclear” and refers to a type of submarine that carries nuclear-tipped ballistic missiles.

About INS Arighaat

- Joining INS Arihant:** The 6,000-tonne INS Arighaat joins its predecessor, INS Arihant, in enhancing India's sea-based nuclear deterrence.

- Nuclear Triad:** The addition of Arighaat strengthens India's nuclear triad, enabling the country to launch nuclear weapons from land, air, and sea. This capability puts India in an exclusive group of nations possessing a complete nuclear triad (which includes the United States, Russia, China, and France).
- Nuclear Propulsion:** Both **Arihant and Arighaat are powered by 83 MW** pressurised light-water nuclear reactors, offering them extended underwater endurance compared to conventional submarines.
 - While matching INS Arihant in size, Arighaat boasts a greater capacity to carry **K-15 missiles**, further enhancing its strategic firepower.

4. Gaurav: Long Range Glide Bomb

In August 2024, the Defence Research and Development Organisation (DRDO) successfully carried out the maiden flight test of the **long-range glide bomb (LRGB) Gaurav** from a **Su-30 MK-I** fighter jet of the Indian Air Force.

About Gaurav

- It is an air-launched **one-thousand-kilogram class glide bomb** capable of hitting targets at **long distances**.
- After launch, the bomb **navigates towards its target using a precise hybrid navigation system** that combines Inertial Navigation System (INS) and GPS data.
- It has been **designed and developed indigenously by the Research Centre Imarat, Hyderabad**.

About Glide bomb

- It is a stand-off bomb/weapon that **uses aerodynamic surfaces** to extend its range and accuracy compared to a conventional gravity bomb.
- It's released **from an aircraft at a distance from the target**.
- It has **control surfaces, such as wings or fins**, that allow them to glide and adjust their path, following a flatter trajectory than a traditional bomb, **often guided by GPS, laser, or other targeting systems**.
- It allows aircraft to stay out of the range of enemy defences while still delivering a precision strike.



5. Exercises/ Operations in News

Name	Type	Participants	Brief Description
Udara Shakti	Air Force Exercise	India - Malaysia	<ul style="list-style-type: none"> The IAF participated with Su-30MKI fighter jets. Aimed at bolstering operational efficiency, technical experts of both Air Forces engaged in exchange of their maintenance practices.
Mitra Shakti	Military Exercise	India- Sri Lanka	<ul style="list-style-type: none"> Edition-10th An annual training event conducted alternatively in India and Sri Lanka. Last edition was conducted in Pune in Nov 2023.
Tarang Shakti	Air Force Exercise	Multinational including India	<ul style="list-style-type: none"> It began at the Suler Air Base in Coimbatore district on August 6, 2024 and continued till August 13. The 2nd phase of the exercise will be held from August 29 to September 14 at the Rajasthan Air Base.
Parvat Pahaar	Military exercise	Indian Army	<ul style="list-style-type: none"> The 'Parvat Pahaar' (Mountain Strike) exercise emphasizes mountainous and rugged terrains, such as those found in regions like Eastern Ladakh.
Khaan Quest	Military Exercise	Multinational including India	<ul style="list-style-type: none"> Held: - from 27th July to 9th August 2024 at Ulaanbaatar, Mongolia The exercise first started as a bilateral event between USA and Mongolian Armed Forces in the year 2003.

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D. ECONOMY

1. Long-Term Capital Gains Tax and Indexation

1. The Lok Sabha's recent clearance of the **Finance Bill, 2024** has brought about significant changes to the **Long-Term Capital Gains (LTCG) tax** provisions concerning immovable properties.
2. This amendment, stemming from the **Budget 2024-25** proposal to remove **indexation benefits** in LTCG calculations, has sparked widespread discussions regarding its implications for taxpayers and the economy.

Key Changes and Provisions

1. **Choice for Taxpayers:** The amendment grants taxpayers the flexibility to choose between the old and new tax regimes for properties acquired before **July 23, 2024**.
 - a. **Old Scheme/Regime:** Pay **20% LTCG tax with indexation benefit**.
 - b. **New Scheme/Regime:** Pay **12.5% LTCG tax without indexation** (down from the earlier 20%).
2. **Applicability:** For properties acquired after the cut-off date of **July 23, 2024**, only the new regime will apply.
3. **Enhanced Exemption:** The exemption limit for LTCG on **listed equity, equity-oriented mutual funds, and units of business trusts** has increased from **1 lakh to 1.25 lakh**. Simultaneously, the **long-term tax rate** for these assets has been raised from **10% to 12.5%**.

Understanding LTCG Tax and Indexation

1. **Capital Gains Tax:** It is levied on the profit earned from the sale of capital assets, such as real estate, stocks, and bonds. There are two types: **Long-Term Capital Gains (LTCG) Tax & Short-Term Capital Gains (STCG) Tax**.
2. **LTCG Tax:** It is levied on the profit earned from the sale of assets held for longer periods. The holding period varies depending on the asset type.
 - a. More than 12 months for **Listed equity shares, Equity-oriented Mutual funds**
 - b. 24 Months for **Unlisted Equity shares, immovable assets like House/land, etc.**
 - c. 36 months for **movable assets like Gold**

3. How LTCGs are Taxed:

- a. For equity shares and mutual funds, LTCG exceeding **Rs 1.25 lakh** is taxed at **12.5%** without the benefit of indexation
- b. For other assets like property, LTCG is taxed according to recent amendments

4. **Indexation:** It involves adjusting the purchase price of an asset for **inflation** when calculating capital gains. The **Cost Inflation Index (CII)** is used to estimate the increase in an asset's price due to inflation
 - a. **Inflation adjusted price** = (CII of the year of sale / CII of the year of purchase) x Actual purchase price of the asset

5. **Benefits of Indexation:** It helps neutralize the impact of inflation, ensuring taxpayers are taxed on **real gains** rather than gains arising from general price increases

Significance of the Amendments

1. **Flexibility in Tax Calculations:** Taxpayers now have the option to choose the regime resulting in a lower tax liability. It also ensures that **indexation benefits** will not apply if a taxpayer incurs a loss
2. **Real Estate Growth:** Restoring indexation could stimulate **investment in real estate** by reducing the financial burden of property sales
3. **Curbing the Black Market:** By reducing the tax burden, restoring indexation can help to promote greater compliance with tax laws

Concerns and Potential Challenges

1. **Higher Tax Liability:** In some cases, the 12.5% LTCG tax without indexation might lead to a higher tax liability than the 20% tax with indexation
2. **Black Money Transactions:** The potential sale of properties at **circle rates** (the minimum price at which a real estate is to be sold) to avoid higher taxes could increase **black money** transactions



3. **Tax Evasion:** The possibility of undervaluing assets to lower tax liability remains a concern. This could result in a loss of **tax revenue** for the government
4. **Disincentive for Investment:** The higher tax liability may discourage long-term investments in property

Conclusion

The restoration of indexation benefits for LTCGs on property sales is a step towards a fairer tax system. However, concerns regarding the cut-off date, potential tax evasion, and disincentives for investment need careful consideration. The current amendments also raise concerns about potential unfairness due to the cut-off date and the possibility of **tax erosion** due to undervaluation of assets. Going forward, adjustments to the LTCG tax regime may be necessary to ensure fairness and equity for all taxpayers while promoting economic growth and discouraging tax evasion.

2. RBI to Launch Unified Lending Interface

1. In Aug 2024, the **Reserve Bank of India (RBI)** announced that it is set to launch the **Unified Lending Interface (ULI)** at the national level. The ULI was launched as a pilot project by the RBI in 2023.
2. The ULI aims to **revolutionize the lending sector in India** by **simplifying and streamlining the lending process**.

What is Unified Lending Interface (ULI)?

1. ULI is a **digital platform** designed to enhance the lending process by making it **more efficient and accessible**. It aims to provide a **seamless credit experience** to borrowers, especially in the **agriculture and MSME** sectors.

Key Features

1. **Consent-Based Digital Access:** Lenders will gain **digital access to both financial and non-financial data** of customers, such as **land records**, through a system based on **customer consent**.
2. **Common and Standardized APIs:** ULI will include **standardized Application Programming Interfaces (APIs)** that facilitate a **'plug and play'** approach.

- a. This approach **simplifies data access** and **reduces technical integration complexities**.
- b. **'Plug and Play' Concept:** It refers to **ready-made facilities with essential infrastructure** like power, network etc., enabling industries to commence operations immediately without extensive setup.
- c. **API:** It is a software intermediary that allows two applications to talk to each other. APIs are an accessible way to extract and share data within and across organizations.

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Benefits of ULI

1. **Frictionless Credit:** ULI aims to create a **smoother lending experience** by reducing paperwork, particularly benefiting smaller and rural borrowers.
2. **Reduced Appraisal Time:** By consolidating data from various sources, ULI will **reduce the time needed for credit evaluation**.
3. **Centralized Data Access:** It will consolidate financial and non-financial data from multiple sources, making it more accessible for lenders.
4. **Focus on Agriculture and MSMEs:** Addresses the significant **unmet credit demand in agriculture and Micro, Small, and Medium Enterprises (MSMEs)**.

Relation to Other Digital Initiatives

1. **JAM-UPI-ULI:** ULI is part of the **'new trinity' of JAM** (Jan Dhan, Aadhaar, and Mobile), **UPI**, and **ULI**. This integration represents a major advancement in **India's digital infrastructure**.
2. **Digital Infrastructure:** The integration aims to meet the large unmet demand for credit and improve **financial inclusion**.

Other Platforms that Facilitate Lending in India

1. **Public Credit Registry (PCR):** A central database containing comprehensive credit information about borrowers.
 - a. It helps lenders evaluate **creditworthiness** and **reduce information asymmetry** (lack of information) in the credit market.
2. **Account Aggregator (AA) Framework:** It is a **consent-based, RBI-regulated platform** that enables customers to share their financial information across institutions.



- a. It streamlines access for lenders and facilitates quicker, informed lending decisions.
- Credit Information Companies (CICs):** Agencies like CIBIL, Equifax, and Experian collect and maintain credit information of individuals and businesses, aiding in credit assessment.
 - Trade Receivables Discounting System (TReDS):** An electronic platform that allows MSMEs to auction their trade receivables at competitive rates, improving liquidity and financial management.
 - Peer-to-Peer (P2P) Lending Platforms:** Online platforms such as Faircent and Lendbox that enable individuals to lend and borrow money directly from one another, bypassing traditional financial intermediaries.

Conclusion

The launch of the ULI by the RBI is set to transform India's lending landscape by improving efficiency and accessibility. By leveraging advanced digital infrastructure and integrating with existing systems like JAM, UPI, and other financial platforms, ULI aims to address the credit needs of underserved sectors, including agriculture and MSMEs.

3. Discounts and Incentives for Scrapping Old Vehicles

- In August 2024, the Auto manufacturers have agreed to offer discounts on new commercial and passenger vehicles when customers provide a scrapping certificate for old vehicles.
- This replaces the previous vehicle exchange discount offered by car dealers.

Scrapping of current End-of-life vehicles (ELVs) burden of the country will lead to 15-20% reduction in emissions due to vehicular pollution.

About the Voluntary Vehicle-Fleet Modernization Program (V-VMP)

- The V-VMP (also known as the Vehicle Scrapping Policy 2021) aims to phase out old and unfit vehicles. Vehicles over 20 years old for private use and over 15 years old for commercial use are no longer eligible for re-registration.

- Voluntary Vehicle-Fleet Modernization Program (VVMP)** is aimed at creating an eco-system for phasing out of unfit and polluting vehicles.
- Recent Developments:**
 - Discounts:** Automakers offer discounts of 1.5% to 3%, or up to Rs 25,000, on new vehicles when an old vehicle is scrapped. Discounts are available for 2 years for commercial vehicles and one year for passenger vehicles.
 - State Discounts:** Several states are providing 25-30% discounts on road tax for recycled vehicles.
- Categorization of Vehicles for Scrappage Policy**
 - Private Vehicles:** Must pass a fitness test after 15 years of registration; if successful, registration renewal is valid for 5 years.
 - Commercial Vehicles:** Subject to fitness tests every two years for the 1st 8 years and annually thereafter, up to 15 years.
 - Government Vehicles:** All government vehicles over 15 years old will be scrapped.
 - Vintage Vehicles:** Exempt from scrappage policy due to their maintenance and limited usage.

Benefits of V-VMP

- Pollution Reduction:** Scrapping 1 crore unfit vehicles will cut emissions by 15-20%.
- Formalization:** Aims to organize and make the scrappage industry transparent and eco-friendly.
- New Vehicle Demand:** Increases demand for new, technologically advanced vehicles.
- Vehicular Safety:** Enhances road and vehicle safety with newer, safer vehicles.
- Circular Economy:** Promotes recycling, job creation in the sector, and improvements in waste management R&D.
- Fuel Efficiency:** Upgrades vehicles to meet BS VI standards, reducing NOx emissions by 25%.

About the Circular Economy

- Definition:** A system where materials are continually reused, refurbished, remanufactured, and recycled to minimize waste and keep resources in circulation.



2. **Benefits:** Addresses climate change, biodiversity loss, and pollution by reducing reliance on finite resources.
3. **Principles:**
 - a. Eliminate waste and pollution
 - b. Circulate products and materials at their highest value
 - c. Regenerate nature

Incentives and Disincentives Under V-VMP

Incentives:

1. **Discounts on New Vehicles:** A scrap value of 4-6% of the new vehicle's ex-showroom price, with a government advisory for a 5% discount on new purchases.
2. **Motor Vehicle Tax Concessions:** Up to 25% for non-transport and 15% for transport vehicles.
3. **Waived Registration Fees:** For new vehicle purchases.

Disincentives:

1. **High Fees:** Increased charges for fitness tests and registration renewals for older vehicles.
2. **Green Cess:** A 10-15% green cess on old vehicles in addition to road tax.

India's Initiatives to Promote Circular Economy

1. Battery Waste Management Rules, 2022
2. Plastic Waste Management (Amendment) Rules, 2022
3. E-waste Management Rules, 2022
4. Extended Producer Responsibility (EPR) Certificates

4. AI based National Pest surveillance system

1. In August 2024, the central government has introduced the **National Pest Surveillance System (NPSS)**.
2. It is an **AI-powered platform designed to connect farmers with agricultural scientists and experts**, improving pest control strategies.
3. This initiative aims **to shift farmers' dependence away from pesticide retailers** and towards scientifically backed pest management techniques.
4. The NPSS offers **regular and accurate pest management advisories** and promotes **Integrated Pest Management (IPM)**.

5. It functions under the **Directorate of Plant Protection, Quarantine & Storage**, which operates under the **Ministry of Agriculture**.

Need for NPSS

1. Reduce farmers' reliance on pesticide retailers.
2. Address the overuse of pesticides.
3. Prevent losses in food production due to pest attacks, which account for up to 20%.

Key Features of the NPSS Platform

1. **AI-Powered Insights:** The platform uses Artificial Intelligence (AI) to process real-time pest infestation (invasion of insects) data, enabling timely intervention.
2. **Direct Farmer-Expert Interaction:** Farmers can upload images of affected crops or pests through their mobile phones, allowing experts to provide quick diagnoses and recommendations.
3. **Reduced Pesticide Usage:** NPSS offers precise pest management solutions, helping reduce the excessive use of pesticides and encouraging sustainable farming.
4. **Wide Accessibility:** The system is designed to reach around 140 million farmers nationwide, making expert guidance more accessible.
5. **Pesticide Purchase Prevention:** By offering accurate pest control advice, the platform helps farmers avoid unnecessary pesticide purchases.
6. **Localised Support:** State-level outreach programs will promote the platform, ensuring farmers receive pest management advice tailored to their specific regional needs.

AI and Agriculture

1. Artificial Intelligence (AI) has the potential to solve issues related to **food insecurity, climate change, and low agricultural yield**.

Applications of AI in Agriculture

1. **Diagnostic:** Detects water stress, pest infestations, and disease outbreaks.
2. **Prescriptive:** Analyzes soil health and prescribes appropriate fertilizers (e.g., **SENSAGRI: Sensor-based Smart AGRiculture**).
3. **Advisory:** Provides weather forecasts and irrigation schedules.
4. **Predictive:** Forecasts crop yield, predicts pest attacks, and issues early warnings (e.g., **BharatAgri App**).



Challenges in AI Adoption in Indian Agriculture

1. **Policy Gaps:** Lack of comprehensive data governance, enforcement, and regulations.
2. **Farmer Resistance:** Reluctance to adopt new technologies due to risk aversion (strong dislike) and mistrust.
3. **Digital Divide:** Small-scale farmers struggle with limited access to digital infrastructure.
4. **High Initial Costs:** Significant investments required, making it difficult for small farmers to adopt.

Initiatives Promoting AI in Agriculture

1. **Kisan e-Mitra:** An AI-powered chatbot that helps farmers with queries related to the **PM Kisan Samman Nidhi** scheme.
2. **AI for Agriculture Innovation (AI4AI):** An initiative by the **World Economic Forum** to promote AI-driven agricultural innovations.
 - a. The **Saagu-Baagu** project was introduced under this initiative to promote agricultural innovation in Telangana.
3. AI-based analytics for monitoring crop health using satellite data, focusing on **rice** and **wheat** crops.

5. Banking Laws (Amendment) Bill, 2024

1. In August 2024, government introduced the **Banking Laws (Amendment) Bill, 2024** in Lok Sabha proposing several changes in banking regulations, including increasing the number of nominees allowed in a bank account to 4.
2. The Bill **aims to improve governance standards in banks**, ensure **consistent reporting** to the Reserve Bank of India (RBI), and **enhance the quality of audits**, especially in Public Sector Banks.
3. It also seeks to provide **better protection for depositors and investors** by implementing **stricter regulatory measures**.

Which laws the new Bill seeks to amend?

The **Banking Laws (Amendment) Bill, 2024** seeks to amend several key legislations:

1. **Reserve Bank of India (RBI) Act, 1934**
2. **Banking Regulation Act, 1949**
3. **State Bank of India Act, 1955**

4. **Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970**
5. **Banking Companies (Acquisition and Transfer of Undertakings) Act, 1980**

What are the Key Highlights of the Banking Laws (Amendment) Bill, 2024?

1. **Revised Definition of Fortnight for Cash Reserves**
 - a. Under the **RBI Act**, **scheduled banks** are required to maintain an average daily cash balance with the RBI.
 - b. This balance is calculated based on the **closing balances** for each day of a **fortnight**, previously defined as Saturday to the 2nd Friday (both days inclusive).
 - c. The Bill redefines a fortnight as:
 - **1st to 15th day of the month**
 - **16th to last day of the month**
 - d. This revised definition **also applies to non-scheduled banks** under the **Banking Regulation Act**.
2. **Extended Tenure for Directors of Cooperative Banks**
 - a. The **Banking Regulation Act** limits the tenure of directors (except chairpersons or whole-time directors) in cooperative banks to **8 consecutive years**. The **Bill increases this limit to 10 years**.
3. **Common Directors in Cooperative Banks**
 - a. The current law prohibits directors of a bank from serving on the board of another bank, except for directors appointed by the RBI.
 - b. The Bill expands this exception, **allowing a director of a central cooperative bank to serve on the board of a state cooperative bank** where he is a **member**.
4. **Substantial Interest in Companies**
 - a. A substantial interest in a company, as defined by the **Banking Regulation Act**, refers to **holding shares** valued at over **5 lakh rupees** or **10% of the paid-up capital**, whichever is lower.
 - b. The Bill **raises this threshold to 2 crore rupees**. The **central government can modify this amount via notification**.



5. Nomination Rules for Deposits and Lockers

- The current law allows deposit holders to appoint a single nominee for bank deposits, lockers, or articles in the bank's custody.
- The Bill **allows up to 4 nominees** for these purposes. For deposits, nominees can be appointed either **simultaneously or successively**, while for other items, only successive nominations are allowed.
- In the case of **simultaneous nominees**, the nomination will be valid according to a **declared proportion**. For **successive nominations**, **priority** is given based on the **nomination order**.
- This will help to **lower the amount of unclaimed deposits** (over **₹42,000 crore as of March 2023**, as per data revealed in Parliament) by increasing the number of nominees.
- Unclaimed deposits** refer to savings or current account balances that have not been used for 10 years or fixed deposits that have not been claimed within 10 years from their maturity date.

6. Transfer of Unclaimed Amounts

- Under the **State Bank of India Act** and the **Banking Companies Acts**, unpaid or unclaimed dividends are transferred to an **unpaid dividend account** and then to the **Investor Education and Protection Fund (IEPF)** if unclaimed for **7 years**.
- The Bill expands this to include:
 - Shares** for which dividends have not been paid or claimed for 7 consecutive years.
 - Interest or redemption amounts** on bonds that are unpaid or unclaimed for 7 years.
- Individuals can claim **refunds or transfers from the IEPF** for their shares or money.

7. Auditors' Remuneration

- Currently, the RBI, in consultation with the central government, determines the remuneration of bank auditors.
- The Bill allows **banks to independently decide the remuneration of their auditors**.

Investor Education and Protection Fund (IEPF)

- Established under **Section 205C** of the **Companies Act, 1956** through the **Companies (Amendment) Act, 1999**.
- Managed by the **Investor Education Protection Fund Authority (IEPFA)**, established in **2016** under the **Companies Act, 2013**.
- Nodal Ministry: Ministry of Corporate Affairs.**

Sources of Funds Credited to IEPF

- Unpaid dividends** from companies.
- Application money** received by companies for securities allotment, which remains unpaid or due for refund.
- Matured deposits and debentures** from companies.
- Grants and donations** from the Central Government, State Governments, companies, or other institutions.
- Interest or income** earned from investments made using the fund..

What is meant by the Debenture?

- A **medium- to long-term debt instrument** issued by a company as a means of borrowing money at a **fixed interest rate**.
- Unlike most **investment-grade corporate bonds**, it is not secured by **collateral**.

Conclusion

The **Banking Laws (Amendment) Bill, 2024** aims to enhance the efficiency and transparency of the banking system, providing greater flexibility and protection for depositors and investors. The proposed changes reflect India's commitment to modernizing its financial regulations.

6. RBI's Five Strategic Priorities for India's Financial Future

- In August 2024, the Reserve Bank of India (RBI) Governor outlined **five strategic priorities aimed at shaping India's financial future** at the **2024 Global Fintech Festival (GFF)** held in Mumbai.
- These priorities reflect India's ambitions to emerge as a leading global economy.

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About the Five Priorities for India's Financial Future

1. **Financial Inclusion:** The RBI Governor highlighted the progress made in financial inclusion, with the **RBI's Financial Inclusion Index** increasing from 53.9 in March 2021 to 64.2 in March 2024.
 - a. **Pradhan Mantri Jan Dhan Yojana (PMJDY)** is India's key financial inclusion program with **over 530 million accounts** opened. Of these, **56% are women** and **67% Jan Dhan accounts in rural and semi-urban areas**.
 - b. **Future Focus:** He highlights the role of fintech in closing service gaps and ensuring seamless access to financial services.
2. **Enhancing Digital Public Infrastructure (DPI):** The second priority focuses on strengthening Digital Public Infrastructure (DPI), crucial for integrating advanced technology into the financial sector.
 - a. **Project:** The RBI's pilot project on the **Unique Lending Interface (ULI)** is expected to be fully rolled out soon.
 - This initiative, alongside the **JAM (Jan Dhan-Aadhaar-Mobile) trinity** and **Unified Payments Interface (UPI)**, marks a new phase in India's financial evolution.
 - b. **Future Focus:** DPI holds the potential to transform financial services across the country, improving financial inclusion and overall efficiency.
3. **Strengthening Cybersecurity:** Cybersecurity remains a key concern in the increasingly digital financial landscape.
 - a. **Real-time monitoring and adherence to regulations:** **Digital Personal Data Protection Act 2023** provides individuals greater control over their data and strengthens trust in digital financial services.
 - Banks and fintechs, including Non-Banking Finance Companies (NBFCs), are expected to adopt customer-centric practices, ensuring transparency and fairness in financial products and lending.

- b. **Actions:** There is the need for **constant vigilance against cyber threats** and the importance of promoting cybersecurity awareness for a secure digital economy.
4. **Promoting Sustainable Finance:** RBI's initiatives like **sovereign green bonds and green deposits** in advancing sustainable finance. He also noted the need to further develop the green bond market.
 - a. **Role of Technology:** Technology, especially Artificial Intelligence (AI) and big data, is critical in assessing environmental risks and accelerating the shift toward sustainable finance.
 - b. **Expected Leadership:** Fintech firms are expected to play a major role in this transition, positioning India as a leader in sustainable finance.
5. **Reinforcing Financial Infrastructure:** There is a need for the strengthening of India's financial infrastructure with a focus on cross-border payments which highlighting RBI's efforts to globalize UPI and RuPay.
 - a. **Future Potential:** There is a need for careful integration of AI and stressed innovation's role in strengthening India's financial infrastructure, mentioning the potential of the Internet of Things (IoT).

About the Global Fintech Festival 2024

1. It is one of the largest and most influential fintech conferences worldwide, organized annually by the **Payments Council of India (PCI)**, **National Payments Corporation of India (NPCI)**, and the **Fintech Convergence Council (FCC)**.
2. **Global Fintech Awards (GFA):** It celebrates innovation and excellence in fintech by recognizing outstanding contributions from around the world.
3. **Fifth GFF 2024 Theme:** "Blueprint for the Next Decade of Finance: Responsible AI | Inclusive | Resilient".

Current State of India's Financial Services Industry

1. India's financial services sector is undergoing rapid growth and diversification. India is amongst the fastest growing Fintech markets in the world.



2. Indian FinTech industry's market size is **\$584 Bn in 2022** and is estimated at **~\$1.5 Tn by 2025** (acc. to INVEST India).
3. It encompasses commercial banks, insurance companies, Non-Banking Financial Companies (NBFCs), cooperatives, pension funds, mutual funds, and smaller financial entities.
4. While new players like payment banks have emerged, commercial banks continue to dominate, holding over 64% of the total assets.
5. **Key Developments**
 - a. **Unified Payments Interface (UPI):** UPI recorded the **highest ever volume of transactions of 14.03 Bn** in May 2024. Daily transactions on the UPI platform can touch 1 Bn by 2025.
 - b. **Immediate Payment Service (IMPS):** Recorded near 560 million transactions worth around ₹6 trillion in May 2024. (as per NPCI data)

Government Initiatives

1. **Credit Guarantee Scheme:** Revised in **Union Budget 2023-24** with ₹9,000 crore to support MSMEs by offering **collateral-free loans**.
2. **International Payments:** NPCI **International Payments (NIPL)** partnered with **Liquid Group** to enable **QR-based UPI payments** in 10 countries, including Malaysia, Thailand, and Singapore.
3. **e-RUPI:** Launched in August 2021 as a digital payment solution using QR codes or SMS, designed for one-time payments.
4. **Financial Inclusion:** Programs like **Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM)**, **Direct Benefit Transfer**, and **Atal Pension Yojana** have driven digital inclusion, particularly in rural areas.
5. **Inter-Ministerial Steering Committee (IMSC):** Established in 2018 under the **Department of Economic Affairs (DEA)** to address fintech growth and enhance regulatory flexibility.

Future Prospects

1. **Private Wealth Management:** Expected to grow, with 16.57 lakh High Net-Worth Individuals (HNWIs) by 2027, making India the **4th-largest wealth market globally by 2028**.

2. **Insurance Market:** Forecasted to reach **USD 250 billion by 2025**, with an additional **USD 78 billion in life insurance premiums by 2030**. (acc. To INVEST India)
3. **Mutual Funds:** The **Association of Mutual Funds in India (AMFI)** aims to grow **assets under management (AUM)** to **USD 1.15 trillion** and **triple investor accounts by 2025**.
4. **Stock Market Growth:** India regained its position as the **4th-largest equity market globally**, surpassing Hong Kong with a market value exceeding USD 5 trillion.

Growth Opportunities in India's Financial Services Sector

Growing Demand

1. **Insurance Sector:** Investment in India's insurance industry is expected to reach **USD 1 trillion by 2025**, demonstrating robust growth.
2. **Insurtech Market:** India is the **2nd-largest Insurtech market in the Asia-Pacific region**, projected to expand 15 times to **USD 88 billion by 2030**.
3. **Life Insurance:** India ranks as the **5th-largest life insurance market** among emerging economies, growing at 32-34% annually.

Innovation

1. **Digital Expansion:** India's financial services sector is widening its reach through innovations like PhonePe, enhancing accessibility and customer engagement.
2. **Digital Gold Investments:** New investment avenues, such as digital gold, are gaining popularity.
3. **Government Initiatives:** Programs like **PMJDY**, **Digital India**, and **Aadhaar-enabled services** are driving financial inclusion.
 - a. The **Aadhaar Enabled Payment System (AePS)** facilitates secure digital transactions, and UPI consolidates banking functions into a single app.
4. **Digital Lending Market:** Valued at USD 270 billion in 2022, expected to grow to USD 350 billion by 2023.
5. **Impact on GDP:** By 2025, digital finance could add **USD 950 billion** to India's GDP and generate 21 million new jobs.



Increased Foreign Investment

- FDI and FPI Growth:** Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI) are anticipated to increase, boosting infrastructure development.
- Capital Inflow:** India has already seen growth due to relaxed FDI limits, and there is potential for further investment with the introduction of new financing models and reduced risks.

7. World Development Report 2024

- In August 2024, the **World Bank** published report titled “**World Development Report 2024: The Middle-Income Trap**”.

It highlights key challenges that over 100 countries, including India, face in their efforts to attain high-income status in the next few decades.

Middle-Income Trap

- The middle-income trap occurs when a country, after attaining middle-income status, faces difficulty in progressing to high-income levels.
- This happens when economic growth slows down after a period of rapid advancement, leaving the country stuck at a middle-income level.
- According to the **World Bank**, the middle-income trap is characterized by economic stagnation when a country’s GDP per capita reaches approximately 10% of the US level (currently around USD 8,000).
- Low-income countries often grow quickly when moving toward middle-income levels, driven by factors like low wages, cheap labour, and basic technology adoption.
- However, middle-income countries may struggle due to the **exhaustion of initial growth drivers**, institutional weaknesses, inequality, and a lack of innovation.

Current Global Status:

- As of the end of 2023, **108 countries** were classified as middle-income, with GDP per capita between USD 1,136 and USD 13,845.
- India was classified as a low-income nation** until 2006. In 2007, India moved to the lower-middle-income category, where it remains today.

- Economists note that **India’s growth** has been slow at lower-middle-income levels, with per capita income ranging from USD 1,000 to USD 3,800.
- They emphasize that India’s growth has primarily benefited the top 100 million people, raising concerns about the sustainability of this model.

Key Highlights

Middle Income Trap:

- India is one of over 100 countries that may struggle to break free from the “middle income trap,” where nations find it difficult to progress from middle-income to high-income economies.
- India stands at a crucial moment, enjoying **demographic advantages** and **progress in digitalization**, but faces a more challenging global environment than in the past.
- Achieving the **goal of becoming a developed country by 2047** requires a broad-based approach to improving economic performance, rather than focusing on isolated sectors.
- Since 1990, **only 34 middle-income countries have transitioned to high-income status**, often due to factors such as European Union integration or oil wealth.
- Middle-income nations encounter difficulties in maintaining growth due to **declining returns on physical capital investment**.
- In the past, low-income countries like India in the 1980s could boost their growth by building physical capital and improving basic education.
 - However, middle-income countries experience **diminishing returns** (doesn’t lead to the same level of growth) as they continue to invest.
- Increasing savings and investment** isn’t enough to drive growth. Even though these countries already have a good amount of physical capital, they face challenges in productivity.
 - This shows that physical capital alone isn’t the key to further economic growth.
- Despite significant capital resources, middle-income countries face productivity challenges, showing that physical capital is not the only hurdle to growth.



- The World Bank criticizes outdated economic models in many middle-income nations, which highlights increasing investment without considering broader productivity issues.

Global Economic Impact:

- Middle-income countries are **home to six billion people**, accounting for **75% of the global population**, and contribute over **40% of global Gross Domestic Product (GDP)**.
- Their ability to achieve high-income status will play a key role in global economic growth.

Per Capita Income Disparity:

- India** is currently the **fastest-growing major economy**, but if current trends continue, it will take 75 years for India's per capita income to reach 1/4th of the US levels.
- China would take over 10 years, Indonesia about 70 years, and India 75 years to achieve this milestone.

Challenges and Risks:

- Middle-income countries face major challenges, including aging populations, increasing debt, geopolitical tensions, trade disputes, and environmental concerns.
- If current trends continue, these countries risk falling short of becoming reasonably prosperous societies by the middle of this century.

Key Strategic Recommendations

3i Strategy: A Three-Phase Approach for High-Income Status

- The report suggests a phased strategy for countries aiming to achieve high-income status:
 - Phase 1:** Focus on investment for **low-income nations**.
 - Phase 2:** Combine investment with the adoption of foreign technologies for **lower-middle-income countries**.
 - Phase 3:** Add innovation to investment and technology infusion for **upper-middle-income countries**.
- The **case of South Korea** serves as an example. In 1960, with a per capita income of USD 1,200, South Korea reached USD 33,000 by 2023 through the **gradual adoption of this 3i strategy**.

Policy Recommendations: Path to Development for India

- To reach developed nation status, **India needs a holistic strategy** aimed at **improving its overall economic performance** rather than concentrating on specific sectors.
- Focus on **broad-based policies** rather than debates about specific sectors like manufacturing versus services.
- Prioritize **education and skill development** to better incorporate technology and promote innovation.
- Strengthen university-industry linkages** to promote effective knowledge transfer.
- Technology preparedness:** India has a strong foundation in digitalization, but there is a need for businesses to become more dynamic in adopting and utilizing these technologies.
- The report points to the **dominance of microenterprises** in India, suggesting that policies favouring small firms may inhibit the growth of more productive enterprises.

Challenges India Must Overcome to Improve Income Status

- Income Inequality:** India faces continuous consumption inequality, with the **Gini index** remaining around 35 for the past 20 years. This restricts broad-based economic growth and hampers inclusive development.
 - Despite reducing extreme poverty between 2011 and 2019, progress slowed, particularly after the Covid-19 pandemic, reflecting ongoing economic disparities.
- Balancing Growth and Inflation: Higher interest rates**, aimed at controlling inflation, can curb demand and slow economic growth. India must carefully manage its monetary policy to strike a balance between growth and inflation.
 - Fiscal management** is key to ensuring growth while avoiding inflationary pressures.
- Income Per Capita:** India's per-capita income remains below the **upper-middle-income mark** of USD 4,256. Substantial growth is needed over the coming years to improve this figure.





- a. Projections suggest that by FY31, India could become a **USD 7 trillion economy**, but maintaining a **6.7% average annual growth rate is essential** for achieving **upper-middle-income status**.
4. **Labor Force Participation:** Employment indicators show improvement, but challenges continue regarding job quality, real wage growth, and women's low labour force participation.
 - a. These issues affect economic productivity and the inclusivity of growth.
 - b. The **Economic Survey 2023-24** indicates that India needs to generate 7.85 million non-farm jobs annually until 2030 to accommodate its growing workforce.
5. **Economic Diversification:** Mining, manufacturing, construction, and services are key growth sectors, but India must continue diversifying to prevent over-reliance on any one sector.
 - a. India aims for manufacturing to account for more than 20% of GDP by FY31, requiring improvements in global competitiveness, value chains, and green transitions.
6. **Environmental and Climate Resilience:** India aims to **achieve high-income status by 2047** while reaching **net-zero emissions by 2070**.
 - a. Balancing economic growth with climate resilience demands investments in green technologies and sustainable practices. India's growth must also be climate-resilient while benefiting the broader population.
2. **Digitalization:** India's **Aadhaar program** and **IndiaStack (Digital Public Infrastructure)** are driving a digital transformation, enabling greater financial inclusion and credit access.
 - a. The **credit-to-GDP ratio** may rise from **57% to 100%** in the next decade, and consumer spending could more than double, from USD 2 trillion to USD 4.9 trillion, particularly in non-grocery retail.
3. **Energy Transition:** Significant investments are being made in renewable energy sources such as biogas, ethanol, green hydrogen, wind, solar, and hydroelectric power.
 - a. **Daily energy consumption is expected to increase by 60%**, reducing reliance on energy imports and improving living standards.
 - b. This transition creates demand for electric solutions, driving investment growth, job creation, and income.
4. **Manufacturing Sector:** Corporate tax cuts, investment incentives, and infrastructure development are fuelling capital investments in manufacturing.
 - a. The **share of manufacturing in GDP** is expected to **rise from 15% to 21% by 2031**, potentially **doubling India's export market share**.
 - b. India is opening its economy to global investors by raising **Foreign Direct Investment (FDI)** limits, removing regulatory barriers, and improving the business environment.
 - c. The 14 **Production Linked Incentive (PLI) schemes** could significantly boost production, employment, and economic growth, transforming the country's manufacturing ecosystem.
5. **Services Sector:** The services sector is **expected to grow** at an average rate of 7% between FY25 and FY31, continuing to be the dominant driver of India's growth.
6. **Economic Size:** India's GDP could potentially double from USD 3.5 trillion to over USD 7 trillion by 2031.
 - a. The **Bombay Stock Exchange** is projected to **grow by 11% annually**, reaching a **market capitalization of USD 10 trillion by 2030**.
 - b. By 2031, India is expected to become the **3rd-largest economy globally**.

Factors Supporting India's Improvement in Income Status

1. **Global Offshoring:** There is increased outsourcing of services like software development and business process outsourcing to India.
 - a. The **rise of work-from-home** and **work-from-India models** could **double employment in outsourced jobs** to over **11 million by 2030**.
 - b. This is because the global spending on outsourcing is projected to grow from USD 180 billion to USD 500 billion annually by 2030.
 - c. **Offshoring** is the practice of relocating business processes or work functions to another country in order to cut costs and increase efficiency.



7. **Consumption and Income Distribution:** Rising income levels are expected to significantly boost consumption. **Growth in per capita income and economic expansion** will drive domestic consumption.

- a. **Consumer spending** is forecast to more than double, from USD 2 trillion in 2022 to USD 4.9 trillion by the end of the decade, with gains in non-grocery retail, leisure, and household goods.

Strategies India Should Adopt to Avoid the Middle-Income Trap

1. **Address Income Inequality:** Implement policies to promote **fairer wealth distribution**, such as **progressive taxation, increased social welfare spending, and targeted subsidies for lower-income groups.**

- a. **Strengthen social safety nets** to minimize income disparities between various income groups and regions.

2. **Enhance Economic Diversification:** Broaden the economy by **investing in emerging sectors** like technology, renewable energy, and advanced manufacturing, reducing reliance on traditional industries.

- a. **Support the development of economically lagging regions** to ensure more balanced economic growth and reduce concentration in specific areas.

3. **Increase Productivity and Innovation:** Promote innovation by investing in research and development, with a focus on tech-driven industries to boost productivity.

- a. Improve education and skills training, particularly in vocational and higher education, to meet the evolving needs of the modern economy.

4. **Support Local Manufacturing and Production:** Promote local manufacturing through initiatives like the **PLI (Production Linked Incentive) scheme** to make essential goods more affordable and competitive.

5. **Foster Inclusive Growth:** Prioritize the production and distribution of essential goods such as food, healthcare, and education, ensuring they are accessible and affordable for all.

- a. Implement policies that create employment opportunities and enhance living standards across different regions and communities.

6. **Strengthen Economic Institutions and Governance:** Enhance the efficiency and transparency of economic institutions to reduce corruption and ensure resources are allocated effectively.

- a. Pursue structural reforms to simplify regulations, improve the business environment, and attract investment.

7. **Focus on Sustainable Development:** Align economic growth strategies with environmental sustainability by investing in green technologies and ensuring that development is environmentally responsible.

- a. Develop strategies to mitigate the impacts of climate change and increase resilience in vulnerable sectors.

8. **Promote Financial Inclusion:** Improve **access to credit and financial services** for small businesses and individuals, particularly in underserved regions, to enhance financial inclusion.

- a. Use digital platforms to expand financial inclusion and improve the efficiency of financial transactions.

World Bank

1. The World Bank was **established in 1944** during the **United Nations Monetary and Financial Conference in Bretton Woods**, New Hampshire.
2. Initially created as the **International Bank for Reconstruction and Development (IBRD)**, it later became known as the **World Bank**. It works in partnership with the **International Monetary Fund (IMF)**.

Major Reports by the World Bank

1. **Ease of Doing Business** (discontinued)
2. **Human Capital Index**
3. **World Development Report**
4. **Global Economic Prospects (GEP) Report**



8. NITI Aayog's Report on Seaweed Value Chain Development

1. In August 2024, NITI Aayog has introduced a detailed plan to **advance seaweed farming in India** through its report, titled *“Strategy for the Development of Seaweed Value Chain”*.
2. The roadmap outlines actions in **research, investment, training, infrastructure improvement, and market promotion** to enhance seaweed cultivation.
 - a. This initiative is expected to benefit the **environment, economy, and local communities**.

Comprehensive Framework

1. The NITI Aayog report presents a **comprehensive framework** addressing **environmental concerns**, laying out the **economic feasibility**, and identifying **potential sites** conducive to seaweed cultivation.
2. The **methodology** adopted for identifying these sites is **scientific**, considering factors conducive (helpful) to **seaweed growth** and the **ecological sensitivity** of the areas.
3. It discusses **methods** and **economics** of **on-shore** and **off-shore cultivation** of commercially significant species of seaweed and best practices of **cultivation, governance, product development, and harvesting** followed globally.

What are Seaweeds?

1. **Seaweed** refers to numerous types of **marine plants** and **macroalgae** that thrive in rivers, lakes, and other bodies of water. They are **primitive, non-flowering marine algae** that **lack roots, stems, and leaves**.
2. They play a crucial role in **marine ecosystems**. Large seaweeds create **dense underwater habitats**, known as **kelp forests**, which serve as **nurseries for fish, snails, and sea urchins**.
3. Some species include **Gelidiella acerosa, Gracilaria edulis, Sargassum spp., and Turbinaria spp.**
4. Over ten thousand seaweed species are found worldwide and can be broadly **classified into three groups**:
 - a. **Green:** Chlorophyta
 - b. **Brown:** Phaeophyta
 - c. **Red:** Rhodophyta

Global Production Scenario

1. In 2019, **global seaweed production** (including farming and wild collection) reached **35.8 million tonnes**, with wild collection contributing **1.1 million tonnes**.
2. **Eastern and Southeastern Asia** lead the world in seaweed farming, producing **97.4%** of the global supply. The **Americas** and **Europe** primarily depend on wild collection.
3. **Indonesia** is a **key seaweed producer**.
4. The species **Kappaphycus alvarezii** and **Euचेuma denticulatum** contribute to **27.8%** of global farmed seaweed production.
5. The seaweed industry is forecasted to grow at a **compound annual growth rate (CAGR)** of **2.3%** from **2022 to 2030**.

India's Production Scenario

1. India harvests approximately **33,300 tonnes** (wet weight) of seaweeds annually, mainly from natural beds in **Tamil Nadu**, involving around **5,000 families**.
 - a. **India's annual seaweed revenue** stands at roughly **₹200 crores**, which accounts for less than **1%** of global production.
2. The government aims to increase the agricultural sector's contribution to gross value added (GVA) to **9%** by **2024-25**, up from **7.3%** in **2018-19**.

Import and Export

1. In **2021**, the global seaweed market was valued at **USD 10 billion**.
2. Major trading countries include **China, Indonesia, the Philippines, South Korea, and Malaysia**.
3. **South Korea** dominates seaweed **exports** with over **30%** market share, while **China** holds a similar share in **seaweed-based hydrocolloids** (thickening and gelling agents derived from seaweed).

Major Seaweed Beds in India

1. India's coastlines, particularly along **Tamil Nadu** and **Gujarat**, and the islands of **Lakshadweep** and **Andaman & Nicobar**, are rich in seaweed resources.
2. Additional seaweed beds are located near Mumbai, Ratnagiri, Goa, Karwar, Varkala, Vizhinjam, and Pulicat, with stretches in Tamil Nadu, Andhra Pradesh, and Orissa's Chilka region.



Government Initiatives

1. **Seaweed Mission (2021):** This mission promotes seaweed farming and processing for value-added products, aiming to increase seaweed cultivation across India's 7,500 km coastline.
2. **Pradhan Mantri Matsya Sampada Yojana (PMMSY):** As part of this scheme, the government supports the cultivation of seaweed across the country.
 - a. Launched by the **Department of Fisheries; Ministry of Fisheries, Animal Husbandry, and Dairying (MoFAH&D).**
3. **Commercialisation of Seaweed Products:** The **Indian Council of Agricultural Research (ICAR) - Central Marine Fisheries Research Institute (CMFRI)** has developed two seaweed-based nutraceuticals (taken as supplements).
 - a. These are **Cadalmin™ Immunalgin extract (Cadalmin™ IMe)** and **Cadalmin™ Antihypercholesterolemic extract (Cadalmin™ ACe).**
 - b. Produced using **eco-friendly methods**, these products aim to boost immunity and manage cholesterol.
4. **Multi-Purpose Seaweed Park in Tamil Nadu:** This facility focuses on expanding the seaweed industry.

Uses and Benefits of Seaweeds

1. **Nutritional Value:** Seaweeds are **rich in essential minerals** like **calcium, phosphorus, sodium, and potassium**, along with **vitamins** such as **A, B1, B12, C, D, E, niacin, folic acid, and riboflavin.**
 - a. They also provide **amino acids** vital for metabolism and health.
2. **Medicinal Benefits:** Seaweeds possess **anti-inflammatory and antimicrobial properties**, with some varieties showing potential in **fighting cancer**, particularly **malignant tumours** and **leukaemia.**
 - a. **Malignant tumors** are cancerous **tumors that grow uncontrollably** and spread to other parts of the body.
 - b. **Leukaemia** is a **blood cancer** that occurs when bone marrow produces too many abnormal white blood cells.

3. **Manufacturing Applications:** Seaweeds serve as **binding agents** in products like **toothpaste and fruit jellies** and act as **softeners** in organic cosmetics and skincare.
4. **Commercial Significance:** Seaweeds are valuable for their **bioactive compounds, manure, fodder, and polysaccharides** like agar, algin, and carrageenan.
 - a. They are used in industries such as **food, pharmaceuticals, cosmetics, and even mining, as well as in marine chemical extraction.**
 - b. **Bioactive metabolites** are substances that are important for the metabolism of organisms, and are found in many organisms, including plants and microorganisms.
 - c. **Polysaccharides** are major classes of biomolecules. They are long chains of carbohydrate molecules, composed of several smaller monosaccharides.
5. **Agricultural Uses:** Seaweeds function as **crop biostimulants**, enhancing agricultural yields and serving as feed additives for animals.
 - a. **Seaweed farming** offers a sustainable and profitable alternative for **economic stability and growth, reducing reliance on traditional fishing and diversifying coastal communities' livelihoods.**
 - b. Example: A hectare (400 bamboo rafts) of seaweed can generate up to Rs 13,30,000 annually, with a family managing 45 rafts benefitting significantly from the income.
6. **Bioindicator:** Seaweeds help in **absorbing excess nutrients** from various sources, preventing algal blooms and maintaining the marine ecosystem's balance.
7. **Environmental Contributions:** Seaweeds play a key role in **reducing carbon emissions.**
 - a. **Mariculture seaweed** sequesters around 58 metric tonnes of CO₂ per hectare annually, while seaweed grown in ponds absorbs 12 metric tonnes per hectare.

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NITI Aayog's Recommendations for Promoting Seaweed Production in India

1. **1. Regulatory and Governance: Amendment in the Allocation of Business Rules, 1961** to include seaweed cultivation and its value chain under the **Department of Fisheries**.
 - a. Constitution of a **National Steering Committee** under the chairmanship of the **Secretary, Department of Fisheries**.
 - b. Constitution of a national-level **technical committee** for the import of seaweed seeds and planting material.
 - c. Inclusion of seaweed-related credit in **Priority Sector Lending (PSL)** by RBI.
 - d. Development of **standards** for various categories of seaweed products by **Food Safety and Standards Authority of India (FSSAI), Central Drugs Standard Control Organization (CDSCO), MoA&FW, and MoFAH&D**.
2. **Exports and Certification of Seaweed:** The responsibility for **seaweed exports and certification** should be moved to **Marine Products Export Development Authority** operates under the Ministry of Commerce & Industry.
 - a. **National Cooperative Development Corporation (NCDC)** may undertake the sale and export of seaweed.
 - b. Harmonise (make consistent) international certification standards, with **Marine Products Export Development Authority (MPEDA)** setting protocols and an independent body overseeing certification.
3. **Priority Sector Lending:** The **RBI** should consider adding **seaweed-related credit** to its priority sector lending (PSL) list due to seaweed farming's contribution to addressing climate change.
4. **Comprehensive Risk Coverage through Insurance:** A **insurance scheme** should be created to cover risks in seaweed farming, including crop insurance, life insurance for farmers, and protection for capital infrastructure.
5. **Financial Support:** Seaweed farmers should be included under **PM-KISAN** and **Pradhan Mantri**

Fasal Bima Yojana (PMFBY) schemes. MoA&FW should develop guidelines for financial support and inputs.

- a. **Kisan Credit Card (KCC)** should also cover seaweed farmers, with promotion of **Joint Liability Groups (JLGs)** for group financing.
6. **Investment and Ease of Doing Business:** Encourage **public and private investments** in coastal seaweed production, leveraging reforms such as **Stand-up India** and **Startup India**.
 - a. Develop a **dynamic data portal** with geo-tagged sites to support seaweed cluster development and stakeholder access.
 - b. Include seaweed in **National Agriculture Market (e-NAM)** and state agriculture markets, and explore **PPPs** for sales.
 - c. Expand the **Seaweed Farmer Service Platform (SFSP)** for informed decision-making.
 - d. Set up **seed banks** in maritime states and UTs for quality seed availability post-monsoon.
 - e. Establish **Logistics and Processing Centres** at cluster levels for primary processing, transport, and packaging.
7. **Skill Development: Certificate and diploma courses** for skill development and employment prospects.

9. E-Rupee and its Potential in India's Digital Landscape

In India, major fintech companies like **Google Pay, PhonePe, Amazon Pay, Cred, and Mobikwik** are looking to integrate the **e-rupee**, a new digital currency from the Reserve Bank of India (RBI), into their payment systems.

- a. **This move aims to broaden the e-rupee's use beyond just transactions between users at their banks.**

Key Points:

What is the e-Rupee?

1. **Definition:** The e-rupee, or digital rupee, is a form of digital money issued by the RBI. Unlike traditional banknotes, it exists only in electronic form and is used for online transactions.
2. **Centralization vs. Cryptocurrency:** Unlike decentralized cryptocurrencies that operate on



blockchain networks, the e-rupee will be based on a centralized or hybrid system controlled by the RBI. It will use advanced security measures to ensure safe and reliable transactions.

Differences Between e-Rupee and Banknotes

Feature	E-Rupee	Banknotes
Interest	No interest payments	Can earn interest
Conversion	Convertible with bank deposits	Not directly convertible

Launch and Need for Digital Rupee

- Pilot Launch:** The e-rupee was introduced in December 2022 as a pilot project. It is initially available through select banks in major cities for both person-to-person (P2P) and person-to-merchant (P2M) transactions.
- Purpose:** The e-rupee aims to offer a transparent and cost-effective alternative to cryptocurrencies, reducing the costs of physical money production and providing new functionalities not possible with cash.

E-Rupee vs. Cryptocurrency

Feature	E-Rupee	Cryptocurrency
Nature	Digital version of physical currency	Digital asset based on blockchain
Control	Centrally controlled by RBI	Decentralized, blockchain-based
Legal Status	Legal tender, backed by the government	Uncertain, not legal tender
Value	Stable, linked to the Indian Rupee	Fluctuates based on market demand
Security	Backed by RBI's security measures	Depends on blockchain security
Purpose	Enhancing digital payments, financial inclusion	Speculative investment, peer-to-peer transactions

Why Fintech Companies are Joining the e-Rupee Project

- Market Share:** Companies like Google Pay and PhonePe handle a large portion of India's digital payments via UPI (Unified Payments Interface).
- Adoption:** Partnering with the RBI on the e-rupee could help boost its adoption. However, the RBI plans to keep it in the pilot stage for a few more years before a full launch.

Analysis/Impact

- Expanding Use Cases:** Integrating the e-rupee into fintech platforms offers a new transaction method, potentially increasing user engagement and transaction volumes. It may also enable features not possible with traditional payment methods.
- Regulatory Compliance:** Being part of the e-rupee project aligns fintech companies with regulatory standards, enhancing their credibility.

Related Technologies: Unified Payments Interface (UPI)

- Function:** UPI is a real-time payment system that enables easy inter-bank transactions.
- Integration:** Connecting e-rupee with UPI can make digital currency transactions smoother and more accessible.

Potential Benefits of E-Rupee

- Financial Inclusion:** Easier access to financial services for those without traditional bank accounts.
- Faster Transactions:** Digital payments can be quicker than handling cash.
- Improved Traceability:** Transactions are traceable, helping to combat financial crimes like tax evasion.
- Programmable Payments:** Possibility of complex transactions, such as automated bill payments or loyalty rewards.

Challenges and Risks

- Cybersecurity:** Protecting the e-rupee from cyber threats is crucial.
- Technical Glitches:** Initial problems could impact user confidence and adoption.
- Privacy Concerns:** Safeguarding user data is essential to prevent misuse.



4. **Infrastructure Requirements:** Widespread adoption may need significant upgrades to digital infrastructure.

Conclusion:

The e-rupee is a significant development in India's digital currency landscape, offering an alternative to both traditional banknotes and cryptocurrencies. Fintech companies are eager to integrate it to expand their service offerings and comply with regulatory standards. While the e-rupee's adoption is still in its early stages, its potential integration with popular payment platforms could enhance its acceptance and usage. The RBI's ongoing efforts indicate a commitment to advancing digital currency technology in India.

10. RBI's Proposed Norms on Liquidity Coverage Ratio

The **Reserve Bank of India (RBI)** has issued draft guidelines for banks on the **Liquidity Coverage Ratio (LCR)**, requiring them to set aside a higher stock of **liquid securities** as a buffer against potential threats from unexpected withdrawals facilitated by technology. The new norms will be effective from **April 1, 2025**.

Background

1. **Technological Advancements:** The RBI is concerned that with the rise of fast-paced technology (mobile, internet banking), customers can withdraw large amounts of deposits quickly, unlike the old days when withdrawals were a lengthy process involving branch visits and forms.
2. **RBI's Perspective:** According to the RBI, banking has undergone rapid transformation, and while technology has enabled instantaneous transfers and withdrawals, it has also increased risks, requiring proactive management.
3. **LCR Review:** The RBI reviewed the LCR framework to enhance the **liquidity resilience** of banks in response to these technological changes.

What is Liquidity Coverage Ratio (LCR)?

1. **Definition:** LCR refers to the proportion of **highly liquid assets** held by financial institutions to ensure they can meet their short-term obligations (cash outflows for 30 days).

2. **Purpose:** To ensure that banks have sufficient capital to manage short-term liquidity disruptions.
3. **Origin:** The LCR resulted from the **Basel III** agreement, a series of measures undertaken by the **Basel Committee on Bank Supervision (BCBS)**.

Implementation in India:

1. RBI issued **Basel III** liquidity guidelines in **2012**.
2. LCR was implemented in **January 2015**.
3. As per a **2020 circular**, banks should maintain sufficient **HQLA** at all times to meet unexpected withdrawals.

Calculation of LCR

1. **Formula:** $LCR = \frac{\text{High Quality Liquid Assets (HQLA)}}{\text{(Total net cash outflows over the next 30 calendar days)}}$
2. **High Quality Liquid Assets (HQLA):** Assets that can be easily and instantly converted into cash at minimal or no cost, including cash, reserves with central banks, and central government bonds.
3. **SLR Eligible Assets:** In India, all **Statutory Liquidity Ratio (SLR)** eligible assets, which banks must maintain as per the **Banking Regulation Act, 1949**, can be considered HQLA under LCR requirements if they are in excess. This helps maintain and optimize both liquidity requirements.

What are Basel Norms?

Basel norms, also known as **Basel accords**, are international banking regulations issued by the Basel Committee on Banking Supervision (BCBS). These norms aim to coordinate banking regulations globally to strengthen the international banking system.

About the Basel Committee on Banking Supervision (BCBS)

1. **Purpose:** The BCBS is the primary global standard setter for the **prudential regulation** of banks and provides a forum for cooperation on banking supervisory matters.
2. **Establishment:** Founded by the Central Bank governors of the **Group of Ten** countries in **1974**.
3. **Membership:** Expanded in **2009** and **2014**, now consisting of **45 members** from **28 jurisdictions**, including central banks and authorities responsible for banking regulation.



4. **Objective:** To enhance understanding of key supervisory issues and improve the quality of banking supervision worldwide.

Why These Norms?

1. **Risk Management:** Banks lend to various borrowers, exposing them to risks of default. To mitigate these risks, banks must keep aside a certain percentage of capital as security against non-recovery.
2. **Basel Norms:** The Basel Committee has produced norms called **Basel Norms** to address these risks.

Why the Name Basel?

1. **Location:** Basel is a city in **Switzerland** and the headquarters of the **Bureau of International Settlement (BIS)**, which fosters cooperation among central banks for financial stability and common banking regulations.
2. **Establishment:** The BIS was founded in **1930**, and the Basel Committee on Banking Supervision is housed in the BIS offices in Basel, Switzerland.

What are These Norms?

1. Basel-I:

- a. **Introduction:** Introduced in **1988**.
- b. **Focus:** Almost entirely on **credit risk**, which is the possibility of a loss resulting from a borrower's failure to repay a loan.
- c. **Capital Requirement:** Defined capital and structure of risk weights for banks, with a minimum capital requirement of **8%** of risk-weighted assets (RWA).
- d. **Adoption in India:** India adopted Basel-I guidelines in **1999**.

2. Basel-II:

- a. **Introduction:** Published in **2004**.
- b. **Refinements:** Refined and reformed versions of Basel-I.
- c. **Pillars:**
 - i. **Capital Adequacy Requirements:** Banks should maintain a minimum capital adequacy requirement of **8%** of risk assets.

What is Capital Adequacy Ratio (CAR) ?

The **Capital Adequacy Ratio (CAR)** is a measure of a bank's financial health. It essentially compares a bank's capital to its risk-weighted assets. A higher CAR indicates a stronger financial position, as the bank has more capital to absorb potential losses.



- ii. **Supervisory Review:** Banks need to develop and use better risk management techniques for credit, market, and operational risks.
- iii. **Market Discipline:** Increased disclosure requirements, mandating banks to disclose their CAR, risk exposure, etc., to the central bank.

3. Basel-III:

- a. **Introduction:** Released in **2010** in response to the **2008 financial crisis**.
- b. **Objective:** To strengthen the banking system by focusing on **capital, leverage, funding, and liquidity**.
- c. **Capital:**
 - i. **Capital Adequacy Ratio:** Maintained at **12.9%**.
 - ii. **Tier 1 and Tier 2 Capital:** Minimum Tier 1 capital ratio at **10.5%** and Tier 2 capital ratio at **2%** of risk-weighted assets.
 - iii. **Buffers:** Capital conservation buffer of **2.5%** and counter-cyclical buffer of **0-2.5%**.
 - iv. **Leverage:** Leverage rate of at least **3%**, which is the ratio of a bank's tier-1 capital to average total consolidated assets.
- d. **Funding and Liquidity:**
 - i. **Liquidity Coverage Ratio (LCR):** Banks must hold a buffer of high-quality liquid assets to deal with cash outflows in a short-term stress scenario.
 - ii. **Net Stable Funds Rate (NSFR):** Banks must maintain a stable funding profile for off-balance-sheet assets and activities, with a minimum NSFR requirement of **100%**.



What is Statutory Liquidity Ratio (SLR)?

Statutory Liquidity Ratio (SLR) is the minimum percentage of deposits that commercial banks are required to maintain in the form of liquid assets such as gold, cash, or other approved securities. These assets are held by the banks themselves, not with the Reserve Bank of India (RBI).

Key points about SLR:

- Purpose:** SLR is a tool used by the RBI to control credit growth and inflation.
- Calculation:** SLR is calculated as a percentage of a bank's Net Demand and Time Liabilities (NDTL).
- Assets:** SLR assets include cash, gold, and government securities.
- Impact:**
 - High SLR:** Restricts a bank's lending capacity, which can slow down economic growth.
 - Low SLR:** Allows banks to lend more, potentially leading to inflation.

In essence, SLR is a regulatory requirement that ensures banks have sufficient liquid assets to meet their depositors' claims. **The current SLR rate is 18.00%.**

Conclusion :

The RBI's proposed norms on **LCR** aim to enhance the **liquidity resilience** of banks in response to the rapid technological advancements in banking. While these norms are intended to safeguard against potential risks from unexpected withdrawals, they could be a dampener for some banks as they will need to set aside a higher stock of **liquid securities**. The new norms will be effective from **April 1, 2025**.

11. Yen Carry Trade and Global Stock Market Fall

In August 2024, **major stock markets** across the world **experienced their sharpest decline** in decades. While there was no paucity of reasons for jittery investor sentiment — for instance, the US economy is facing increasing odds of an economic recession or rising geopolitical tensions due to growing turmoil in West Asia — there was a new global trigger: The unwinding of the **yen carry trade**.

What is carry trade?

- Carry trade involves borrowing at low interest rate in one country (in one currency) and investing in another country (in another currency) where interest rates are higher to achieve higher returns.
- This is possible when central banks of different countries try to keep their interest rates at a level that suits their specific economic conditions. The difference in the interest rates in the respective countries enables the carry trade.
- The carry trade also take advantage of the weakening currency of the low interest rate country to offset any conversion expenses.

What is Yen carry trade?

- The yen carry trade involves borrowing in low-interest Japanese yen and investing in higher-yielding assets in other countries to profit from the interest rate differential and potential currency movements.
 - e.g.*, Japan central bank (the Bank of Japan) had kept interest rates at 0% between 2011 and 2016 and, in fact, pushed them even below zero (-0.10%) since 2016 to stimulate economic activity.
- Such low interest rates incentivise investors to borrow cheaply in yen and invest in other countries (such as Brazil, Mexico, India and even the US) in a bid to earn better returns.

How did it impact global markets?

- While Bank of Japan kept its interests lower, other central banks kept raising their interest rates in the wake of Russian-Ukraine war which incentivised yen carry trade.
- However, Bank of Japan increased its interest rates by around 60 basis points in the last 6 months. it led to investors who had borrowed in yen and invested in Brazilian real or Mexican peso or Indian rupee, selling their assets in international markets (Unwinding of yen carry trade).
- This unwinding of yen carry trade also strengthened Yen's exchange rate against currencies like dollar, real, rupee, peso etc.



12. CSR expenditure: Education received highest share

- In August, 2024, the government data revealed that the **highest share of corporate social responsibility (CSR) spending in FY23 went to education**, with Rs **10,085 crore** allocated.
- This sparked discussions about the **unequal distribution of CSR funds across certain sectors and regions**.
 - The number of CSR projects also rose from 44,425 in FY22 to 51,966 in FY23.
 - Private sector companies contributed 84%** of the total CSR spending.

Sector-wise Expenditure

- Education:** Received the largest portion, accounting for **1/3rd of the total CSR expenditure** in FY23, with Rs 10,085 crore allocated.
- Vocational Skills:** Spending increased to Rs 1,164 crore in FY23 from Rs 1,033 crore in FY22.
- Technology Incubators:** Saw the **lowest allocation**, receiving only Rs 1 crore in FY23, a drop from Rs 8.6 crore in the previous year.
- Health, Rural Development, Environmental Sustainability, and Livelihood Enhancement:** These sectors also received notable CSR contributions.
- Animal Welfare: Funding increased significantly**, increasing from Rs 17 crore in FY15 to over Rs 315 crore in FY23.
- Prime Minister Relief Fund: CSR spending decreased** to Rs 815 crore in FY23, down from Rs 1,215 crore in FY22 and Rs 1,700 crore in FY21.
- Disaster Management and Slum Development:** Contributions **dropped sharply**, with **disaster management** seeing a **77% decline**, and **slum development** expenditure **falling by 75%**.

Region-wise Expenditure:

- The states of **Maharashtra, Karnataka, and Gujarat** received the **highest share of CSR spending**.
- In contrast, the **North Eastern states**, along with **Lakshadweep** and **Leh and Ladakh**, received the **least CSR funding**.

What is CSR?

- Corporate Social Responsibility (CSR)** refers to a company's initiative to evaluate and address its environmental and social impacts.
- CSR is a self-regulating business approach that ensures companies are mindful of their contributions to the economy, society, and environment.
- By adopting CSR practices, businesses can be aware of their influence on these aspects.
- India became the 1st nation to enforce mandatory CSR spending through Section 135 of the Companies Act, 2013.** This legal framework outlines potential CSR activities that companies must undertake.
- In contrast, many other countries have voluntary CSR models and some countries like Norway and Sweden have gradually moved to mandatory provisions after starting with voluntary efforts.

Applicability

- CSR provisions apply to companies that meet any of the following conditions during the previous financial year:
 - Net worth exceeding ₹500 crore
 - Turnover greater than ₹1000 crore
 - Net profit over ₹5 crore
- Such companies are required to allocate at least 2% of their average net profits over the last three years to CSR initiatives.
- Newly incorporated companies base their CSR spending on profits from preceding financial years.

Types of Corporate Social Initiatives

- Corporate Philanthropy:** Charitable donations through a corporate foundation.
- Community Volunteering:** Organised volunteer efforts led by the company.
- Socially Responsible Business Practices:** Producing and promoting ethical products.
- Cause Promotions and Activism:** Company-sponsored advocacy and awareness campaigns.
- Cause-Based Marketing:** Donations tied to product sales.
- Corporate Social Marketing:** Campaigns funded by the company to promote positive behavioural changes.



Eligible Sectors

CSR activities can cover various sectors, including:

1. Addressing hunger and poverty
2. Promoting education and gender equality
3. Combating diseases like HIV/AIDS
4. Ensuring environmental sustainability
5. Supporting government relief efforts (such as PM CARES and PM Relief Fund)
6. Contributing to socio-economic development and the welfare of disadvantaged groups

Challenges in CSR Compliance

1. **Geographic Imbalance in CSR Spending:** CSR investments are largely concentrated in industrialized states like Maharashtra, Gujarat, Karnataka, and Tamil Nadu.
 - a. In contrast, regions such as the North Eastern states, Lakshadweep, Leh, and Ladakh receive significantly less, indicating a regional disparity.
2. **CSR Allocation Patterns:** According to **Ministry of Corporate Affairs** data, approx. **75% of CSR funds** are directed towards three main areas: **education, healthcare** (inc. water and sanitation), and **poverty alleviation** in rural areas.
 - a. **Minimal investment** is directed towards sectors like **livelihood enhancement**.
3. **Public vs. Private Sector CSR Spending:** **Non-public sector units** (non-PSUs) contribute **84% of total CSR spending**, while **PSUs contribute the remaining 16%**, showing a marked difference in spending between these sectors.
4. **Misalignment of CSR Strategy:** Many companies integrate CSR into their business strategies with a focus on profit, which dilutes the social impact and defeats the actual purpose of CSR.
5. **Difficulty in Partner Selection:** Even with growing awareness about CSR, companies often struggle to find suitable partners and projects that are long-lasting, scalable, and self-sustaining.
6. **Transparency Issues:** Companies often express concerns about the lack of transparency from local implementing agencies, particularly in areas such as information disclosure, audits, impact assessments, and fund utilization.

How Can CSR Expenditure be Made More Effective?

1. **Strengthening CSR Engagement and Oversight:** CSR efforts can be aligned with local government initiatives such as the **Aspirational Districts Programme (ADP)** to encourage community participation.
 - a. Governments should ensure proper implementation and use AI tools for better monitoring.
 - b. NGOs can collaborate with companies to ensure successful CSR implementation in rural and remote areas.
2. **Addressing Sectoral and Regional Disparities:** There is a need to invest in higher education, technological innovation, and environmentally sustainable projects that focus on skill development and enhancing livelihoods.
 - a. CSR programs should target underfunded regions. Companies could be incentivized to invest in these areas or mandated to address regional disparities. Partnerships with local NGOs can also help bridge these gaps.
3. **Balancing PSU and Non-PSU CSR Spending:** PSUs should be encouraged to increase their contributions and adopt best practices through benchmarking.
 - a. Joint CSR initiatives between PSUs and non-PSUs can also help balance spending.
4. **Enhancing Governance and Corporate Roles:** Companies should conduct regular CSR reviews, set clear objectives, and strengthen governance roles.
 - a. **New standard operating procedures (SOPs)** should be developed for fund utilization, impact assessments, and detailed checklists.

Conclusion

For CSR to create meaningful impact, companies must go beyond compliance and strategically align their efforts with local government programs. Addressing sectoral and regional disparities, ensuring transparency, and fostering collaboration between PSUs and non-PSUs are key steps to drive sustainable social change and contribute to India's long-term development.





E. SCIENCE & TECHNOLOGY

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1. Sunita Williams and Barry Wilmore Could Be Stuck in Space Until 2025

Astronauts **Sunita Williams** and **Barry “Butch” Wilmore** are facing an extended stay on the **International Space Station (ISS)** until **February 2025** due to unresolved technical issues with the **Boeing Starliner** spacecraft that transported them to the ISS in **June 2024**. **Why are Sunita Williams and Barry Wilmore stuck in space?**

1. Williams and Wilmore travelled to the ISS on a Boeing spacecraft called Starliner in June. This spacecraft has made **two trips to the ISS earlier** but this was the **first time it was carrying astronauts**.
2. Before the launch, a **helium leak in Starliner’s propulsion system** was detected but was not considered serious enough to abandon the journey. Although Starliner developed two more similar leaks on its way, it reached its destination without any trouble.

Spacecraft Background

1. **Starliner**: Designed for carrying astronauts with a **crew capsule, reentry capability**, and a **non-reusable service module** providing life support and propulsion.
2. **Similar Spacecraft**: **SpaceX’s Crew Dragon** and **NASA’s SpaceX Demo-2** offer comparable services.

Have astronauts stayed in space for a long duration?

1. The longest space stay on record is held by Russian cosmonaut **Valeri Polyakov**, who spent **438 days** on the **Mir** space station between January 1994 and March 1995.
2. More recently, US astronaut **Frank Rubio** spent **371 days** on the ISS between September 2022 and September 2023.
3. **Williams and Wilmore** are likely to spend more than 250 days by the time they return. Both these astronauts are on their 3rd visit to the ISS.

4. Williams spent 196 days on her first visit in 2006-2007 and then another 127 days in 2012. Wilmore, during his two previous visits in 2014 and 2015, has spent a total of 178 days at the ISS.

Impact on Human Health

1. **Bone Density Loss**: Astronauts can lose up to **1%** of bone mass per month in microgravity, raising the risk of **osteoporosis** and fractures.
2. **Vision and Cardiovascular Health**: Spaceflight can cause vision problems, such as **Spaceflight Associated Neuro-ocular Syndrome (SANS)**, and alter **heart shape** and function.
3. **Psychological Effects**: Prolonged isolation can result in **stress, anxiety**, and other psychological challenges.

International Space Station (ISS) Facts

1. **Launch Date**: 1998
2. **Function**: Habitat for astronauts; continuously occupied since 2000
3. **Participating Agencies**: **NASA (USA), Roscosmos (Russia), ESA (Europe), JAXA (Japan), CSA (Canada)**
4. **Orbit**: Approximately **400 kilometers** above Earth
5. **Speed**: Travels at about **28,000 kilometers per hour**, completing an orbit every **90 minutes**
6. **Objectives**: Advance understanding of space and microgravity, support scientific research, and exemplify **international collaboration**.

2. Helium’s Role in Space Exploration: From Fuel Pressurization to Leak Challenges

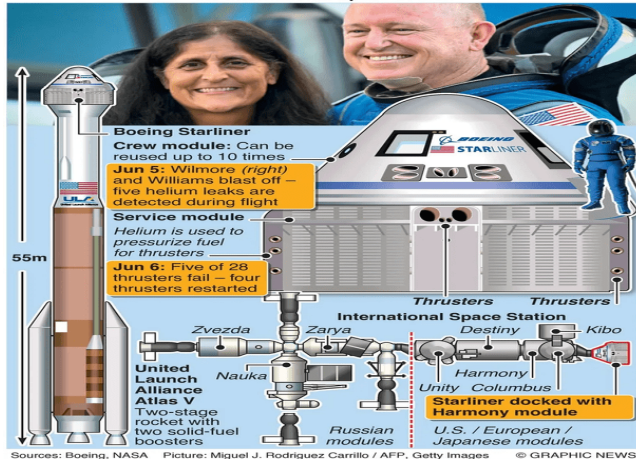
1. Several recent space missions have experienced delays and malfunctions due to **Helium leaks**, underscoring the critical role of this gas in space exploration. Two NASA astronauts aboard **Boeing’s Starliner** will remain on the International Space Station (ISS) for an extended period and the postponed **Polaris Dawn mission** are recent examples of helium-related complications.



- This issue is not new, as similar problems have impacted missions like India's Chandrayaan 2 and Europe's Ariane 5.

Boeing Starliner stuck in space

Technical glitches with the spacecraft have left two NASA astronauts, Butch Wilmore and Suni Williams, in limbo onboard the International Space Station



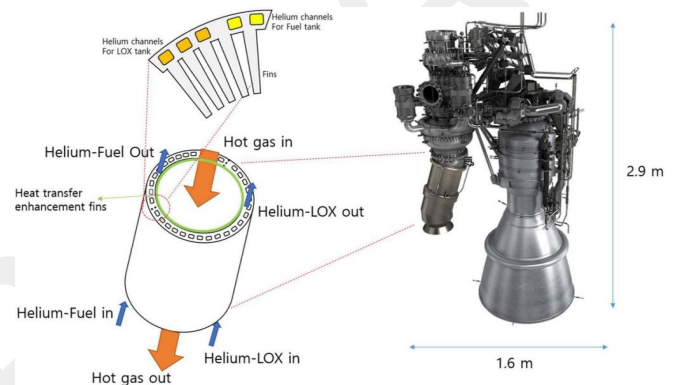
Why Helium is Used in Rockets?

- Helium's unique properties make it indispensable for rocketry. Its **lightweight, inert nature, and low boiling point** make it ideal for pressurizing fuel tanks, ensuring a continuous fuel flow to the rocket's engines.
 - As the 2nd lightest element after hydrogen, helium has an **atomic number of 2** and is **chemically inert-meaning** it does not react with other substances or combust.
- It also plays a vital role in cooling systems, particularly where rocket fuels and oxidizers are stored at extremely low temperatures. As fuel is consumed, helium fills the resulting voids in the tanks, maintaining stable internal pressure.

What is Inert Gas?

- An inert gas is a type of gas **that resists reacting chemically** with other substances.
- The **non-reactivity of these gases** is largely due to their **complete valence electron shells**, which contribute to their general stability.
- These gases are less likely to form chemical compounds due to their low reactivity.
- The primary function of inert gases is to prevent unwanted chemical reactions, such as oxidation and hydrolysis, which can degrade sensitive samples.

- Typically, the term **'inert gas'** includes:
 - Noble Gases:** Helium, neon, argon, krypton, xenon, and radon
 - Pnictogen:** Nitrogen
 - Chemical Compound:** Carbon dioxide
- Argon is the most frequently used inert gas.** Its popularity is attributed to its high natural abundance (making up about 1% of the Earth's atmosphere) and its relatively low cost.
- Additionally, **helium has an extremely low boiling point of -268.9°C**, which allows it to remain in a gaseous state even in the extremely cold environments where rocket fuels are stored.



The Importance of Helium in Rocketry:

- Achieving the **requisite speeds and altitudes for rockets to reach and maintain orbit, demands highly precise and efficient fuel management.**
- Heavier rockets necessitate significantly more energy** to achieve and sustain their trajectories. This increased energy demand leads to **higher fuel consumption and requires more powerful engines.**
- The development, testing, and maintenance of these advanced engines are **not only more complex but also more costly.**
- Helium is **crucial in addressing these challenges** due to its unique properties and essential functions:
 - Pressurizing Fuel Tanks:**
 - Maintains consistent fuel flow to the engines throughout the mission
 - Replaces the volume left behind as fuel is consumed, ensuring consistent pressure and preventing interruptions in fuel delivery



ii. Cooling Systems:

- a. Remains a gas even in the extremely low temperatures where rocket fuels and oxidizers are stored
- b. Facilitates effective cooling and temperature management in these challenging environments

iii. Maintaining Tank Pressure:

- a. Fills the voids in the tanks as fuel and oxidizers are depleted
- b. Helps maintain stable internal pressure, crucial for the efficient operation of the rocket's fuel systems and overall performance

Usage and safety:

1. **Inert Nature:** Helium's non-reactive properties make it ideal for safe interaction with residual fuel tank contents and as a cooling agent to prevent overheating.
2. **Oxygen Displacement Hazard:** Despite being non-toxic, **helium can displace oxygen, making it unsuitable for breathing in high concentrations.**

Prone to leaks:

1. **Prone to Leaks:** Due to its small atomic size and low molecular weight, helium is prone to escaping through minute imperfections in storage tanks and fuel systems.
2. **Leak Detection Advantage:** The rarity of helium in Earth's atmosphere makes leaks readily detectable, crucial for identifying potential faults in spacecraft fuel systems.
3. **Real-World Examples:**
 - i. For instance, In May, shortly before **Boeing's Starliner** was set to launch its first crewed mission, sensors detected a minor **helium leak** in one of the spacecraft's thrusters. NASA assessed this leak as low-risk but it contributed to subsequent issues.
 - ii. **Additional leaks were detected in space after Starliner launched in June**, contributing to NASA's decision to bring Starliner back to Earth without its crew.
 - iii. The frequency of helium leaks across space-related systems, have highlighted an industry-wide **need for innovation in valve design and more precise valve-tightening mechanisms.**

Alternatives and Industry trends:

1. **Exploration of Alternatives:** In response to helium-related challenges, some space missions have explored alternative gases such as **argon and nitrogen, which are also inert and potentially less expensive.**
 - a. However, **helium remains the dominant** choice due to its specific advantages.
2. A notable attempt to move away from helium was **Europe's new Ariane 6 rocket**, which replaced the helium system of its predecessor, Ariane 5, **with a novel pressurization system.**
 - a. This system **converts a small portion of its primary liquid oxygen and hydrogen propellants into gas for pressurizing these fluids.**
 - b. Despite this innovation, the system experienced failure during the final phase of Ariane 6's inaugural launch, illustrating the ongoing difficulties in achieving reliable pressurization systems without helium.

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**Missions mentioned in the news:****Boeing Starliner:**

1. The Boeing Starliner, also known as CST-100, is a spacecraft developed to transport crew members to and from the **International Space Station (ISS) and other low-Earth orbit destinations.**
2. **Designed under NASA's Commercial Crew Program (CCP)**, the spacecraft comprises a reusable crew capsule and an expendable service module.
3. Slightly larger than the Apollo command module or the SpaceX Crew Dragon, but smaller than the Orion capsule, **the Starliner is capable of carrying up to seven astronauts.**
4. The Starliner can remain docked to the ISS for up to **seven months and is launched aboard an Atlas V N22 rocket.**
5. **The Crew Flight Test (CFT), launched in June 2024**, encountered multiple malfunctions, including helium leaks and failures in five of the eight aft-facing reaction control system thrusters during its approach to the ISS.
6. Consequently, NASA deemed it too risky for returning astronauts to Earth on Starliner.



7. The uncrewed Starliner CFT-1 ultimately landed in September 2024.

Polaris Dawn:

1. Polaris Dawn is an upcoming **private human spaceflight mission operated by SpaceX**, commissioned by Shift4 CEO Jared Isaacman.
2. It is the **first of three planned missions in the Polaris program**, marking the 14th crewed orbital flight of a SpaceX Crew Dragon spacecraft.
3. **The mission will carry a four-member crew.**
4. The crew will be launched into a **highly elliptical orbit, reaching up to 1,400 kilometers (870 miles) from Earth**-the farthest human distance from Earth since NASA's Apollo program.
5. This trajectory will allow the crew to pass through portions of the **Van Allen radiation belts**, providing a unique opportunity to study the effects of space radiation and spaceflight on human health.
6. The Van Allen radiation belts are **zones of energetic charged particles, primarily from the solar wind, trapped by Earth's magnetic field.**
7. They **form a barrier that prevents the most energetic electrons from reaching Earth.**
8. The belts consist of two main regions:
 - a. **Outer Belt:** Contains high-energy particles from the Sun, trapped within Earth's magnetosphere.
 - b. **Inner Belt:** Formed by interactions between cosmic rays and Earth's atmosphere.
9. **The belts were discovered in 1958 by American physicist James A. Van Allen using instruments on Explorer 1, the first U.S. spacecraft.**
10. This discovery marked the beginning of **space physics**, as it revealed previously unknown radiation zones around Earth.
11. One of the key objectives of Polaris Dawn is to conduct the **first-ever commercial spacewalk.**
12. This mission not only aims to push the boundaries of private space exploration but also to advance scientific understanding of how the human body is affected by the unique conditions of deep space.

Chandrayaan-2:

1. Chandrayaan-2, is India's second lunar exploration mission, **developed by the Indian Space Research Organisation (ISRO) after Chandrayaan-1.**

2. The mission includes **three components:** a lunar orbiter, the Vikram lander, and the Pragyan rover, all designed and developed in India.
3. Its primary objective was to map the lunar surface, study its composition, and locate lunar water deposits.
4. The mission was launched in July 2019 from the **Satish Dhawan Space Centre in Andhra Pradesh using a LVM3-M1 rocket.**
5. Chandrayaan-2 entered in August 2019. An attempted landing by the Vikram lander in **September 2019 failed due to a software error.**
6. Despite the crash, the lunar orbiter **continues to function in orbit around the Moon.**
7. A subsequent mission, **Chandrayaan-3, was launched in 2023 and achieved a successful lunar landing.**

Ariane 6:

1. Ariane 6 is a **European expendable launch vehicle developed by ArianeGroup** for the European Space Agency (ESA) and operated by Arianespace.
2. It serves as the successor to the Ariane 5 within the Ariane launch vehicle family.
 - a. Ariane-5 Rocket has been used to launch **ISRO's communication satellites like GSAT-11, GSAT-30, GSAT-31, ESA's Juice mission and NASA's James Webb Space Telescope (JWST).**
3. The rocket is a **two-stage design that employs liquid hydrogen and liquid oxygen (hydrolox) as fuel.**
4. The first stage is powered by an upgraded **Vulcain engine** from the Ariane 5, while the **second stage is driven by the Vinci engine, created specifically for Ariane 6.**
5. The rocket is available in two variants: Ariane 62, which includes two P120 solid rocket boosters, and Ariane 64, which uses four.
6. Chosen in 2014 over an all-solid-fuel alternative, Ariane 6 was finally launched in 2024.
 - a. The flight of Ariane 6 successfully placed nine cube-sats into orbit, including NASA's CubeSat Radio Interferometry Experiment (CURIE) and other satellites focused on studying Earth's climate and weather patterns.



- b. The Vinci engine is capable of multiple restarts, enabling the deployment of payloads into several distinct orbits.

3. 'World Double first': Juice spacecraft to fly by Earth and Moon

ESA's Jupiter Icy Moons Explorer (Juice) has successfully completed a historic flyby of the Moon and Earth. It's a double world first. The first-ever lunar-Earth flyby, and the first-ever double gravity assist manoeuvre. It will change Juice's speed and direction to alter its course through space. It used Earth's gravity to head toward Venus and then Jupiter through the inner Solar System.

- a. The **closest approach to the Moon happened on 19 August**, followed by a **close pass of Earth just over 24 hours later, on 20 August**.
- b. As Juice flew just **6,840 km above Southeast Asia and the Pacific Ocean**, it took a series of pictures with its onboard cameras and collected data using eight of its ten instruments.
- c. **Launched in April 2023, JUICE is Europe's first mission to Jupiter, focusing on the planet and its largest moons: Ganymede, Callisto, and Europa.**

Highlights:

1. **Successful Operation:** Ignacio Tanco, Spacecraft Operations Manager, said, "The flyby went perfectly, and we were excited to see Juice close to Earth."
2. **Purpose of the Flyby:** The flyby aimed to change Juice's speed and direction using the gravity of the Moon and Earth. This 'braking' manoeuvre will take Juice on a shortcut to Jupiter via Venus.
3. **Speed Changes:**
 - a. The Moon flyby increased Juice's speed by **0.9 km/s** relative to the Sun.
 - b. The Earth flyby slowed Juice down by **4.8 km/s** relative to the Sun, directing it toward Venus.
4. **Path Change:** The flyby changed Juice's path by **100°**, saving about **100–150 kg** of fuel.

Navigation and Planning:

1. **Careful Navigation:** The flyby required precise navigation. Operators made small adjustments to Juice's course in the month before the flyby.
2. **Continuous Tracking:** Juice was monitored closely from **17–22 August** to ensure a successful approach.

3. **Extra Fuel:** Thanks to a successful launch on an **Ariane 5** rocket in April 2023, Juice has extra fuel, allowing it to get closer to **Ganymede** than originally planned.

Scientific Opportunity:

Juice's Science Instruments

- a. Juice carries ten state-of-the-art instruments, including the **most powerful remote sensing**, geophysical and in situ payloads **ever flown to the outer Solar System**.
- b. Nine of the instruments are led by European partners, and one by NASA.
- c. Juice also includes an experiment called **PRIDE (Planetary Radio Interferometer & Doppler Experiment (PRIDE))**, which will perform precise measurements using radio telescopes on Earth.

1. INSTRUMENTS ONBOARD

- a. Experiment Optical camera system (JANUS)
- b. Visible and infrared imaging spectrometer (MAJIS)
- c. UVS imaging spectrograph (UVS)
- d. Sub-millimetre wave instrument (SWI)
- e. Radar sounder (RIME)
- f. Laser altimeter (GALA)
- g. Radio science experiment (3GM)
- h. Magnetometer (J-MAG)
- i. Particle environment package (PEP)
- j. Radio and plasma wave instrument (RPWI)
- k. Juice will also carry a radiation monitor (RADEM)

Future Steps:

1. **Venus Flyby:** The lunar-Earth flyby set Juice on a path for a flyby of **Venus** in **August 2025**.
2. **Next Earth Passes:** Juice will pass Earth again in **September 2026** and **January 2029**, getting extra boosts before reaching Jupiter in **July 2031**.

About Juice:

1. **Mission Overview:** ESA's Juice mission aims to explore **Jupiter** and its three large, ocean-bearing moons: **Ganymede, Callisto, and Europa**.
2. **Scientific Goals:** Juice will study these moons as possible habitats for life and look into Jupiter's complex **magnetic, radiation, and plasma** environment.



3. **Launch Details:** Juice was launched on **Ariane 5** from Europe's Spaceport in **Kourou** in April 2023 and will have an **eight-year** journey with several flybys.
4. **International Cooperation:** The mission is led by ESA, with help from **NASA, JAXA,** and the **Israel Space Agency**. It is the first large mission in ESA's Cosmic Vision program.

Conclusion:

JUICE's successful flyby of Earth marks an important step in its mission to Jupiter. This close encounter helped adjust the spacecraft's path and tested its instruments. The mission shows Europe's dedication to exploring the possibilities of life in space and understanding Jupiter's origins. As JUICE continues its journey, it will benefit from **gravity assists** and **smart fuel use**, making it a groundbreaking mission in space exploration.

4. ISRO Launches Earth Observation Satellite (EOS)-8

In August, 2024, Satellite has been launched under **SSLV-D3/EOS-08 mission** by the **Small Satellite Launch Vehicle (SSLV)-D3** from **Satish Dhawan Space Centre, Sriharikota**.

- a. Mission configuration is set to operate in circular **Low Earth Orbit** at an **altitude of 475 km** (inclination of **37.4°**), with a **mission life of 1 year**.
- b. **SR-0 DEMOSAT** was also onboard which was **developed by Space Kidz India**.

Primary Objectives:

1. Designing and developing a **microsatellite**.
2. Creating **payload instruments** compatible with the microsatellite bus.
3. Incorporating **new technologies** required for future operational satellites.

Payloads of EOS-08 Mission:

1. **Electro Optical Infrared Payload (EOIR):**
 - a. Captures images in the **Mid-Wave IR (MIR)** and **Long-Wave IR (LWIR)** bands, both during the day and night.
 - b. Applications include **satellite-based surveillance, disaster monitoring, environmental monitoring, fire detection, volcanic activity observation,** and **industrial and power plant disaster monitoring**.

2. **Global Navigation Satellite System-Reflectometry (GNSS-R) payload:**
 - a. Demonstrates the capability of using **GNSS-R-based remote sensing**.
 - b. Applications include **ocean surface wind analysis, soil moisture assessment, cryosphere studies** over the **Himalayan region, flood detection,** and **inland waterbody detection**.
3. **SiC UV Dosimeter:**
 - a. Monitors **UV irradiance** at the viewport of the **Crew Module** in the **Gaganyaan Mission**.
 - b. Serves as a **high-dose alarm sensor** for **gamma radiation**.
 - c. The spacecraft has a mission life of **one year**.

About Earth observatory satellites (EOS)

1. EOS or Earth remote sensing satellites are designed for Earth observation (EO) from orbit.
 - a. EO refers to **collecting information about activities on Earth, both natural and artificial, including physical, chemical, biological and human systems**.
2. **Applications:** Used in **Early warning systems, environmental impact monitoring** etc.

What is Global Navigation Satellite System-Reflectometry (GNSS-R):

A satellite remote sensing technique that uses **surface-reflected GNSS signals** to infer information about the Earth's surface. The reflected GNSS signals act as a **bistatic remote sensing radar** that responds to changing surface conditions.

5. Rashtriya Vigyan Puraskar

In the **1st edition** of the **Rashtriya Vigyan Puraskar (RVP)**, 33 awards were presented to distinguished scientists in **4 categories**—**Vigyan Ratna, Vigyan Shri, Vigyan Yuva,** and **Vigyan Team**—by President of India Droupadi Murmu.

Key Facts about Rashtriya Vigyan Puraskar:

1. The RVP is a prestigious award designed to recognize and encourage significant scientific, technological, and innovative achievements. It is **open to Indian origin individuals, including Persons of Indian Origin (PIO),** whether they work in India or abroad.

2. The awards honor individuals for impactful research, innovation, or discoveries that benefit Indian society or communities.
3. **Introduced in 2024**, the RVP replaces older science awards, including the Shanti Swarup Bhatnagar Prize. The RVP aims to provide a more inclusive and updated recognition system.
4. **Announcement and Ceremony:** The awards will be announced **annually on May 11 (National Technology Day)**. The award ceremony for all categories will take place on National Space Day (23 August).
5. **Categories:** The RVP is awarded in several categories:
 - a. Physical Sciences
 - b. Chemical Sciences
 - c. Biological Sciences
 - d. Mathematical Sciences
 - e. Earth & Atmospheric Sciences
 - f. Engineering Sciences

First National Space Day

India celebrated its Maiden National Space Day (NSD) on 23rd August, 2024 to commemorate the historic landing of Chandrayaan-3 on the Moon.

About National Space Day

1. Chandrayaan-3 mission accomplished safe and soft-landing of **Vikram Lander** on the lunar surface on August 23, 2023.
 - a. With this, India became the **fourth country to land** on the moon and first to land near the southern polar region of the moon.
2. The soft-landing was followed by successful deployment of **Pragyan Rover**. The landing site was named as '**Shiv Shakti**' point (Statio Shiv Shakti).
3. **Theme:** Touching Lives while Touching the Moon: India's Space Saga.

Categories of the Awards:

1. **Vigyan Ratna (VR):**
 - a. **Purpose:** Honors lifetime achievements and substantial contributions in any field of science and technology.
 - b. **Number of Awards:** Up to 3 each year.

- c. **Eligibility:** Distinguished scientists and technologists with significant career achievements.

2. Vigyan Shri (VS):

- a. **Purpose:** Recognizes distinguished contributions in any field of science and technology.
- b. **Number of Awards:** Up to 25 each year.
- c. **Eligibility:** Individuals with notable achievements in their respective scientific or technological domains.

3. Vigyan Yuva-Shanti Swarup Bhatnagar (VY-SSB):

- a. **Purpose:** Encourages young scientists under 45 years who have made exceptional contributions.
- b. **Number of Awards:** Up to 25 each year.
- c. **Eligibility:** Young scientists with outstanding research or innovation.

4. Vigyan Team (VT):

- a. **Purpose:** Awards teams of three or more for exceptional collaborative contributions.
- b. **Number of Awards:** Up to 3 each year.
- c. **Eligibility:** Teams with outstanding achievements in any field of science and technology.

Key Awardees of the 2024 Rashtriya Vigyan Puraskar:

1. Vigyan Ratna:

- a. **G. Padmanabhan:** Recognized for his lifetime achievements in biological sciences, particularly his work on malaria parasites. He is a former director of the Indian Institute of Science and has received the Padma Shri and Padma Bhushan.

2. Vigyan Team:

- a. **Chandrayaan-3 Team:** Awarded for their successful mission that landed India's first spacecraft on the Moon in 2023, marking a major milestone in India's space exploration.

3. Vigyan Shri:

- a. **Annappurni Subramaniam:** For work on the formation and evolution of star clusters and galaxies.
- b. **Jayant Bhalchandra Udgaonkar:** For contributions in the field of biology.
- c. **Naba Kumar Mondal:** Recognized for achievements in particle physics.

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4. Vigyan Yuva:

- a. **Vivek Polshettiwar:** For innovations in carbon capture technologies.
- b. **Urbasi Sinha:** For contributions to quantum research.
- c. **Roxy Mathew Koll:** Recognized for work in climate science.

National Science Day

On February 28th every year, we celebrate National Science Day to honour the remarkable discovery of the “Raman Effect” by Bharat Ratna Dr. C.V. Raman in 1928. On this day, Dr C V Raman announced the discovery of the ‘Raman Effect’ for which he was awarded the Nobel Prize in physics in 1930.

6. India Invests in Directed Energy Weapons

1. India has recently made significant investments in the field of **Directed Energy Weapons (DEWs)**, signaling a strategic shift towards advanced defense technologies.
2. This development comes in the wake of evolving **security challenges** in the region, particularly from neighboring countries like China.

What are Directed Energy Weapons (DEWs)?

1. DEWs are a class of ranged weapons that utilize concentrated energy, typically in the form of **electromagnetic radiation or particle beams**, to disable or destroy enemy targets.
2. Unlike conventional weapons that rely on kinetic energy, DEWs operate at the **speed of light**, offering near-instantaneous engagement capabilities. They represent a significant expansion of the **electronic warfare** domain, which involves the strategic use of the electromagnetic spectrum in military conflicts.

How do DEWs Work?

1. **Electromagnetic Energy:** DEWs emit focused electromagnetic energy at the speed of light. Different wavelengths within the electromagnetic spectrum are used to penetrate various materials.
2. **High Power Output:** Compared to everyday devices like microwaves, DEWs have significantly higher

power outputs, enabling them to effectively disrupt or destroy targets.

Applications of DEWs

1. **Military Defense:** Intercepting and destroying incoming missiles, neutralizing drones, and disabling enemy electronics.
2. **Law Enforcement and Border Security:** Non-lethal DEWs like microwaves or lasers can be used for **crowd control and border security**.
3. **Space Operations:** Protecting satellites from debris and anti-satellite weapons.

Types of Directed Energy Weapons

1. **High Energy Lasers (HELs):** Use concentrated light to destroy targets. HELs can be used against various threats, from small drones to ballistic missiles, depending on their power output.
2. **High Power Microwaves (HPMs):** Emit high-frequency electromagnetic waves to damage electronic systems and incapacitate personnel. HPMs can be effective against a wide range of targets within a shorter range compared to HELs.
3. **Millimeter Waves:** Utilize wavelengths between 1 and 10 millimeters. Applications include non-lethal military applications like crowd control.
4. **Particle Beam Weapons:** Employ accelerated particles like protons or electrons to inflict damage.

Advantages of DEWs

1. **Cost Efficiency:** DEWs are potentially more cost-effective per shot compared to traditional munitions.
2. **Rapid Response Time:** Operating at the speed of light, DEWs offer near-instantaneous target engagement.
3. **Logistical Efficiency:** DEWs eliminate the need for physical ammunition, simplifying supply chains.
4. **Precision:** Unaffected by gravity or wind, DEWs provide highly accurate targeting.
5. **Stealth:** Many DEWs operate silently and invisibly, making them difficult to detect.
6. **Countering Low-cost Threats:** DEWs can effectively target swarms of cheap drones and rockets that can overwhelm conventional defenses.



Challenges of DEWs

1. **Technological Limitations:** DEWs are generally less effective over long distances, and atmospheric conditions can impact their performance.
2. **Battlefield Use:** Deciding when and how to use DEWs can be complex, especially with wider beam weapons that affect all assets in an area.
3. **Ethical and Health Concerns:** The long-term health effects of DEWs on humans raise ethical concerns about their deployment.
4. **Arms Race:** The development of DEWs can trigger an arms race, escalating international tensions.
5. **Other Concerns:** DEWs are currently large and require substantial energy. High research and development costs, line-of-sight requirements for HELs, and potential countermeasures are additional challenges.

India's Initiatives in DEWs

1. **DURGA-II Project:** DRDO's initiative to build a 100-kilowatt lightweight DEW.
2. **2kW DEW System:** Developed by Bharat Electronics Limited for countering drones and Unmanned Aerial Systems.
3. **LASTEC:** DRDO's laboratory developing direct energy weapons under project Tri-Netra.
4. **KALI:** A linear electron accelerator being developed for targeting long-range missiles.

Global Landscape of DEWs

Several countries, including the USA, UK, Israel, Russia, France, Germany, and China, have active programs to develop DEWs.

Conclusion

India's investment in DEWs reflects a proactive approach to addressing evolving security challenges. While DEWs offer significant advantages in modern warfare, addressing the associated challenges will be crucial to ensure their responsible and effective deployment.

7. What is DDoS attack, cause of Trump-Musk interview glitches?

In August 2024, Elon Musk's planned interview with former President Donald Trump was interrupted by a major **DDOS attack** on X (formerly Twitter).

- a. This attack affected the live broadcast of the interview.

What is a DDOS Attack?

1. A **Distributed Denial-of-Service (DDOS)** attack is when attackers flood a server or network with so much traffic that it becomes overloaded and can't function properly.
2. **How It Works:**
 - a. **Botnets:** Attackers use networks of infected devices, called **botnets**, to send a huge amount of traffic to the target. These devices can include computers and smart gadgets.
 - b. **Traffic Overload:** The target server or network gets so many requests from these devices that it can't handle them all, making the service unavailable to regular users.
3. **Purpose:** The aim of a **DDOS attack** is not to break into the system but to make online services unavailable by overwhelming them with traffic.



What are Malwares?

Malware, short for "malicious software," refers to any software intentionally designed to cause damage to a computer, server, client, or network. It can come in various forms and serve multiple purposes, from stealing sensitive information to disrupting operations. Here's a broad overview of **malware**:

Types of Malware:

1. **Viruses:** These are malicious programs that attach themselves to legitimate software or files. When the infected file is executed, the **virus** spreads to other files and systems. They often corrupt or alter files.
2. **Worms:** Unlike **viruses**, **worms** do not require a host file to spread. They replicate themselves to spread to other computers, often exploiting vulnerabilities in network protocols.
3. **Trojans:** Named after the Trojan horse from Greek mythology, these **malware** programs disguise themselves as legitimate software. Once installed, they can give attackers unauthorized access to the system.
4. **Ransomware:** This type of **malware** encrypts the victim's files or locks them out of their system, demanding a ransom payment for restoration. Famous examples include **WannaCry** and **CryptoLocker**.





5. **Spyware:** This software secretly monitors and collects user data, such as keystrokes, browsing habits, or personal information, and sends it to external parties without the user's consent.
6. **Adware:** While not always malicious, **adware** displays unwanted advertisements on your computer. It can be intrusive and affect system performance.
7. **Rootkits:** These are designed to gain unauthorized access to a system while hiding their presence. They allow attackers to maintain privileged access and avoid detection.
8. **Keyloggers:** A type of **spyware** that records keystrokes to capture sensitive information like passwords and credit card numbers.
9. **Bots and Botnets:** **Bots** are **malware** that allows a remote attacker to control an infected computer. A network of infected computers, or **botnet**, can be used for various malicious activities, including distributed denial-of-service (DDoS) attacks.

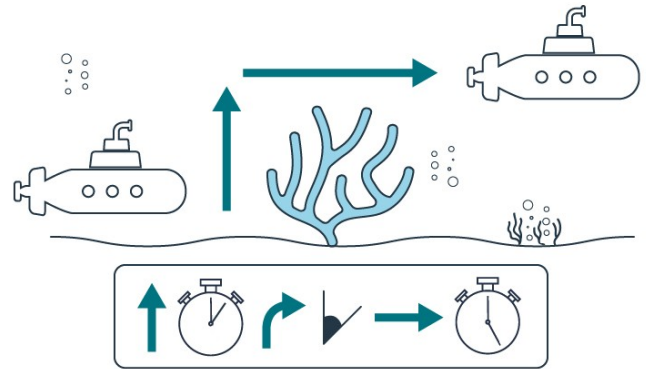
Distribution Methods:

1. **Phishing Emails:** **Malware** can be delivered through email attachments or links disguised as legitimate messages.
2. **Drive-By Downloads:** Malicious code is downloaded automatically when a user visits a compromised website.
3. **Exploits:** **Malware** can exploit software vulnerabilities to gain unauthorized access.
4. **Social Engineering:** Manipulating users into performing actions that install **malware**, such as downloading an infected file or granting access.

8. Quantum Navigation: It Could Even Replace GPS

Global Positioning Systems (GPS) have become an essential part of our daily lives, **but they are not completely secure. GPS signals can be jammed, spoofed or rejected, leading to navigation errors.** This is where quantum navigation comes in, **a technology that could replace GPS in the future.**

What is Quantum Navigation?



1. **Quantum navigation** is like having a super-accurate, self-contained **GPS** inside a device.
2. **Instead of relying on signals from satellites, it uses tiny particles called atoms** to figure out where it is and how it's moving.
3. **Just think of it as a tiny internal compass that never gets lost**, even in places where regular **GPS** doesn't work, like **underwater** or in a **tunnel**.
4. It's as if the device has a **secret map built in**. This technology is **still being developed, but it has the potential to be far more accurate** and reliable than traditional **GPS**.

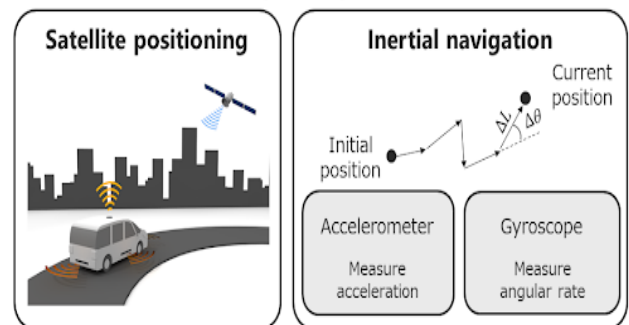
How Does Quantum Navigation Work?

Quantum Sensors:

1. **Highly sensitive sensors** are developed using quantum particles. These sensors can measure **acceleration**, **rotation**, and **gravity** with extreme accuracy.
2. Examples of these sensors include **atomic clocks** and **atom interferometers**.

Inertial Navigation:

Necessity of Hybridization



1. The quantum sensors continuously measure the vehicle's **acceleration** and **rotation**.



2. By integrating these measurements over time, the system can calculate the vehicle's **position** and **velocity** relative to a starting point.

Gravity Gradiometry:

1. Quantum sensors can also measure variations in the Earth's **gravitational field**.
2. This information can be used to determine the vehicle's **altitude** and **position** relative to the Earth's surface.

Advantages of Quantum Navigation:

1. Quantum navigation is '**unjammable**', making it more secure than **GPS**.
2. It can be used in situations where **GPS** is not available, such as **underwater**.
3. Quantum navigation can provide more **accurate** and **reliable navigation** than **GPS**.

Will Quantum Navigation Replace GPS?

While quantum navigation has the potential to replace **GPS** in some situations, it is unlikely to replace **GPS** entirely in the near future. **GPS** is a convenient and widely used technology, and it will likely continue to be used in many situations. Quantum navigation will likely be used as a **backup** or in situations where **GPS** is not available.

Benefits of Satellite Data:

1. **Satellite data** has many benefits, including monitoring **extreme weather events**, tracking **water quality**, and predicting **poverty rates**.
2. By **2030**, Earth observation insights are expected to generate more than **\$700 billion**.
3. **Satellite data** is also expected to indirectly remove **2 gigatons** of greenhouse gases annually.

About GPS:

1. **GPS** is a space-based **radio-navigation system** consisting of a constellation of satellites broadcasting navigation signals.
2. Currently, **31 GPS satellites** orbit the Earth at an altitude of approximately **11,000 miles**.
3. **GPS** is operated and maintained by the **U.S. Department of Defense (USDOD)**.

How GPS Works:

1. **GPS satellites** circle the Earth twice a day in a precise orbit.

2. Each satellite transmits a unique signal and orbital parameters that allow **GPS devices** to decode and compute the precise location of the satellite.
3. **GPS receivers** use this information and **trilateration** to calculate a user's exact location.

What is Navigation with Indian Constellation (NaVIC)?

NaVIC or the **Indian Regional Navigation Satellite System (IRNSS)** uses seven satellites to provide real-time positioning and timing services in India and an area extending up to **1,500 km** from the country's borders. Of the seven satellites used by **NaVIC** at present, three are in the **geostationary orbit** and four in the **geosynchronous orbit**.

Challenges of Quantum Navigation:

1. One of the main challenges of quantum navigation is the need for **ultra-cold atoms**, which requires complex and expensive equipment.
2. Another challenge is the need for precise control over the **atomic movements**, which can be difficult to achieve.

Conclusion:

Quantum navigation is a promising technology that could potentially replace **GPS** in the future. While it has many advantages, it also faces several challenges that need to be addressed. Further **research and development** are needed to make quantum navigation a viable alternative to **GPS**.

9. World's 1st Thorium Molten Salt Nuclear Power Station

1. In a significant leap for nuclear energy, China is gearing up to launch the world's first thorium molten salt nuclear power station in the **Gobi Desert by 2025**.
2. This project marks a departure from **traditional uranium-fuelled reactors**, utilizing thorium as its primary fuel source.

Innovative Reactor Design

The power station's reactor employs a unique cooling system that utilizes liquid salt or carbon dioxide instead of water to transfer heat and generate electricity. This design offers enhanced safety by significantly reducing the risk of meltdowns compared to water-cooled models.



Thorium as Fuel: Advantages and Challenges

Thorium, a naturally occurring radioactive element found in trace amounts throughout the environment, presents several advantages as a nuclear fuel:

- a. **Abundance:** Unlike uranium, thorium is relatively abundant. India, for instance, boasts substantial thorium reserves in the form of monazite sands, particularly in Kerala and Odisha.
- b. **Chemical Safety:** Thorium's high melting point, thermal conductivity, and chemical stability contribute to a safer fuel performance profile.
- c. **Environmental Benefits:** Thorium-based reactors generate less toxic and shorter-lived radioactive waste compared to traditional uranium reactors.

However, thorium cannot be directly used as a nuclear fuel due to its physical properties. It must first be converted into **Uranium-233 (U-233)** within a nuclear reactor.

India's Thorium Ambitions

1. India has long recognized the potential of thorium and has incorporated it into its **three-stage nuclear power program**. The third stage envisions **large-scale power production** from thorium, building upon the first two stages that utilize **natural uranium and plutonium**, respectively.
2. India has made significant strides in establishing processes for extracting thorium from monazite. The **Advanced Heavy Water Reactor (AHWR)**, currently under development with the Bhabha Atomic Research Centre (BARC), will serve as a crucial technology demonstrator for the thorium fuel cycle.

Conclusion

China's pioneering thorium molten salt nuclear power station and India's ongoing commitment to thorium-based nuclear energy signify a growing global interest in exploring alternative nuclear fuels. With potential benefits in terms of **safety, sustainability, and resource availability**, thorium may play a crucial role in meeting future energy demands while mitigating environmental concerns.

10. Leptospirosis Outbreak in Kerala

A severe **Leptospirosis** (commonly known as "rat fever") outbreak has emerged as a major public health concern across Kerala.

- a. This bacterial infection has emerged as a **significant public health concern**, exacerbated by monsoon-related conditions.

Key Facts About Leptospirosis

1. About Leptospirosis:

- a. **Cause:** Leptospirosis is caused by pathogenic spirochaetes of the **genus *Leptospira***. These bacteria are **zoonotic**, meaning they are transmitted from animals to humans.
- b. **Pathogenic Leptospire:** Found in the kidneys and genital tracts of certain animals, these bacteria are the primary cause of leptospirosis in humans.

2. Reservoirs:

- a. **Hosts:** Various mammalian species can harbor leptospire in their kidneys, including rodents, cattle, pigs, and dogs.
- b. **Rodents:** Particularly significant, as they can excrete leptospire throughout their lifespan without showing symptoms. Infected animals often do not exhibit symptoms, though they may develop illness after infection with another serovar.

3. Transmission:

- a. **Mode:** Primarily transmitted through direct contact with the urine of infected animals or contact with contaminated water, soil, or food.
- b. **Entry:** Can enter the human body through cuts, mucous membranes, or **waterlogged skin**. **Human-to-human transmission is rare.**

4. Symptoms:

- a. **Range:** Symptoms vary from mild flu-like illness to severe conditions such as Weil's syndrome (kidney and liver dysfunction), meningitis, and pulmonary hemorrhage.
- b. **Incubation Period:** Typically **7-10 days**, with common symptoms including fever, headache, and jaundice.
- c. **Diagnosis:** Often underdiagnosed due to symptom overlap with other diseases and limited access to diagnostic tests.



5. Epidemiology:

- Global Prevalence:** Common worldwide but especially prevalent in tropical and subtropical regions with high rainfall.
- Regional Hotspots:** South-East Asia, including India, Indonesia, Thailand, and Sri Lanka, reports high case numbers, particularly during the rainy season.
- High-Risk Groups:** Individuals in occupations with frequent animal contact, such as farmers, veterinarians, and sewer workers, are at greater risk.

6. Prevention:

- Measures:** Includes controlling animal reservoirs, avoiding contact with contaminated water or soil, wearing protective clothing, and maintaining good sanitation.
- Vaccination:** Dogs, pigs, and cattle can be vaccinated with serovar-specific vaccines, which help prevent the disease but may not eliminate renal carriage.

7. Treatment:

- Antibiotics:** Treated with antibiotics such as penicillin G, doxycycline, and ceftriaxone.

Common Infections During the Monsoon

The monsoon season in India increases the prevalence of various infections due to waterlogging and related conditions. These include: **Dengue, Malaria, Cholera, Typhoid, Flu and Fungal Infections**

India's Initiatives Related to Leptospirosis

1. Programme for Prevention and Control of Leptospirosis:

- Objective:** Launched during the 12th Five-Year Plan, this program aims to reduce leptospirosis-related deaths and illnesses.

2. One Health Approach:

- Strategy:** Integrates human, animal, and environmental health to manage and prevent leptospirosis, emphasizing a holistic approach.

11. Trichophyton Indotinea: Drug-Resistant Fungal Infections

The rise of **drug-resistant fungal infections**, notably **Trichophyton indotinea**, is becoming a significant health concern.

- This resilient **dermatophyte**, initially identified in **India**, has now spread to several countries worldwide (identified in regions beyond India, including **Australia and Oman**).
- The inappropriate use of **steroid creams** has exacerbated the problem, making this strain particularly difficult to treat.

About Trichophyton indotinea:

- Common Names:** Known as **ringworm** or **jock itch**.
- Identification:** First identified in India and now spread globally. It belongs to **genotype VIII** within the **T. mentagrophytes/T. interdigitale** species complex.
- Exacerbation:** The inappropriate use of steroid creams has made this strain particularly hard to treat.

Clinical Challenges and Symptoms:

- Symptoms:** Patients with Trichophyton indotinea often present with persistent, **treatment-resistant rashes** that may be mistaken for **eczema** or other skin conditions. These rashes are typically **red, scaly**, and **itchy**.
- Misdiagnosis:** This can lead to ineffective treatments, prolonging patient suffering and allowing the infection to worsen. Misdiagnosis and delayed treatment not only exacerbate the individual's condition but also increase the risk of **community transmission**.
- Diagnostic Approach:** Accurate diagnosis involves clinical examination and **laboratory tests**, including **fungal cultures** and **molecular diagnostics**, to confirm resistant strains. Educating patients on the importance of thorough testing and adherence to prescribed treatments is vital.

Treatment Options:

- Resistance Issues:** Trichophyton indotinea shows significant resistance to **terbinafine** due to genetic mutations in the **squalene epoxidase gene**, and resistance to **itraconazole** is also growing.

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- Alternative Treatments:** For resistant infections, alternatives such as **itraconazole** may be necessary, but these come with side effects including **gastrointestinal issues**, **liver toxicity**, and interactions with other medications. **Close monitoring** by healthcare providers is essential.
- Challenges:** The quality of itraconazole formulations may be suboptimal, and unregulated use of **steroid-containing creams** can further complicate resistance.
- Comprehensive Care:** Integrating **skin care regimens** like maintaining **skin hydration**, using **barrier creams**, and avoiding irritants can enhance treatment efficacy.

Prevention Strategies:

- Avoid Self-Medication:** Unsupervised use of steroid-antifungal combination creams can worsen infections and contribute to drug resistance.
- Maintain Hygiene:** Keeping the skin **dry and clean**,

avoiding sharing **personal items**, and wearing **breathable clothing** are crucial.

- Communal Precautions:** In communal settings like **locker rooms**, wearing **sandals** and ensuring proper cleaning of personal items can help prevent infections.
- Public Education:** Raising awareness about proper hygiene and the dangers of self-medication is essential for prevention.

Conclusion:

- The rise of drug-resistant *Trichophyton indotineae* infections presents a growing public health challenge in India.
- Addressing this issue requires a multifaceted approach involving accurate diagnostics, rational medication use, public education, and continuous research.
- By implementing these measures, we can curb the spread and impact of this resistant pathogen, ensuring better health outcomes for the population.

Fungal Disease	Causative Agent	Symptoms	Prevention	Treatment
Candidiasis	<i>Candida</i> species (e.g., <i>Candida albicans</i>)	White patches on tongue, mouth, or throat, itching, burning sensation, vaginal discharge	Maintain good hygiene, avoid excessive antibiotics, control blood sugar levels in diabetics	Antifungal medications (e.g., Fluconazole, Nystatin), topical creams
Aspergillosis	<i>Aspergillus</i> species	Cough, wheezing, chest pain, fever	Avoid dusty environments, wear masks, clean skin injuries	Antifungal medications (e.g., Voriconazole), surgery in severe cases
Dermatophytosis (Ringworm)	<i>Trichophyton</i> , <i>Microsporum</i> , <i>Epidermophyton</i> species	Red, itchy, circular rash, hair loss in affected areas	Keep skin clean and dry, avoid sharing personal items, treat infected pets	Topical antifungals (e.g., Clotrimazole, Terbinafine), oral antifungals in severe cases
Histoplasmosis	<i>Histoplasma capsulatum</i>	Fever, cough, fatigue, chest pain	Avoid areas with bird/bat droppings, wear masks in endemic areas	Antifungal medications (e.g., Itraconazole), Amphotericin B in severe cases
Cryptococcosis	<i>Cryptococcus neoformans</i>	Headache, fever, neck stiffness, confusion	Avoid contact with pigeon droppings, maintain a healthy immune system	Antifungal medications (e.g., Fluconazole, Amphotericin B), long-term therapy for immunocompromised patients



Blastomycosis	<i>Blastomyces dermatitidis</i>	Cough, fever, chest pain, weight loss	Avoid soil disruption in endemic areas, wear protective clothing	Antifungal medications (e.g., Itraconazole, Amphotericin B in severe cases)
Sporotrichosis	<i>Sporothrix schenckii</i>	Small painless bumps on skin, progressing to ulcers	Wear gloves when handling soil, plants, or moss, avoid scratches	Antifungal medications (e.g., Itraconazole), Potassium iodide for cutaneous forms
Pneumocystis Pneumonia (PCP)	<i>Pneumocystis jirovecii</i>	Fever, dry cough, shortness of breath, fatigue	Prophylactic antibiotics for immunocompromised patients (e.g., Trimethoprim-sulfamethoxazole)	Antifungal medications (e.g., Trimethoprim-sulfamethoxazole, Pentamidine)
Mucormycosis (Black Fungus)	<i>Rhizopus, Mucor</i> species	Nasal or sinus congestion, facial swelling, black lesions on the nose or mouth	Maintain good hygiene, control diabetes, avoid unclean water	Antifungal medications (e.g., Amphotericin B), surgical debridement in severe cases
Coccidioidomycosis (Valley Fever)	<i>Coccidioides</i> species	Fever, cough, chest pain, fatigue	Avoid dust exposure in endemic areas, wear masks	Antifungal medications (e.g., Fluconazole, Itraconazole), Amphotericin B in severe cases



12. India Bans 156 Fixed-Dose Combination Drugs

1. The **Ministry of Health and Family Welfare** recently announced a significant move in healthcare regulation by prohibiting the **manufacture, sale, and distribution of 156 fixed-dose combination (FDC) medicines**.
2. This decision stems from concerns over potential **risks to human health, with safer alternatives available**. The banned FDCs include common medications such as antibiotics, painkillers, and multivitamins.

More about the News

1. **Legal Basis:** The Ministry's action is based on the powers granted under the **Drugs and Cosmetics Act 1940**. This is not the first such ban; earlier in 2023, the Ministry had already prohibited 14 FDCs.
2. **Expert Recommendations:** The ban was implemented following recommendations from an expert committee and the **Drugs Technical Advisory**

Board (DTAB). They concluded that there is no therapeutic justification for the ingredients combined in these FDCs.

3. **Specific Examples:** Among the banned FDCs are combinations such as **Aceclofenac and Paracetamol**.

What are Fixed Dose Combinations (FDCs) Drugs?

1. **Definition:** FDCs, often called "cocktail drugs," are pharmaceutical products that contain two or **more active ingredients** in a single dosage form, designed to address a particular medical condition.
2. **Active Ingredient:** The biologically active component within a drug product that produces the desired **therapeutic effects**.
3. **Regulatory Framework:** In India, FDCs are considered New Drugs under the Drugs and Cosmetics Act 1940, requiring approval from the **Central Drugs Standard Control Organization (CDSCO)**.
4. **Common Combinations:** FDCs are commonly found in medications for **cough, cold, fever, antimicrobials, vitamins, and minerals**.



Rationale for and Issues Associated with FDCs

Rationale

1. **Enhanced efficacy:** Combinations may lead to better therapeutic outcomes compared to individual drugs.
2. **Cost-effectiveness:** Potentially cheaper than buying separate medications.
3. **Reduced pill burden:** Improves patient compliance and convenience.
4. **Pharmacokinetic advantage:** May improve how the body absorbs, distributes, metabolizes, and excretes the drugs.

Issues

1. **Lack of individual dose flexibility:** Fixed doses may not be suitable for all patients.
2. **Unapproved and Banned FDCs:** Easy access to untested and unlicensed FDCs poses a risk.
3. **Increased risk of Anti-microbial Resistance (AMR):** Potential for overuse and misuse.
4. **Ethical concerns:** Bans in India may not prevent export of the same drugs to other countries.

Issues in the Regulation of FDCs in India

1. **Reformulation:** Companies may reformulate drugs into FDCs to circumvent price controls.
2. **Compromised quality:** New FDCs can be produced after 4 years with licenses from State Licensing Authorities (SLAs), sometimes without rigorous **pharmacological studies**.
3. **Approval process:** The **Parliamentary Standing Committee on Health and Family Welfare** has raised concerns about SLAs issuing licenses without prior clearance from CDSCO.
4. **Other challenges:** Poor adverse drug reaction reporting and lack of a comprehensive database of FDCs in the market.

Steps Taken by India for the Regulation of FDCs

1. **Drugs & Cosmetics (Amendment) Act, 2008:** Stricter penalties for manufacturers of spurious and adulterated drugs.

2. **Strengthened testing:** Upgraded Central Drugs Testing Laboratories under CDSCO for faster testing.
3. **Drugs and Cosmetics Rules 1945 amendment in 2017:** Mandatory bioequivalence study submission with manufacturing license applications.

Suggestions to Improve the Regulation of FDCs

1. **Periodic surveys:** To assess the extent of the issue.
2. **National Drug Authority (NDA):** Establishment of an independent body to ensure drug quality.
3. **Strong punitive action:** Deterrence through harsh penalties, potentially including the death penalty for manufacturing or selling spurious drugs.
4. **Multistep approach:** Collaboration among stakeholders, including consumers, physicians, regulators, industry, and academia.

Conclusion

The ban on 156 FDCs demonstrates India's commitment to **safeguarding public health**. Effective regulation of FDCs is a complex issue requiring a **multi-pronged approach**, encompassing stricter enforcement, improved quality control, and continuous **monitoring** of the market.

13. Tantalum Deposits

1. The **Central Government has recently included Tantalum** in Part D of the First Schedule of the MMDR Act, 1957, recognizing its strategic importance.
2. **GSI has established a Niobium-Tantalum resource** of 16.42 million tonnes in Rajasthan.
3. The Union Budget 2024-25 has announced the elimination of customs duties on Tantalum ores, concentrates, and unwrought Tantalum to boost its supply chain.
4. The Geological Survey of India (GSI) has initiated **six exploration** projects for Tantalum and related minerals across various states between 2021-22 and 2024-25. **Here are the details:**

Sl. No.	Field season	State	District	Name of Mineral Block / Area / Belt	Mineral Commodity
1	2020-21	Gujarat	Sabarkantha	Nadri	Tin, Tungsten, Tantalum, Niobium
2	2021-22	Arunachal Pradesh	East Kameng	Seppa	Tantalum, Cesium
3	2023-24	Rajasthan	Alwar	Dadikar, Harsora and Khairthal	REE, RM, Tungsten, Tin, Niobium, Beryllium, Tantalum, Hafnium
4	2024-25	Chhattisgarh	Gaurella-Pendra-Murmur & Korba	Uran- KotmiKhurd	Niobium, Tantalum, REE, lithium
5		Bihar	Jamui	Kairi-Jhura-Murbaro	Lithium, Niobium, Tantalum and associated strategic minerals (REE, Rare Metals)
6		Karnataka	Chitradurga	Chikjajur-Janakal	Lithium, Cesium, Niobium, Tantalum, Tungsten



Tantalum

atomic number — 73

symbol — Ta

electron configuration — [Xe]4f¹⁴5d³6s²

name — tantalum

atomic weight — 180.94788

acid-base properties of higher-valence oxides —

crystal structure —

physical state at 20 °C (68 °F) —

Transition metals

Body-centred cubic

Solid

Weakly acidic

Resource Assessment:

- GSI has also established a **Niobium-Tantalum resource of 16.42 million tonnes with an average grade of 144 ppm (Nb+Ta)2O5** at a 100-ppm cut-off in the **Rewat Hill block, Nagaur district, Rajasthan.**

About Tantalum

- Symbol:** Ta
- Atomic Number:** 73
- Occurrence:** Typically found in the ore columbite-tantalite, commonly known as coltan.
- Major Producers:** Democratic Republic of the Congo, Rwanda, Brazil, Nigeria

Properties:

- State at Room Temperature:** Solid
- Appearance:** Shiny, silvery metal; soft in its pure form
- Chemical Resistance:** Almost immune to chemical attack below 150°C
- Corrosion Resistance:** Virtually resistant to corrosion due to an oxide film on its surface
- Ductility:** When pure, it is ductile, meaning it can be stretched, pulled, or drawn into thin wires or threads without breaking
 - Ductility is the ability of a material to change its shape (such as being drawn into wire or thread) without losing strength or breaking.



- Refractory Metal:** Part of a class of metals known for their strong resistance to heat and wear
- Melting Point:** Extremely high, surpassed only by tungsten and rhenium

When was tantalum first discovered?

- Tantalum was **discovered by Anders Gustaf Ekenberg**, a Swedish chemist, in 1802 in minerals obtained from Ytterby, Sweden. Initially, it was thought Ekenberg had found only a different form of niobium, an element that is chemically similar to tantalum.
- “The issue was finally settled in 1866 when, Jean Charles Galissard de Marignac, a Swiss chemist, proved that tantalum and niobium were two distinct elements,” the US agency said.

How did tantalum get its name?

- The **rare metal has been named after a Greek mythological figure Tantalus**, the rich but wicked king of a town above **Mount Sipylus in Anatolia**.
- Tantalus is **best known for the terrible punishment** he received from Zeus after the former tried to serve his son at a feast with the gods.
- The king was banished to the underworld, where he forever stood in a pool of water with clusters of fresh fruit hanging overhead. Whenever he tried to drink the water, it receded. Whenever he tried to pick the fruit, the branches drew back.
- This name was selected because of the insolubility of tantalum in acids**; thus, when placed in the midst of acids, it is incapable of taking any of them up.

What are the uses of tantalum?

- Electronics:** Tantalum capacitors can store more electricity in smaller sizes with minimal leakage, making them ideal for portable electronics such as smartphones, laptops, and digital cameras.
- Substitute for Platinum:** Due to its high melting point, tantalum is used as a less expensive substitute for platinum.
- Industrial Components:** Used in components for chemical plants, nuclear power plants, aircraft, and missiles.

- Medical Use:** Tantalum does not react with bodily fluids, making it suitable for surgical equipment and implants, such as artificial joints.
- Cutting Tools:** Tantalum carbide (TaC) combined with graphite forms one of the hardest materials known, used in the cutting edges of high-speed machine tools.

India's Focus on Tantalum

India's recent policy changes and exploration efforts underscore the growing importance of Tantalum as a strategic mineral. The inclusion of Tantalum in the MMDR Act, GSI's exploration projects, and the elimination of customs duties are all geared towards securing a domestic supply of this critical mineral and reducing dependence on imports.

About the Mines and Minerals (Development and Regulation) Act, 1957:

The **Mines and Minerals (Development and Regulation) Act (MMDR Act)** was introduced by the **Government of India in 1957**.

Purpose: The Act was designed to **manage and control the exploration and exploitation of minerals in India**. It provided a regulatory framework for issuing **mining leases** and overseeing mining operations.

Key Provisions:

- Mining Leases:** The Act established **regulations for granting mining leases to individuals and companies**.
- Major minerals :** These are specified in the MMDR Act schedule and include coal, lignite, petroleum, natural gas, and other metallic and non-metallic minerals. The Ministry of Mines is responsible for framing laws for major minerals.
- Minor minerals :** These are specified in the Minor Mineral Concession Rules schedule and include building stones, gravel, ordinary clay, and ordinary sand. State governments are responsible for regulating and administering minor minerals.



4. Control and Regulation: It set out guidelines to control and regulate mining activities to ensure orderly development and prevent environmental degradation.

Amendments:

- 1. Reason for Amendments:** Due to evolving circumstances and requirements in the mining sector, **amendments to the Act have been deemed necessary over time.**
- 2. Purpose of Amendments:** These amendments aim to address contemporary issues, improve regulatory processes, and align with global best practices.

The MMDR Act has undergone various modifications to adapt to changes in the industry and to address emerging challenges in mineral management and regulation.

14. Newly Discovered Mechanism for Propagation of Flaviviruses

In August, A study published in PLoS Pathogens has now identified a protein named importin-7 (IPO7), as a **carrier that transports flavivirus core protein through the nuclear membrane** and into the nucleus.

- This discovery may lead to new treatments for **diseases like dengue fever, Japanese encephalitis, and Zika virus.**

Key Findings

- 1. Discovery of IPO7:** Researchers from Juntendo University found that **IPO7 is crucial for moving flavivirus proteins into the cell nucleus.**
- 2. Impact on Viral Replication:** When IPO7 was removed, flavivirus proteins couldn't enter the nucleus, reducing viral particle production. **Although the total virus replication was similar in cells with and without IPO7, cells with IPO7 made more viral particles,** showing IPO7's role in the later stages of the virus's life cycle.
- 3. Potential for Therapeutic Intervention: Blocking IPO7's function could decrease viral replication**

and lessen the effects of flavivirus diseases. This new insight into IPO7 might **lead to effective antiviral drugs or vaccines, especially since current treatments for diseases like dengue fever are limited.**

About Flaviviruses:

- Flavivirus is any virus belonging to the **family Flaviviridae.**
- Flaviviruses have **enveloped and spherical virions** (virus particles) that are between 40 and 60 nanometers in diameter.
- The flavivirus genome consists of **non segmented single-stranded positive-sense RNA** (ribonucleic acid).
- Flaviviruses, when introduced into the human body, **cause diseases,** including neuro infections, that can lead to **serious metabolic consequences and even death.**
- Among the most dangerous and **deadly members** of the Flavivirus Family **are Yellow Fever virus, Dengue virus, Zika virus, West Nile virus, Japanese Encephalitis virus, Tick-Borne Encephalitis virus, Kyasanur Forest virus, Alkhurma virus, and Omsk virus.**
- Aedes mosquitoes** are the **main vectors of many Flaviviruses** and are primarily responsible for the spread of viral outbreaks of Dengue, Zika, and Yellow Fever.
- Mosquitoes are not the only carriers, however. **Ticks and other flying insects** can also transmit these and other Flaviviruses from person to person and from animals to people.
- Hepatitis C,** the only non-vector-borne member of the Flavivirus family, is transmitted exclusively through direct blood-to-blood contact between humans.





F. GEOGRAPHY & ENVIRONMENT

1. BioE3 Policy: Achieve \$300 Billion Bioeconomy by 2030

1. In August 2024, The Union Cabinet has approved the **BioE3 (Biotechnology for Economy, Environment and Employment) Policy** with an ambitious aim to foster high-performance biomanufacturing.
2. This move is expected to steer India towards **accelerated green growth** and establish it as a global leader in the **bioeconomy**.

Key Points of the BioE3 Policy

1. **Ambitious Target:** The policy envisions India's bioeconomy reaching a staggering US \$300 billion by 2030, building on the impressive growth from US \$10 billion in 2014 to over US \$130 billion in 2024.
2. **Green Growth:** It seeks to propel India towards 'Green Growth' by fostering a 'Circular Bioeconomy' that focuses on **sustainable use and conservation of biological resources**.
3. **Implementation:** The **Department of Biotechnology (DBT)** will be responsible for implementing the policy.
4. **Focus Areas:** The policy will prioritize **6 key sectors**:
 - a. Bio-based chemicals and enzymes
 - b. Functional foods and smart proteins
 - c. Precision biotherapeutics
 - d. Climate-resilient agriculture
 - e. Carbon capture and utilization
 - f. Futuristic marine and space research
5. **Key Initiatives:**
 - a. **Bio-AI Hubs:** Integrating AI with biological data to accelerate research and innovation.
 - b. **Biomanufacturing Hubs:** Providing shared facilities for researchers, startups, and SMEs to support early-stage manufacturing.
 - c. **Regulations and Global Standards:** Ensuring seamless integration of biosafety and biosecurity considerations.
 - d. **Data Governance Framework:** Enabling open access to scientific discoveries while protecting intellectual property.

Need for the BioE3 Policy

The BioE3 policy addresses critical challenges faced by India:

- a. **Sustainability:** Driving innovation in **biotransformation** for sustainable production of high-value chemicals and biopolymers.
- b. **Nutrition:** Ensuring adequate and nutritional food intake for India's growing population.
- c. **Healthcare:** Intensifying India's engagement in **futuristic biotherapeutics and personalized medicine**.
- d. **Food Security:** Promoting **soil microbiome-based research for climate-smart agriculture**.
- e. **Climate Change:** Facilitating **decarbonization through microbial conversion of CO₂**.
- f. **Space Exploration:** Developing sustainable food solutions for long-duration space missions.
- g. **Skill Development:** Addressing skill gaps in cutting-edge areas of biotechnology through bio-hubs.

Other Initiatives to Boost Bio-Economy in India

The BioE3 policy is complemented by several other national initiatives aimed at strengthening India's bioeconomy:

1. **National Mission on Bioeconomy, 2016:** Launched by the Institute of Bio-resources and Sustainable Development (IBSD), this mission focuses on boosting the rural economy through the effective utilization of bio-resources.
2. **National BioPharma Mission, 2017:** This industry-academia collaborative mission seeks to accelerate biopharmaceutical development in India.
3. **National Biotechnology Development Strategy 2015-2020:** This strategy envisions establishing India as a world-class bio-manufacturing hub.
4. **National Policy on Biofuels, 2018:** This policy promotes the production of biofuels from domestic feedstock, integrating them into the value chain as green energy.



Way Forward

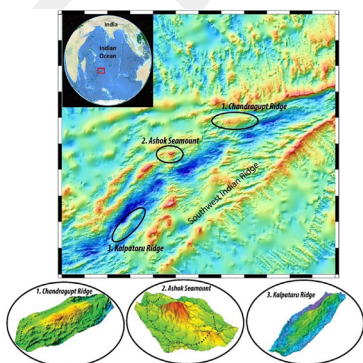
To realize the full potential of the **BioE3 policy**, India needs to:

1. **Embrace Circular Bioeconomy:** Adopt principles of reuse, repair, and recycle to minimize waste and environmental impact.
2. **Support Startups:** Invest in startups to facilitate their transition into large-scale manufacturing, drawing inspiration from successful models like the USA.
3. **Streamline Processes:** Implement a **single-window clearance system** for Biomanufacturers.
4. **Retain Talent:** Focus on retaining **STEM talent** within India.
5. **Foster International Collaboration:** Collaborate with other nations to create a robust global framework for biomanufacturing.

The BioE3 policy marks a significant step towards a **greener and more sustainable future** for India. By fostering innovation and promoting sustainable practices, it has the potential to transform India's economy and contribute to global efforts to address climate change and other pressing challenges.

2. Indian Ocean Structures Named Ashok, Chandragupt and Kalpataru

1. In August 2024, The **International Hydrographic Organization (IHO)** and UNESCO's **Intergovernmental Oceanographic Commission (IOC)** approved the names "Ashok Seamount," "Chandragupt Ridge," and "Kalpataru Ridge" for **three undersea structures** in the Indian Ocean.
2. These structures, discovered by the **National Centre for Polar and Ocean Research (NCPOR)**, are located along the **Southwest Indian Ridge**.



Naming of Undersea Features

1. **Outside Territorial Sea:**
 - a. Individuals and agencies can propose names for unnamed features according to **IHO's 2013 guidelines "Standardization of Undersea Feature Name."**
 - b. The feature's **character, extent, and position** must be identified before naming.
 - c. The **IHO Sub-Committee on Undersea Feature Names (SCUFN)** reviews proposals.
2. **Within Territorial Sea:** National authorities follow the same IHO guidelines when naming features within their territorial sea.

About IHO and IOC

1. **International Hydrographic Organization (IHO):**
 - a. Established in **1921**.
 - b. An **intergovernmental body** with India as a member.
 - c. Has observer status at the UN.
 - d. Recognized as the competent international authority for hydrography and nautical charting.
2. **Intergovernmental Oceanographic Commission (IOC):**
 - a. Established in **1961**.
 - b. Promotes international cooperation in marine sciences.

GEBSCO:

1. The **General Bathymetric Chart of the Oceans** is a joint project of IHO, IOC, and UNESCO to collect **bathymetric data** and map the oceans.
2. The GEBSCO Sub-Committee on Undersea Feature Names (SCUFN) maintains a **digital gazetteer** of undersea feature names and types.

Significance

The naming of these undersea features highlights India's growing contribution to **oceanographic research and exploration**. These names not only recognize the geographical discoveries but also pay homage to significant figures and concepts from **Indian history and mythology**, further enriching the tapestry of the Indian Ocean's identity.



Details of the Named Structures:

Ashoka Seamount:

1. Named after the ruler of the **Mauryan dynasty**.
2. Discovered in **2012** by the Indian research team using the Russian sea vessel **Akademik Nikolay Strakhov**.
3. Oval-shaped structure spanning over an area of **180 sq km**.

Chandragupt Ridge:

1. Named after the ruler of the **Mauryan dynasty**.
2. Discovered in **2020** by the Indian ocean research vessel **MGS Sagar**.
3. Elongated and oval-shaped body covering a total area of **675 sq km**.

Kalpataru Ridge:

1. Discovered in **2012** by the same Russian vessel **Akademik Nikolay Strakhov**.
2. Elongated ridge spread over an area of **430 sq km**.
3. May have supported marine life, habitat shelter, and food for various species.

Previously Named Structures:

Name	Discovered	Accepted	Named After
Raman Ridge	1951	1992	Physicist and Nobel Laureate Sir CV Raman

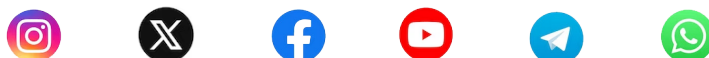
Panikkar Seamount	1992	1993	Renowned oceanographer NK Panikkar
Sagar Kanya Ridge	-	1991	Research vessel Sagar Kanya
DN Wadia Guyot	1992	1993	Geologist DN Wadia

3. Disaster Management (Amendment) Bill, 2024

1. In Augsut,2024 The **Disaster Management (Amendment) Bill, 2024** has been introduced in the **Lok Sabha** to amend the existing **Disaster Management Act, 2005**.
2. **Disaster Management (DM) Act, 2005** was enacted to provide for effective management of disasters and for matters connected therewith.
 - a. The Bill aims to mainstream **disaster management in development plans**, aligning with recommendations of **15th Finance Commission**.
 - b. Amendment Bill will bring more clarity and convergence in **roles of authorities and committees**.

Comparisons of Bill and DM Act 2005:

Provisions	DM Act, 2005	DM (Amendment) Bill, 2024
Preparation of DM plans	<ul style="list-style-type: none"> • National Executive Committee and State Executive Committee prepare national and state DM plans, respectively. 	<ul style="list-style-type: none"> • National Disaster Management Authority (NDMA) and State Disaster Management Authority (SDMA) will prepare DM plans.
Functions of NDMA and SDMA at their respective levels	<ul style="list-style-type: none"> • Reviewing DM plans of government departments, • Setting guidelines for preparation of DM plans for authorities below them, and • Recommending provision of funds for disaster mitigation. 	<ul style="list-style-type: none"> • Bill adds new functions for these authorities <ul style="list-style-type: none"> ○ Taking periodic stock of disaster risks. ○ Providing technical assistance to authorities. ○ Recommending guidelines for minimum standards of relief. ○ Preparing national and state disaster databases.
State & National Disaster Databases	<ul style="list-style-type: none"> • No Provisions 	<ul style="list-style-type: none"> • Contain information on type & severity of disaster risks, allocation of funds and expenditure, and disaster preparedness and mitigation plans.





<p>Appointments to NDMA:</p>	<ul style="list-style-type: none"> Act provides that central government will provide NDMA with officers, consultants, and employees, as it considers necessary. 	<ul style="list-style-type: none"> Bill empowers NDMA to specify the number and category of officers and employees, with previous approval of the central government.
<p>Urban DM Authorities:</p>	<ul style="list-style-type: none"> No Provisions 	<ul style="list-style-type: none"> Bill empowers state government to constitute a separate Urban Disaster Management Authority (UDMA) for state capitals and cities with a municipal corporation except for Delhi and Chandigarh.
<p>Formation of State Disaster Response Force:</p>	<ul style="list-style-type: none"> No Provisions 	<ul style="list-style-type: none"> Bill empowers state government to constitute a State Disaster Response Force (SDRF). <ul style="list-style-type: none"> State government will define functions of SDRF and prescribe terms of service for its members.
<p>National Crisis Management Committee (NCCM) and the High Level Committee (HLC)</p>	<ul style="list-style-type: none"> No provisions 	<ul style="list-style-type: none"> Bill provides statutory status to NCCM and HLC. NCCM will function as the nodal body for dealing with major disasters with serious or national ramifications. HLC will provide financial assistance to state governments during disasters. The NCCM will be led by the Cabinet Secretary, and the HLC by the Minister of department overseeing disaster management.

Issues with Bill:

- Lack of financial Devolution:** Urban Local Bodies will find difficult to set up, equip, and run the UDMA's due to financial constraints.
- Centralization:** Bill grants excessive rulemaking power to Central government through delegated legislation to make rules on specific matters, which could potentially overlap with legislative powers reserved for States.
- Test of Constitutionality:** Bill is brought under Entry 23 of the Concurrent List of Seventh Schedule which deals with "social security and social insurance, employment and unemployment" as Disaster Management is not mentioned in the Seventh Schedule.
- Restricted definition of 'disaster':** Bill does not expand the list of notified disasters to include climate-induced disaster such as heatwaves.

Concerns Regarding the Disaster Management (Amendment) Bill, 2024

- Lack of financial Devolution:** Urban Local Bodies will find difficult to set up, equip, and run the UDMA's due to financial constraints.
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- Test of Constitutionality:** Bill is brought under Entry 23 of the Concurrent List of Seventh Schedule which deals with "social security and social insurance, employment and unemployment" as Disaster Management is not mentioned in the 7th Schedule.
- Restricted definition of 'disaster':** Bill does not expand the list of notified disasters to include climate-induced disaster such as heatwaves.



About Disaster Management Act 2005

1. It was enacted in the aftermath of the devastating 2004 tsunami.
2. **Establishment of Authorities: Act establishes a 3-tier structure for disaster management.**
 - a. **National Disaster Management Authority (NDMA):** Headed by the Prime Minister, responsible for formulating policies, plans, and guidelines for disaster management at the national level.
 - b. **State Disaster Management Authorities (SDMAs):** Headed by the Chief Ministers, responsible for disaster management at the state level.
 - c. **District Disaster Management Authorities (DDMAs):** Led by the District Magistrate, responsible for implementing disaster management plans at the district level.
3. **Preparation of Disaster Management Plans:** The Act mandates the preparation of disaster management plans at national, state, and district levels.
4. **National Disaster Response Force (NDRF):** Establishes NDRF for specialized response to disasters, including search and rescue operations, medical aid, and relief distribution.
5. **Funding Mechanisms:** Provides for the creation of the National Disaster Response Fund (NDRF) and State Disaster Response Funds (SDRF) to finance relief and response measures.
6. **National Institute of Disaster Management (NIDM):** Act established NIDM for disaster-related research, training, awareness, and capacity building.

Conclusion

Bill 2024 aims to strengthen disaster risk reduction and management by introducing new structures like Urban Disaster Management Authorities. However, its success will hinge on overcoming challenges related to coordination, authority, and resource allocation among various levels of government.

4. Landslides in Wayanad and Related Issues

In July 2024, Wayanad in Kerala, India, experienced one of the deadliest landslides in the state's history. Triggered by intense rainfall, the hillsides collapsed,

leading to widespread devastation. The disaster resulted in **over 423 fatalities, with 118 individuals** reported missing. **It also displaced over 10,000 residents.**

What are Landslides?

1. **Downward movement** of rock, soil, and debris on a slope.
2. Can range from small shifts to large, destructive events.
3. Occurs on both natural and man-made slopes.

Types of Landslides:

1. **Slides:** Movement along a rupture surface (rotational and translational).
2. **Flows:** Soil or rock mixed with water moving like a fluid.
3. **Spreads:** Lateral extension and cracking of the mass.
4. **Topples:** Forward rotation and free-fall from a vertical or near-vertical slope.
5. **Falls:** Detachment from a steep slope or cliff.

Causes of Landslides

1. **Climate change:** Recent warming of the **Arabian Sea** has led to deep **cloud systems** and extremely heavy rainfall in the **Western Ghats**. The **rain-bearing belt** has shifted, increasing **convective rainfall** in southern regions like Wayanad.
2. **Gravitational Forces:** Primary cause, constantly pulling materials on slopes downward.
3. **Natural Triggers:**
 - a. **Rainfall:** Increases soil water content, reducing cohesion and adding weight.
 - b. **Earthquakes:** Destabilize slopes by shaking the ground.
 - c. **Erosion:** Natural processes like river or wave action.
 - d. **Hydrological Factors:** Groundwater movement contributing to risk.
4. **Anthropogenic Influences:**
 - a. **Deforestation:** Removes natural reinforcement and water drainage.
 - b. **Construction and Land Use Changes:** Disrupt natural drainage and load distribution.
 - c. **Infrastructure Development:** Intensifies land pressure and disrupts drainage.

5. Geological Factors:

- a. Composition, structure, and **weathering state** of materials affect slope stability.
- b. **Defunct Quarries:** Contribute to soil destabilization even after ceasing operations.

6. 1998 Malpa Landslide

- On August 18, 1998, a massive landslide hit Malpa village in Uttarakhand, India, completely destroying the village. The landslide continued until August 21.
- The landslide, resulted in **221 deaths**, including 60 Hindu pilgrims.
- The Wadia Institute of Himalayan Geology explained that seismic activity was the principle cause.

Landslide-Prone Areas in India:

1. India’s Vulnerability:

- a. Among the top 5 landslide-prone countries globally.
- b. As per GSI, about 0.42 million km² covering nearly 12.6% of land area of country is prone to landslide hazards.

2. Distribution of Reported Landslides:

- a. **66.5%** in the **Northwestern Himalayas**
- b. **18.8%** in the **Northeastern Himalayas**
- c. **14.7%** in the **Western Ghats**

3. Major Landslide-Prone Regions:

- a. **Northeastern Region** (about 50% of total landslide-prone areas)
- b. **Uttarakhand, Himachal Pradesh, and Jammu & Kashmir** along the Himalayas
- c. **Maharashtra, Goa, Karnataka, Kerala, and Tamil Nadu** along the Western Ghats
- d. **Araku region in Andhra Pradesh** along the Eastern Ghats

4. Kerala’s Vulnerability:

- a. Nearly **17,000 sq km** in Kerala, mostly on the western side of the Western Ghats, mapped as **landslide-prone**.

Economic Impact

- 1. Economic loss due to landslides may amount to **1% to 2%** of the **Gross National Product (GNP)** in many developing countries.

Comparing Landslides in Western Ghats and Himalayas

Western Ghats:	Himalayas:
<p>1. Causes:</p> <ul style="list-style-type: none"> a. Concentrated rainfall b. Overburdening of hills c. Mining and quarrying d. Anthropogenic activities (agriculture, windmill projects) e. Forest fragmentation with dense vegetation on thin soil 	<p>1. Causes:</p> <ul style="list-style-type: none"> a. High seismicity due to plate tectonic movement b. Easily erodible sedimentary rocks c. Young and energetic rivers with high erodibility d. Heavy downpour and snowfall e. Anthropogenic factors (deforestation, jhum cultivation, road construction)



Challenges Associated with Landslides

- 1. **Loss of Life and Injury**
- 2. **Displacement of Communities**
- 3. **Damage to Infrastructure**
- 4. **Economic Impact**
- 5. **Environmental Degradation**
- 6. **Difficulties in Predicting Landslides:**
 - a. **Complexity of Geomaterials**
 - b. **Insufficient Data**
 - c. **Identifying Weak Points**
 - d. **Estimating Size and Runout**
 - e. **Timing Predictions**
 - f. **Environmental Variability**
 - g. **Technological Limitations**

Government Initiatives to Mitigate Landslide Risks in India

- 1. **National Landslide Risk Management Strategy (2019):**
 - a. Comprehensive strategy addressing various aspects of landslide management.
 - b. **Key highlights-**
 - i. Preparation of Mountain Zone Regulations & Policies



- ii.** Development of Landslide Monitoring and Early Warning System
- iii.** Generation of User-Friendly Landslide Hazard Maps
- iv.** Special Purpose Vehicle (SPV) for Landslide Management
- v.** Capacity Building and Training of Stakeholders
- vi.** Awareness Programmes
- vii.** Stabilization and Mitigation of Landslides
- 2. National Guidelines on Landslides and Snow Avalanches:**
- a.** Issued by **National Disaster Management Authority (NDMA)**
- b.** Covers various aspects of landslide management.
- 3. Landslide Atlas of India:**
- a.** Developed by **National Remote Sensing Centre (NRSC)** under **ISRO**
- b.** Documents landslide events in vulnerable areas.
- 4. Disaster Management (Amendment) Bill, 2024:**
- a.** In August, 2024 the Disaster Management (Amendment) Bill, 2024 has been introduced in the Lok Sabha to amend the existing Disaster Management Act, 2005.
- b.** Aims to create a **disaster database** at national and state levels
- c.** Provisions for **Urban Disaster Management Authority (UDMA)** for state capitals and large cities
- 5. Recommendations of Committees on Western Ghats:**
- a. Western Ghats Ecology Expert Panel, 2011 (Madhav Gadgil Committee):**
- i.** Declare all of Western Ghats as **Ecologically Sensitive Areas (ESA)**
- ii.** Classify Western Ghats into **ESA 1, 2, and 3**
- iii.** Bottom-to-top **governance approach**
- iv.** Constitute **Western Ghats Ecology Authority (WGEA)**
- b. Kasturirangan Committee, 2013:**
- i.** Only **37%** of total Western Ghats area to be brought under ESA
- ii.** Complete **ban on mining**, quarrying, and sand mining in ESAs

- iii.** No thermal power projects; **hydropower projects** allowed after detailed study
- iv.** Ban on highly polluting (Red) industries
- v.** Exclusion of inhabited regions and **plantations** from ESAs

Measures to Prevent Landslide Hazards

- Building Resilience:**
 - Set up **sensor networks** for real-time monitoring
 - Assess **rainfall thresholds** for soil saturation
 - Map potential **landslide routes**
 - Create **route maps** to mark out-of-bounds areas
- Harnessing Technology for Vigilant Monitoring:**
 - Utilize **web-based sensors** (rain gauges, piezometers, inclinometers, etc.)
 - Focus on densely populated and urbanized zones
- Environmental Considerations:**
 - Implement thoughtful **urban planning** in mountainous areas
 - Use **retaining walls** and restore **ecological balance**
- Building Codes and Evaluation:**
 - Map towns and assess **load-bearing capacities**
 - Develop robust **building codes** for hazard-prone areas
 - Enforce strict **land use restrictions**
- Innovative Techniques:**
 - Soil Nailing and Hydroseeding:**
 - Used by Kerala State highways department in the Nilgiris
 - Soil nailing reinforces soil
 - Hydroseeding promotes plant growth
 - Includes planting five **grass species** and maintaining vegetation

Conclusion:

The **Wayanad landslides** highlight the complex interplay between natural disasters and human activities. Addressing this issue requires a **multifaceted approach** involving **regulation, education, and scientific research** to mitigate risks and protect vulnerable communities. The ongoing efforts and proposed measures represent significant steps towards creating a more resilient and prepared society in the face of landslide hazards.



190-foot Bailey bridge

1. The **Indian Army's** Madras Engineer Group assembled a 190-foot **Bailey bridge** in Chooralmala, **Wayanad, Kerala** to facilitate the movement of vehicles and machinery following **devastating landslides**.
2. **The Bailey bridge enables the transport of men, heavy machinery, and ambulances in disaster-hit areas.**
3. A Bailey bridge is a type of **modular bridge** whose parts are **pre-built**, so they can be put together quickly as needed. **Donald Coleman Bailey** an english civil engineer is credited with inventing it during **World War II**.
4. The Indian armed forces inherited the Bailey bridge design from the British, using it in the **1971 war with Pakistan** and in various disaster relief efforts, such as after the **2021 Uttarakhand flash floods**.

UPSC MAINS: PREVIOUS YEAR QUESTION

1. Differentiate the causes of landslides in the Himalayan region and Western Ghats. (Answer in 150 words, CSE 2021; GS-I; 10 Marks)
2. Describe the various causes and the effects of landslides. Mention the important components of the National Landslide Risk Management Strategy. (Answer in 250 words; CSE 2021: GS-III; 15 Marks)

5. Cloudbursts in Himachal Pradesh

In August, a **cloudburst** occurred in **Himachal Pradesh**, a state in northern India. This **cloudburst** led to **flash floods**, which caused many **deaths** and left several people **missing**.

- a. The floods also **destroyed** many **buildings, bridges, and roads**, according to officials.

What is a Cloudburst?

1. A **cloudburst** is a sudden and heavy **rainstorm** that drops a lot of rain in a short time over a small area. The **India Meteorological Department (IMD)** says that a **cloudburst** brings more than **10 centimeters** (about **4 inches**) of rain in less than an hour over an area of about **10 square kilometers** (about **4 square miles**).

2. Where it happens?

- a. **Cloudbursts** often happen in **mountainous areas**, especially in the **Himalayas**.
- b. In the **Indian Subcontinent**, **cloudbursts** generally occur when a **monsoon cloud** moves northwards from the **Bay of Bengal** or the **Arabian Sea**, across the plains, and then onto the **Himalayas**.
- c. This can bring about **75 millimeters** (about **3 inches**) of rain per hour.

3. Causes:

- a. **Cloudbursts** occur when strong upward currents of **hot air** prevent **raindrops** from falling immediately.
- b. This allows the raindrops to grow larger while new, smaller drops form below. As a result, a significant amount of **water** accumulates in the atmosphere and is released abruptly when the upward currents weaken.
- c. The complex **topography** of the hilly and mountainous areas in the Indian subcontinent helps this process, known as **orographic lifting**.
- d. This occurs when air rises and cools as it travels up the **windward side** of a mountain, enhancing **cloud development** and **rainfall**. **Monsoon dynamics** and **local weather patterns** also influence these intense rainfall events.

Cloudburst vs Rainfall:

1. **Rainfall:** Rain is condensed water that falls from a cloud. It can be light, moderate, or heavy, and it usually happens over a larger area and for a longer duration than a **cloudburst**.
2. **Cloudburst:** A **cloudburst** is a sudden, heavy rainstorm that brings a lot of rain in a short time over a small area. **Rainfall over 10 centimeters** (about **4 inches**) per hour is categorized as a **cloudburst**. **Cloudbursts** are natural phenomena, but they occur quite unexpectedly, very abruptly, and can be very drenching.

Prediction:

1. **Challenges:** There is no satisfactory technique for anticipating the occurrence of **cloudbursts** through **satellites** and **ground monitoring stations**. This



is because **cloudbursts** develop over a small area and for a short period. To detect the likelihood of a **cloudburst**, a very fine network of **radars** is required, which would be expensive.

2. **Current capabilities:** At present, only the areas likely to receive **heavy rainfall** can be identified on a short-range scale. Much of the damage caused by **cloudbursts** can be avoided by identifying the areas and the **meteorological situations** that favor their occurrence.

Examples of Cloudbursts:

1. **Uttarakhand Cloudburst (July 2021):** In July 2021, devastating **cloudbursts** occurred in the districts of **Chamoli, Uttarkashi, and Pithoragarh** in the state of **Uttarakhand, India**. These **cloudbursts** caused **flash floods, landslides, and extensive damage to infrastructure and lives**.
2. **Himachal Pradesh Cloudburst (August 2020):** In August 2020, **cloudbursts** in the districts of **Kullu, Lahaul-Spiti, and Kinnaur** in **Himachal Pradesh** triggered **landslides and flash floods**. These events damaged **roads, bridges, and houses**, causing significant destruction.

Consequences of Cloudbursts:

1. **Flash Floods:** **Flash floods** are sudden, localized surges in water levels during or after intense rainfall. They can start within **6 hours** or even as quickly as **3 hours** of heavy rainfall. **Flash flooding** is typically caused by intense **thunderstorms** but can also result from **dam or levee breaks and mudslides**. Factors like **rainfall intensity, location, land use, topography, vegetation, soil type, and water content** determine the speed and location of **flash flooding**.
2. **Landslides:** A **landslide** is a mass movement of material, such as **rock, earth, or debris**, down a slope. **Landslides** can happen suddenly or more slowly over long periods. Factors like **heavy rainfall, erosion, and weathering** can trigger **landslides**. In India, **landslides** account for about **8%** of global fatalities, with **847 deaths** and thousands displaced from **2001 to 2021**, according to research from **IIT-Madras**. Around **13.17%** of India's area is susceptible to **landslides**, with **4.75%** designated as "very highly

susceptible." **Sikkim** is the most prone state, while **Kerala** has over **14%** of its land in the very high susceptibility category.

3. **Mudflows:** **Mudflows** are a type of **water flow** characterized by their high density and viscosity, containing significant amounts of suspended particles and **silt**. **Mudflows** can only transport and deposit the coarsest materials, leading to irreversible **sediment entrainment**. They typically do not flow as far as regular **water streams**.

Impact of Climate Change on Cloudbursts:

1. **Increased Atmospheric Moisture:** Rising global temperatures allow the atmosphere to hold more **moisture**. This **moisture-laden air** can lead to more intense **cloud formation** and increased potential for **cloudbursts**, especially in mountainous areas like the **Himalayas**.
2. **Changes in Precipitation Patterns:** **Climate change** can shift **precipitation patterns**, causing some regions to experience prolonged dry periods while others face more intense **rainfall** events.
3. **Altered Atmospheric Stability:** Higher temperatures can destabilize the **atmosphere**, leading to increased **convective activity** and more frequent **thunderstorms**, which are often linked to **cloudbursts**.
4. **Glacier Retreat and Snowmelt:** **Melting glaciers** in regions like the **Himalayas**, driven by rising temperatures, are releasing **water** more quickly. This can potentially contribute to **cloudburst** events.
5. **Land Use Changes:** Human activities such as **deforestation** and **urbanization** can alter local climates and **precipitation patterns**. These changes affect **microclimates** in mountainous areas and potentially influence **cloudburst** occurrences.

Ways to Mitigate the Devastating Impact of Cloudbursts:

1. **Early Warning Systems:** Develop effective **early warning systems** to predict **cloudbursts** and provide timely alerts. This allows people to prepare and **evacuate** if necessary, reducing the risk of **injury and death**.
2. **Urban Planning and Infrastructure:** Invest in resilient **urban planning and infrastructure**, such as



stormwater drainage systems, retention ponds, and green spaces. These measures help manage excess **water** and reduce flooding, minimizing the damage caused by **cloudbursts**.

3. **Watershed Management:** Implement practices to manage **watersheds**, like reducing **soil erosion** and increasing **soil infiltration**. These practices help control **water flow** and lessen the impact of **cloudbursts**, reducing the risk of **flash floods** and **landslides**.
4. **Reforestation and Green Infrastructure:** Plant **trees** and maintain **green areas** to absorb excess **water**, reduce **soil erosion**, and stabilize **slopes**. These measures help mitigate the effects of **cloudbursts**, such as **flash floods** and **landslides**.
5. **Awareness and Education:** Educate communities about the risks associated with **cloudbursts** and train them on response and **evacuation procedures**. Ensuring that people are aware of the dangers and know how to react can save **lives** and minimize damage.
6. **Sustainable Land Use Practices:** Promote **land use practices** that reduce vulnerability to **cloudbursts**, such as avoiding construction in **flood-prone areas**, controlling **deforestation**, and implementing **soil conservation measures**. These practices help minimize the impact of **cloudbursts** on communities and the environment.
7. **International Cooperation:** Work with neighboring countries and international organizations to share best practices, **technology**, and resources for managing **cloudbursts**, especially in shared **river basins**. **International cooperation** can help improve the effectiveness of mitigation strategies and reduce the overall impact of **cloudbursts**.

Conclusion:

Cloudbursts in Himachal Pradesh have caused significant damage, loss of life, and destruction of infrastructure. Implementing measures such as early warning systems, resilient infrastructure, watershed management, reforestation, awareness campaigns, sustainable land use practices, and international cooperation can help reduce the devastating effects of

cloudbursts. By working together and taking proactive steps, communities and governments can better manage the risks associated with cloudbursts and protect lives and property.

6. Tripura dam didn't cause Bangladesh floods: India

1. **In August, 2024** severe flooding in Bangladesh has raised concerns about whether water from the Dambur Dam in Tripura, India, might be contributing to the problem.
2. **However**, the Indian government has clarified that the **flooding is due to heavy rainfall in the larger catchment areas of the Gumti River**, which flows through both India and Bangladesh, **rather than from the dam's water release**.

Gumti River and Dambur Dam

1. **Gumti River**
 - a. Also known as **Gomti, Gumati, or Gomati**, the **Gumti River originates in Tripura, India**, and flows through the **Comilla district in Bangladesh**.
 - b. **Tributaries:**
 - **Right Bank:** Kanchi Gang, Pitra Gang, San Gang, Mailak Chhara, and Surma Chhara.
 - **Left Bank:** Ek Chhari, Maharani Chhara, and Ganga.
2. **Dambur Dam**
 - a. **Location:** Built on the Gumti River in Tripura.
 - b. **Specifications:** **Stands 30 meters high and contributes** to power generation, with **40 megawatts of electricity** supplied to Bangladesh.
 - c. **Purpose:** Besides generating electricity, it supports local water needs and contributes to regional infrastructure.
3. **Dumboor Lake**
 - a. **Location:** Situated in **Gandacherra, near Agartala, Tripura**.
 - b. **Formation:** Created by the confluence of the **Raima and Sarma rivers**.
 - c. **Significance:** Known for its diverse fish species and the annual **'Poush Sankranti Mela'** celebrated on January 14th.



Transboundary Rivers of India with Neighboring Countries

1. India-Bangladesh

a. **Shared Rivers:** India and Bangladesh share 54 rivers. Key rivers include:

River	Key Details
Ganges (Padma in Bangladesh)	<ol style="list-style-type: none"> Flows from India into Bangladesh, traversing the Gangetic plain. Left Bank: Gomti, Ghaghara, Gandak, Kosi. Right Bank: Yamuna, Son, Punpun, Damodar. Significant hydrological and economic role; Ganga Water Treaty of 1996.
Teesta	<ol style="list-style-type: none"> Originates in the Himalayas, flows through Sikkim and West Bengal, merges with Brahmaputra and Jamuna rivers. Bangladesh seeks equitable water sharing similar to the Ganges Water Treaty.
Feni	<ol style="list-style-type: none"> Flows south of Agartala, Tripura. Catchment Area: 535 square km in India, the rest in Bangladesh. Maitri Setu bridge connects India and Bangladesh over the Feni River.
Kushiyara	<ol style="list-style-type: none"> Distributary of the Barak River, beginning at Amlshid bifurcation on the India-Bangladesh border. Originates in Assam with tributaries from Nagaland and Manipur.
Brahmaputra (Jamuna in Bangladesh)	<ol style="list-style-type: none"> Originates as Yarlung Tsangpo in Tibet, flows through Arunachal Pradesh, Assam, Meghalaya in India, then through Bangladesh. Tributaries: Subansiri, Kameng, Manas, Dhansiri in India; Teesta in Bangladesh. Confluence with Ganges forms Padma River, merging with Meghna to flow into the Bay of Bengal.
Meghna	<ol style="list-style-type: none"> Formed by the confluence of Surma and Kushiyara rivers in Bangladesh. Known as Upper Meghna up to Chandpur, Lower Meghna thereafter.

4. India-China

a. Brahmaputra River System

- Path:** Includes the Siang (Brahmaputra's main stream), originating in Tibet and flowing through Arunachal Pradesh.
- Tributaries:** Subansiri and Lohit rivers.

b. Indus River System

- Path:** Includes the Indus and its tributaries like the Sutlej.
- Treaties:** Two MoUs between India and China for sharing hydrological data on these rivers.

5. India-Pakistan

a. Indus River

- Path:** Originates in Tibet, flows through Kashmir, and continues south to the Arabian Sea.
- Controversy:** Water-sharing issues have been significant since independence.

b. Sutlej

- Path:** Originates in Tibet, flows through Himachal Pradesh and Punjab, joining the Beas before merging with the Chenab to form the Panjnad River.

c. Chenab

- Path:** Originates in Himachal Pradesh, flows through Jammu and Kashmir, and into Pakistan.
- Confluence:** Joins the Jhelum near Trimmu.

d. Jhelum

- Path:** Originates in Kashmir, flows through Jammu and Kashmir, and into Pakistan.

e. Beas

- Path:** Originates in Himachal Pradesh, flows through Punjab, and joins the Sutlej River.



f. Ravi

- i. **Path:** Originates in Himachal Pradesh, flows through Punjab, and joins the Chenab River.
- ii. **Treaty:** The 1960 Indus Waters Treaty allocates control of the Beas, Ravi, and Sutlej rivers to India, and the Indus, Chenab, and Jhelum rivers to Pakistan.

6. India-Nepal

a. Kosi

- i. **Path:** A major tributary of the Ganges, originating in the Himalayas, flows through Nepal and Bihar.
- ii. **Characteristics:** Known for its frequent course changes and flooding, earning the nickname “sorrow of Bihar.”

b. Gandak

- i. **Path:** Originates in Tibet, flows through Nepal and Bihar before merging with the Ganges.
- ii. **Tributaries:** Includes Mayangadi, Bari, Trisuli, Panchand, Sarhad, and Budhi Gandak.

c. Sharda/Kali/Mahakali River

- i. **Path:** Originates at Kalapani in Uttarakhand, flows along the India-Nepal border, and merges with the Ghaghra River.
- ii. **Project:** The Pancheshwar Dam is a joint India-Nepal project for irrigation and hydroelectric power.

- d. **Dispute:** India and Nepal have historical disagreements over the interpretation of the Sugauli Treaty 1816, which affects the boundary along the Mahakali River.

Conclusion

Transboundary rivers are crucial for the economies and ecosystems of multiple countries, including India and its neighbors. These rivers facilitate vital water resources but also present complex challenges related to water sharing and management. India's agreements with neighboring countries, such as the Indus Waters Treaty with Pakistan and the Ganges Water Treaty with Bangladesh, aim to address these issues. Despite the progress, ongoing disputes and environmental concerns require continued cooperation and effective management to ensure sustainable use and equitable distribution of these essential water resources.

7. No Plans to Include Heatwave as ‘Notified Disaster’

1. India experienced unprecedented **heatwaves** this year, resulting in hundreds of deaths.
2. However, the government has **stated that there are currently no plans to classify heatwaves as a notified disaster**, which would make them eligible for **financial assistance under the Disaster Management Act, 2005**.

Government's Stance:

1. **Parliamentary Announcement:** On July 25, 2024, Minister of State for the Union Ministry of Science and Technology and Earth Sciences, **informed the Lok Sabha that the 15th Finance Commission had considered including more calamities** in the existing **notified** list but declined to include **heatwaves**.

Current Notified Disasters:

The **notified list** of disasters eligible for National Disaster Response Fund/State Disaster Response Fund (SDRF) assistance includes: Cyclone, Drought, Earthquake, Fire, Flood, Tsunami, Hailstorm, Landslide, Avalanche, Cloud burst, Pest attack and Frost and cold wave

Impact and Statistics:

1. **Heatwave Days:** According to the India Meteorological Department (IMD), the country saw 536 **heatwave days** this summer, the most in 14 years.
2. **Criteria for Heatwave:** IMD declares a **heatwave** when a place's temperature **exceeds 40°C in the plains, 37°C in coastal areas, and 30°C in the hills**.
3. **Regional Impact:** The northwest region of the country witnessed the warmest June since 1901. **Death Toll:** India has seen 10,635 deaths due to **heat** or sunstroke in the 10-year period from 2013 to 2022.

Government Measures:

1. **Steps Taken:** The government has taken several steps to minimize loss of life and property during **heatwaves**, including issuing heat index forecasts, early warnings, and implementing heat action plans (HAPs) and advisories.
2. **Limitations:** Down To Earth reported that advisories and HAPs have been ineffective for protecting



vulnerable groups, especially informal workers, as these are not binding and lack regulatory backup.

- 3. International Concerns:** The International Labour Organization flagged the risk of excessive heat to workers worldwide, highlighting the significant risks faced by informal sector workers in India.

State Relief Provisions:

Local Disaster Relief: If a state government wants to provide relief to victims of natural disasters not included in the **notified list**, it can use up to **10% of the annual fund allocation of the SDRF**, subject to fulfillment of certain prescribed conditions and norms.

About Notified Disasters:

- 1. Definition:** The **Disaster Management Act, 2005**, defines a **disaster** as a “**catastrophe, mishap, calamity or grave occurrence**” arising from natural or **man-made** causes that results in substantial loss of life, destruction of property, or **damage to the environment**.
- 2. Current Classification:** Currently, 12 disasters are classified as **notified disasters**, eligible for National Disaster Response Fund/State Disaster Response Fund (**SDRF**) assistance.

Key Facts About National Disaster Management Authority (NDMA)

- 1. Role:** NDMA plays a crucial role in laying down policies, plans, and guidelines for disaster management in India.
- 2. Aim:** To promote a national resolve to mitigate the damage and destruction caused by natural and man-made disasters through sustained and collective efforts.

National Disaster Response Fund (NDRF): Constituted under Section 46 of the Disaster Management Act, 2005, NDRF supplements the State Disaster Response Fund (SDRF) in case of a disaster of severe nature, provided adequate funds are not available in SDRF.

Strategic Implications:

- 1. Policy Review:** The decision not to include **heat waves** as **notified disasters** highlights the need for a review of disaster management policies to address emerging climate-related risks.

- 2. Vulnerable Groups:** The impact on informal workers underscores the necessity for more robust and binding measures to protect vulnerable populations.
- 3. Global Context:** India’s experience with **heat waves** aligns with global concerns about the impact of climate change on worker safety and public health.

8. Uttarakhand launches World’s 1st GEPI

In August 2024, Uttarakhand has become the 1st state in the world to launch a Gross environment product Index (GEPI).

Key Points:

- 1. What is the GEP Index?**
 - a.** This Index does not only **calculate** what **services we get from the environment** but also what we **put back into the environment**.
 - b. Four Pillars of GEP Index-** Air, Soil, Water, and Trees.
- 2. How Does It Work?**
 - a. Formula:** $GEP\ Index = (Air-GEP\ Index + Water-GEP\ Index + Soil-GEP\ Index + Forest-GEP\ Index)$.
 - b. Forest Measurement:** Counts the new trees planted, their types (e.g., **broad-leafed vs. pine**), and their survival rates. It also subtracts the number of trees cut down.
 - c. Water Assessment:** Measures human efforts in water conservation, like building water reservoirs, and compares this with natural water recharge (e.g., **rainfall**).
 - d. Soil and Air Quality:** Evaluates improvements in soil health and air quality.
- 3. Current Status**
 - a. Challenges:** There are **concerns about how the GEP will work on a larger scale** and whether the methods used to calculate it are scientifically sound.

Conclusion:

The Gross Environment Product Index is a pioneering approach to environmental measurement. It aims to offer a clearer picture of how human actions affect the environment and promote better conservation practices. However, it also faces challenges and criticisms that need to be addressed for it to be fully effective.



9. India Assumes the Chair of ADPC

1. India has taken over the Chair of ASIAN DISASTER PREPAREDNESS CENTRE (ADPC) from People Republic of China for the year 2024-25.
2. This move underscores **India's commitment** to regional cooperation in **disaster risk reduction** and **climate resilience**.

About the Asian Disaster Preparedness Centre (ADPC)

1. **Establishment:** Founded in 1986, ADPC is an autonomous international organization dedicated to cooperation and implementation of **disaster risk reduction** and building **climate resilience** in **Asia and the Pacific region**.
2. **Vision:** "Safer communities and sustainable development through **disaster risk reduction**."
3. **Geographical Remit:** **Asia and the Pacific**.
4. **Member Countries:** The founding members include **India, Bangladesh, Cambodia, China, Nepal, Pakistan, Philippines, Sri Lanka, and Thailand**.
5. **Governance:** The organs of ADPC, as defined in the **ADPC Charter**, include the **Board of Trustees**, the **Executive Committee**, the **Advisory Council**, and the **Regional Consultative Committee (RCC)**, which serve as the governing or advisory bodies of ADPC.
6. **Charter:** The ADPC's **international Charter** was signed by the nine founding member countries and was put into effect in **2018** through the ratification by all founding members.
7. **Current Status:** As of **January 2020**, ADPC operates as an autonomous international organization governed by the **Board of Trustees**.
8. **Headquarters:** **Bangkok, Thailand**, with sub-centers in the countries of operation serving as the operational parts of ADPC.

What is Disaster Risk Reduction (DRR)?

Disaster Risk Reduction (DRR) is the concept and practice of reducing disaster risks through systematic efforts to analyze and reduce the causal factors of disasters. This involves a range of activities aimed at **preventing new disaster risks, reducing existing risks,**

and managing residual risks, thereby contributing to sustainable development.

Strategic Implications

1. **Regional Leadership:** **India's** assumption of the **ADPC Chair** highlights its growing influence and leadership in regional **disaster management** and **climate resilience** efforts.
2. **Global Initiatives:** This move aligns with **India's** broader global initiatives in **DRR**, such as the establishment of the **Coalition for Disaster Resilient Infrastructure (CDRI)**.
3. **Collaboration:** The chairmanship provides an opportunity for **India** to collaborate more closely with neighboring countries and international organizations to enhance **disaster preparedness** and **response capabilities**.

Conclusion:

India's assumption of the **ADPC Chair** is a significant step in its ongoing efforts to lead regional and global initiatives in **disaster risk reduction**. This move underscores **India's commitment** to safer communities and sustainable development through effective **disaster management** strategies.

10. Chile's Atacama salt flat sinking due to lithium mining

A new study reveals **land subsidence in Chile's Atacama salt flat due to lithium mining, with the land sinking at 1 to 2 centimeters per year**.

Key Issues and Environmental Impact

1. **Land Subsidence:**
 - a. **Cause:** **Lithium brine** extraction involves **pumping salty groundwater, or brine, rich in lithium from underground aquifers to the surface**. The **brine is left in large ponds, where the water evaporates over time**, leaving behind lithium and other minerals. The lithium is then processed and purified for use in batteries and other products.
 - i. **Brine is a highly concentrated solution of salt in water**. In the context of **lithium extraction, brine refers to salty**



groundwater that contains **dissolved minerals, including lithium, potassium, and other salts**. This brine is **usually found in underground reservoirs or salt flats** and is pumped to the surface for mineral extraction.

- b. The problem is that this process **removes water from underground aquifers faster than it can naturally replenish**. As water levels drop, the **land above can sink**, leading to ground subsidence.
2. **Water Usage:**
 - a. **High Consumption:** Producing one ton of lithium **requires about 2,000 tons of water**, exacerbating **water scarcity** in the Atacama Desert, which is already an arid region.
 3. **Chemical Contamination:**
 - a. **Pollution:** The use of **chemicals like sulfuric acid and sodium hydroxide in lithium** extraction contaminates soil and water. This pollution harms local ecosystems and wildlife.
 4. **Impact on Wildlife:**
 - a. **Flamingo Decline:** Reduced water levels in the Atacama have led to a **decline in flamingo populations**, affecting their breeding and survival.
 5. **Potential Effects in Reasi (J&K):**
 - a. **Water Crisis:** Water-intensive lithium mining **could worsen existing water scarcity issues in Reasi**, where villages are already struggling due to dried-up streams.
 - b. **Biodiversity Threat:** Mining could damage habitats in the **biodiversity-rich Himalayan region**, affecting species such as migratory birds and causing food insecurity.
 - c. **Pollution Risks:** Mining could pollute water sources in the Himalayas, impacting the riparian ecosystems that are crucial for local rivers.

Key Facts about Lithium

1. Lithium, known as **“white gold,”** is highly sought after for use in rechargeable batteries, including those in laptops, mobile phones, and electric vehicles, which are essential for climate change mitigation.

2. Environmental Impact of Lithium Mining:

- a. **Water Usage:** Producing lithium through brine evaporation requires large quantities of fresh water. In the Atacama Desert, it takes 2,000 tons of water to produce one ton of lithium, causing water scarcity issues for indigenous communities and wildlife.
- b. **Chemical Pollution:** Chemicals used in lithium extraction, such as sulfuric acid and sodium hydroxide, contaminate soil and water, harming ecosystems and endangering species.

3. Physical and Chemical properties of Lithium (atomic number 3)

- a. It belongs to an alkali metal group, lightest of the solid elements (can float on water). It is soft, white and lustrous.
- b. It has the lowest density of any metal.
- c. It has high specific heat which is the calorific capacity. Other properties are its enormous temperature interval in the liquid state, high thermal conductivity.
- d. It is also found in brine deposits and as salts in mineral springs.
- e. It constitutes about 0.002 percent of Earth’s crust.
- f. It is produced by electrolysis of a fused mixture of lithium and potassium chlorides.

Global Reserves:

1. **Chile:** Holds the **largest reserves of lithium (36% of global reserves)** and is the **second-largest producer (32% of global supply)**. Chile is part of the **“lithium triangle” with Argentina and Bolivia**.
2. **Other Producers:** **Australia and China are the largest and third-largest global producers**, respectively.

Lithium reserves in India

1. The ancient igneous rock deposits in the Karnataka’s Mandya district holds the first traces of Lithium ever to be discovered in India. But it is merely 1,600 tonnes.
2. But in a big development, recently 5.9 million tonnes of lithium reserves found for the 1st time in Jammu and Kashmir.
3. India currently imports all of its lithium batteries.



About the Atacama Desert

1. **Location:** Situated in northern Chile between the Andes Mountains and the Cordillera de la Costa.
2. **Climate:** Extremely arid, shielded from rain by the Andes and influenced by cold ocean currents that inhibit cloud formation.
3. **Temperature:** Mild average temperature of around 18°C due to the temperate climate.
4. **Mineral Resources:**
 - a. **Salt Deposits:** Rich in thick salt deposits.
 - b. **Other Minerals:** Contains significant amounts of lithium, copper, and iodine.
 - c. **Protected Areas:** Includes Pan de Azúcar National Park, one of the few large protected areas in the desert.

11. India's 3 More Wetlands Added To Ramsar Sites List

In August 2024 central government has designated the Nanjarayan Bird Sanctuary and Kazhuveli Bird Sanctuary in Tamil Nadu, along with the Tawa Reservoir in Madhya Pradesh, as 3 new Ramsar Sites.

- a. With these additions, **India's total number of Ramsar Sites has increased to 85.**
- b. **Tamil Nadu now leads with the highest number of Ramsar Sites (18)**, followed by Uttar Pradesh with 10.

About Wetland

1. An area of land that is saturated with water.
2. Wetland must meet at least 1 of 9 criteria like regularly supports 20,000 or more water birds, or conserving biological diversity etc.

Key Facts About the New Ramsar Sites:

1. **Nanjarayan Bird Sanctuary:**
 - a. **Location:** Northeastern Uthukuli Taluk, Tiruppur District, Tamil Nadu.
 - b. **Size:** 125.865 hectares.
 - c. **Historical Context:** Restored centuries ago by a **local King Nanjarayan.**
 - d. **Water Source:** Relies on rainfall from Nallar drainage and supports agriculture and groundwater recharge.

- e. **Bird Species:** Home to species such as the Bar-headed Goose, Northern Shoveler, Spot-billed Pelican, and Heronry.
- f. **Management:** Tamil Nadu's 17th bird sanctuary, managed by the local community and forest department.

2. Kazhuveli Bird Sanctuary:

- a. **Location:** Coromandel Coast, Villupuram District, **north of Pondicherry.**
- b. **Size:** 5151.6 hectares.
- c. **Features:** Large brackish lake connected to the Bay of Bengal via **Uppukalli creek and Edayanthittu Estuary.**
- d. **Wetland Types:** Includes estuarine, creek-fed brackish, and freshwater basins.
- e. **Vegetation:** Contains degraded mangrove patches with Avicennia species and reed beds (*Typha angustata*).

3. Tawa Reservoir:

- a. **Location:** Confluence of the Tawa and Denwa rivers near Itarsi town, **Madhya Pradesh.**
- b. **Purpose:** Originally built for irrigation, now supports power generation and aquaculture.
- c. **Surroundings:** Lies within the **Satpura Tiger Reserve, bordering Satpura National Park and Bori Wildlife Sanctuary.**
- d. **Tributaries:** Major tributaries include River Malani, Sonbhadra, and Nagdwari.
- e. **Wildlife:** Hosts Spotted Deer and Painted Stork.

What is the Ramsar Convention?

1. The **Ramsar Convention is an international treaty signed in 1971 in Ramsar, Iran, with the aim of conserving wetlands of international importance. It is managed under the auspices of UNESCO.**
2. In India, the **Convention was adopted on February 1, 1982. Ramsar Sites are designated to recognize and protect wetlands that are crucial for global biodiversity.**
 - **Montreux Record:** A part of the Ramsar List, this record includes wetland sites where changes in ecological character have occurred, are occurring, or are **likely to occur due to technological developments, pollution, or other human activities.**



12. *Ceropegia Shivrayiana*: New Flowering Plant Species

In August, 2024 A new flowering plant species from the *Ceropegia* genus, named *Ceropegia shivrayiana* after Chhatrapati Shivaji Maharaj, was discovered at Vishalgad Fort. This discovery, announced in a publication in the international journal *Phytotaxa*, highlights the rich biodiversity of the region.

Details of the Discovery:

- Plant Species:** *Ceropegia shivrayiana* is a newly identified species of the *Ceropegia* genus.
- Discovery Team:** The plant was discovered by Akshay Jangam, Ratan More, and Dr. Nilesh Pawar from New College in Kolhapur, Dr. Sharad Kamble from Nashik, and Prof. Dr. S. R. Yadav from Shivaji University, Kolhapur.
- Publication:** The research was published in *Phytotaxa*, an international journal based in New Zealand.

Significance of the Discovery:

- Naming:** The plant is named in honor of Chhatrapati Shivaji Maharaj.
- The name acknowledges Shivaji Maharaj's legacy and the historical significance of Vishalgad Fort.
- Botanical Importance:** This discovery contributes to India's botanical heritage and underscores the ecological value of the Vishalgad region.

About *Ceropegia shivrayiana*:

- Description:** The plant features unique, tubular flowers adapted to attract moths for pollination.
- Habitat:** It thrives in rocky terrains and can grow in nutrient-poor soils.
- Family:** It belongs to the Asclepiadaceae family, which includes many medicinal plants.
- Threats:** The plant faces conservation concerns due to habitat loss.

Vishalgad Fort:

- Location:** Situated in Vishalgad village, Kolhapur district, Maharashtra.
- History:** Originally built in 1058 by Shilahara king Marsinh, it was known as Khilgil. It was

later controlled by various dynasties before being captured by Shivaji Maharaj in 1659, who renamed it Vishalgad.

3. Famous Structures:

- Dargah:** Hazrat Sayed Malik Rehan Meera Saheb, a popular tourist site.
- Temples:** Includes Amruteshwar Temple, Shri Nrusinha Temple, and Sati's Vrindavan.

Conclusion:

The discovery of *Ceropegia shivrayiana* at Vishalgad Fort not only enhances our understanding of the region's flora but also honors the legacy of Chhatrapati Shivaji Maharaj. This new species enriches India's botanical diversity and emphasizes the need for conservation efforts in the face of ongoing habitat challenges. The find highlights the intersection of natural heritage and historical significance, celebrating both the ecological richness and the enduring legacy of a historic figure.

13. Malaysia's Orangutan Diplomacy

Recently, Malaysia has withdrawn its proposal to gift ape species orangutans to countries that import Malaysian palm oil, inspired by China's "panda diplomacy."

- Instead, the new plan invites importers to "sponsor" orangutans, with the funds going towards their conservation in Malaysia.
- Malaysia, the second-largest palm oil producer (after Indonesia) is facing pressure to make its palm oil industry more sustainable due to its links to deforestation, which threatens orangutan habitats.
- About Orangutan (*Pongo*):** The Malay word orangutan means "person of the forest."
 - These are highly intelligent, long-haired, orangish primates found only in Borneo and Sumatra.
 - There are 3 species: Bornean, Sumatran, and Tapanuli.
 - They have long arms and gripping hands and feet for moving through trees, eating fruit, and playing a key role in seed dispersal.
 - Unlike other great apes, they are more solitary and communicate primarily through facial expressions and body language. They are



endangered due to **rapid deforestation, largely driven by palm oil plantations.**

e. **IUCN Status:** Critically Endangered

4. Recently, Malaysia and India have upgraded their existing Enhanced Strategic Partnership to a **Comprehensive Strategic Partnership.**

14. Neelakurinji: A Once-in-12-Years Bloom Now Threatened

1. Neelakurinji, the mesmerizing flowering shrub renowned for its rare blooming cycle of 12 years, has been officially declared as Vulnerable on the IUCN Red List.
2. This iconic species, scientifically known as *Strobilanthes kunthiana*, was previously not evaluated under IUCN standards due to its unique life cycle and ecological complexities.
3. *Strobilanthes kunthiana* is an **endemic shrub of three-metre height**, seen only in the **high-altitude shola grassland ecosystems** of five mountain landscapes of southwest **India at an elevation of 1,340–2,600 m.**
 - a. The scientific name of the Neelakurinji is named after the **Kunthi River in Kerala's Silent Valley National Park** where it is abundantly found.
 - b. They are **semelparous** (reproducing only once in a lifetime) with **showy synchronous blooming and fruiting** every 12 years at the end of the life cycle.
 - c. Known for their massive blooming, they impart **purplish-blue colours to the mountain grasslands** and are popularly known as **Neelakurinji (*Blue Strobilanthes*) blooms.**
 - d. The species has **34 subpopulations within 14 ecoregions of the high-altitude mountain ranges of southwest India**, with 33 subpopulations in the **Western Ghats and one in the Eastern Ghats** (Yercaud, Shevaroy Hills).
 - i. Most subpopulations are in the **Nilgiris of Tamil Nadu**, followed by Munnar, Palani-Kodaikanal, and Anamalai mountains.
4. **Main Threats:** Major threats include habitat loss from tea and softwood plantations, urbanisation, invasive species, and climate change. **Approximately 40% of its habitat has been lost.**

15. Asna: Uncommon Cyclones in the Arabian Sea

1. Unlike typical cyclones that form over warm ocean waters, **Asna originated as a deep depression** over land in Gujrat and poised to intensify **into a tropical cyclone** over the Arabian Sea.
2. The name Asna means **“the one to be acknowledged or praised”** and was given by **Pakistan.**
 - a. According to IMD, this is the first cyclone that has formed in August in the **North Indian Ocean (NIO)** region since 1981 and first in the Arabian Sea since 1976. There have been 32 previous cyclones in the NIO region in August and only four in the Arabian Sea between 1891 and 2023.
 - b. **Possible reasons:** Unusual monsoon wind system, moisture from the Arabian Sea and soil moisture from the lands, warming of Indian Ocean, etc.


Tropical Cyclones

1. It is a **rapidly rotating storm** that begins over tropical oceans.
2. Cyclones are classified as **extratropical cyclones** (temperate cyclones); and **tropical cyclones.**
3. Known as **typhoons** (China Sea & Pacific Ocean); **hurricanes** (Caribbean Sea & Atlantic Ocean); **tornadoes** (West Africa & southern USA); & **willy-willies** (Australia).

Favourable Conditions for Tropical Cyclones: The Perfect Storm

1. **Warm Ocean Waters:** The primary fuel for a tropical cyclone is warm ocean water. **Sea surface temperatures need to be at least 27°C (80°F)** for a cyclone to develop and intensify. Warm waters provide the energy and moisture that these storms thrive on.
2. **Coriolis Force:** The Earth's rotation creates the Coriolis force, which causes winds to deflect to the **right in the Northern Hemisphere** and to the **left in the Southern Hemisphere.** This force is essential for the spinning motion characteristic of tropical cyclones.
 - It's important to note that tropical cyclones **don't form near the equator** because the Coriolis force is weak there.



-  3. **Low Wind Shear:** Wind shear refers to changes in wind speed and direction with altitude. Low wind shear is favourable for cyclone development because it allows the storm to maintain its structure and prevents it from being disrupted.
4. **Pre-existing Disturbance:** A pre-existing weak low-pressure area or disturbance in the atmosphere often serves as the seed for a tropical cyclone. This disturbance provides the initial focus for the storm's development.

In India

- India is exposed to **nearly 10 % of the world's tropical cyclones**, which occur in **May-June** and **October-November**.
- More cyclones occur in the Bay of Bengal than Arabian Sea** and the ratio is approximately 4:1.
- However, cyclones are becoming more **frequent on the western coast** due to **climate crisis** and the **warming of the Arabian Sea**.

Conclusion

The recent occurrence of Cyclone **Asna** in the Arabian Sea highlights the changing dynamics of cyclone formation in the region. **Climate change** is influencing **cyclogenesis** by altering **sea surface temperatures**, **atmospheric conditions**, and **oceanic interactions**. As the Indian Ocean continues to warm and climate patterns shift, the frequency and behavior of cyclones are expected to become more unpredictable. Understanding these changes is crucial for improving forecasting and preparedness for future extreme weather events.

16. Ballast Water issue in India

- In August 2024, the Tamil Nadu Water Resources Department (WRD) informed the National Green Tribunal that it had requested ₹160 crore from Kamarajar Port in Ennore to address the issue of invasive mussels along the coast.
- The WRD accused the port of being responsible for the spread of invasive species due to **inadequate regulation of ballast water from ships**.
- This demand is part of an ongoing case concerning the proliferation of **Mytella strigata**, or **charru**

mussel, which is damaging marine ecosystems and obstructing fisher boat movements, thereby affecting local livelihoods.

What is Ballast Water?

- Ballast water is fresh or saltwater kept in tanks on ships to maintain stability and proper movement, particularly when the ship isn't carrying enough cargo or faces rough seas.
- When ships load containers, they release the ballast water to balance the weight. This water often contains organisms like bacteria and small animals.
- Once discharged in a different location, it can introduce invasive species, potentially causing damage to the local ecosystem.

How Serious is the Problem?

- In India, scientists have identified nearly 30 invasive species associated with ship ballast water. One of the most harmful is the **charru mussel, Mytella strigata**.
- According to Biju Kumar, a professor and head of the Department of Aquatic Biology and Fisheries at the University of Kerala, this mussel has displaced nearly all native species in areas like Pulicat Lake in Tamil Nadu and Ashtamudi Lake in Kerala. Its exceptionally **high survival and reproductive rates** enable it to dominate these ecosystems.
- While primarily a marine species, the charru mussel can also **thrive in freshwater environments**.

What are the Impact of Ballast Water and Invasive Species on Coastal Regions?

- Altered Food Chains:** Invasive species disrupt local food webs by competing with native species for resources.
- Habitat Modification:** Invasive species can alter coastal habitats, making them unsuitable for native flora and fauna.
- Disease Transmission:** Invasive species frequently carry pathogens that can harm native species. This situation exacerbates declines in biodiversity and poses a threat to the health of local marine ecosystems.
- Economic Consequences:** The spread of invasive species can **hinder fishing activities**, directly impacting the livelihoods of local communities that rely on marine resources.



5. **Tourism Impact:** The degradation of coastal ecosystems due to invasive species can deter tourists, negatively affecting regions known for their natural beauty and biodiversity.

Global Regulations on Ballast Water Management

1. **BWM Convention:** The **Ballast Water Management (BWM) Convention** of the International Maritime Organization (IMO) came into **effect in 2017** to prevent the spread of harmful aquatic organisms and pathogens through ships' ballast water.
2. **Management Requirements:** As of September 8, 2017, ships are required to manage their ballast water to ensure that aquatic organisms and pathogens are removed or rendered harmless before being discharged at new locations.
3. **Strict Enforcement in Australia and New Zealand:** Australia and New Zealand are among the countries most committed to preventing ballast water from damaging their marine ecosystems. Australia, home to ecologically sensitive areas like the Great Barrier Reef, imposes rigorous checks on ships, including their ballast water management systems, to mitigate potential harm from ballast water discharge.
4. **Ballast Water Management Systems:** Newly constructed ships are equipped with functioning ballast water management systems. These systems continuously treat a portion of the ballast water taken in after cargo discharge, they use chemicals to eliminate any biological organisms before the water is released during loading.
5. **Older Ships Compliance:** Ships built before the BWM Convention that lack proper management systems must exchange the ballast water taken in at ports **with "neutral" water** from the open ocean while enroute (on the way) to the loading port.

India's Position on Ballast Water Management

1. **Lack of Participation:** As of July 2, 2024, documents from the International Maritime Organization (IMO) indicate that **97 countries have signed** the Ballast Water Management (BWM) Convention as contracting states, **but India is not among them.**

2. **No Enforcement Obligation:** Since India is not a signatory, ships calling at Indian ports are not obligated to enforce the BWM Convention.
3. **Regulatory Gaps:** While other regulations, such as those related to oil discharge, are enforced in Indian ports, there are currently no checks or regulations on the discharge of ballast water brought in from other countries.

Way Forward

1. **Ratification of the BWM Convention:** India should sign the Ballast Water Management (BWM) Convention to align with global standards and enhance marine ecosystem protection.
2. **Establishing Regulations:** Implement comprehensive regulations for ballast water discharge, including monitoring and enforcement mechanisms to ensure compliance by all vessels.
3. **Increasing Awareness:** Promote awareness and training programs for port authorities and shipping companies about the risks associated with ballast water and best management practices.
4. **Supporting Research and Monitoring:** Invest in research and monitoring efforts to understand the impacts of invasive species on marine ecosystems and track their introduction and spread.

17. *Ceropegia Shivrayiana*: New Flowering Plant Species

In August, 2024 A new flowering plant species from the *Ceropegia* genus, named *Ceropegia shivrayiana* after **Chhatrapati Shivaji Maharaj**, was discovered at **Vishalgad Fort**. This discovery, announced in a publication in the international journal *Phytotaxa*, highlights the rich biodiversity of the region.

Details of the Discovery:

1. **Plant Species:** *Ceropegia shivrayiana* is a **newly identified species of the *Ceropegia* genus.**
2. **Discovery Team:** The plant was discovered by Akshay Jangam, Ratan More, and Dr. Nilesh Pawar from New College in Kolhapur, Dr. Sharad Kamble from Nashik, and Prof. Dr. S. R. Yadav from Shivaji University, Kolhapur.



3. **Publication:** The research was published in *Phytotaxa*, an international journal based in New Zealand.

Significance of the Discovery:

1. **Naming:** The plant is named in honor of Chhatrapati Shivaji Maharaj.
2. The name acknowledges Shivaji Maharaj's legacy and the historical significance of Vishalgad Fort.
3. **Botanical Importance:** This discovery contributes to India's botanical heritage and underscores the ecological value of the Vishalgad region.

About *Ceropegia shivrayiana*:

1. **Description:** The plant features unique, tubular flowers adapted to attract moths for pollination.
2. **Habitat:** It thrives in rocky terrains and can grow in nutrient-poor soils.
3. **Family:** It belongs to the Asclepiadaceae family, which includes many medicinal plants.
4. **Threats:** The plant faces conservation concerns due to habitat loss.

Vishalgad Fort:

1. **Location:** Situated in Vishalgad village, Kolhapur district, Maharashtra.
2. **History:** Originally built in 1058 by Shilahara king Marsinh, it was known as Khilgil. It was later controlled by various dynasties before being captured by Shivaji Maharaj in 1659, who renamed it Vishalgad.
3. **Famous Structures:**
 - a. **Dargah:** Hazrat Sayed Malik Rehan Meera Saheb, a popular tourist site.
 - b. **Temples:** Includes Amruteshwar Temple, Shri Nrusinha Temple, and Sati's Vrindavan.

Conclusion:

The discovery of *Ceropegia shivrayiana* at Vishalgad Fort not only enhances our understanding of the region's flora but also honors the legacy of Chhatrapati Shivaji Maharaj. This new species enriches India's botanical diversity and emphasizes the need for conservation efforts in the face of ongoing habitat challenges. The find highlights the intersection of natural heritage and historical significance, celebrating both the ecological richness and the enduring legacy of a historic figure.

18. Lake Turkana: First Comprehensive Survey in 50 Years

In August, 2024, the initial findings from the research project led by UNESCO and the World Food Programme (WFP), revealed high fish potential in Lake Turkana.

1. In November 2023, a new 10-year project funded by the Dutch Government and implemented by WFP and UNESCO, in collaboration with Turkana and Marsabit counties and the State Department of Blue Economy and Fisheries in Kenya started.
2. The project aims to sustainably explore the economic potential of Lake Turkana, enhancing food security and economic well-being of vulnerable populations around the lake amidst climate change by adopting an integrated food systems approach.

Preliminary Results:

1. The first lake-wide survey took place over two weeks in May-June 2024.
2. Preliminary findings indicate a high abundance of fish across Lake Turkana, with notable concentrations in specific regions.
3. Results show a substantial presence of both large and small pelagic species, particularly in the central and northern sectors of the lake. Small pelagic species, which are abundant and productive but currently underutilized, are of particular interest.

About Lake Turkana :

1. **Size:** Lake Turkana is Africa's fourth-largest lake (approximately 7,500 km²) and the largest permanent desert and alkaline lake in the world. By volume it is the world's fourth-largest Salt Lake after the Caspian Sea, Issyk-Kul, and Lake Van.
2. **Biodiversity:** The lake hosts 79 fish species, including 12 endemic species, and the largest population of Nile crocodiles.
3. **Water Source:** The Omo River contributes over 90% of the lake's inflow. An influx of 19 km³/year is needed for balance, but the average rainfall over the lake is less than 200 mm/year.



4. **Significance:** The lake provides resources for communities on the lakeshore and surrounding areas, with an estimated population of **1 million people** dependent on **fishing**, and to a lesser extent, **crop farming**.
5. **Protection status:** The Lake Turkana National Parks site was inscribed on the **World Heritage List** in **1997** known for its unique **biodiversity** and **cultural significance**.
6. **Historical Surveys:** The last lake-wide **acoustic survey** was conducted by **Hopson** in **1974**.

Challenges:

1. The **semi-saline waters** of Lake Turkana, driven by high **evaporation rates** and fluctuating lake levels (up to **8 meters per decade**), have historically hindered **sustainable development**.
2. Previous attempts to commercialize the fishery have largely failed due to a lack of understanding of the lake's **volatile conditions**.

19. IFM Guidelines to Combat Wildfire Risks

The Food and Agriculture Organization (FAO) has recently updated its voluntary guidelines for **Integrated Fire(wild) Management (IFM)** after two decades. These new guidelines, developed by the **Global Fire Management Hub (GFMH)** launched by **FAO and UNEP in 2023**, aim to address the evolving challenges of wildfire risks.

Key Principles of IFM

The IFM guidelines emphasize a holistic approach to fire management, encompassing **economic, environmental, equity, and human health** considerations.

- a. **Economic:** Maximizing benefits and minimizing wildfire losses through efficient fire management programs.
- b. **Environmental:** Integrating **climate change, vegetation, and fire regimes** into fire planning and management.
- c. **Equity:** Considering the diverse impacts of fire on various stakeholders, including **gender-specific considerations**.

- d. **Human health:** Implementing **early detection and warning systems**, along with adapting **fire danger ratings** based on reliable weather forecasts.

Key Strategic Actions of IFM

The guidelines outline several strategic actions for effective fire management:

- a. **Integrated Fire Management:** Taking proactive measures before, during, and after a fire, including preventing the introduction of invasive species during fire suppression.
- b. **Planned fire:** Utilizing planned fires within defined parameters in **fire-dependent ecosystems** as part of wildfire prevention.
- c. **Fire Awareness Programmes:** Developing culturally and socially sensitive programs that acknowledge the traditional uses of fire for agriculture, forestry, and other purposes.
- d. **Knowledge transfer:** Fostering collaboration among scientists, Indigenous Peoples, and local experts to enhance policies, regulations, and practices.

Forest Fire Risk in India

- a. **Fire-Prone Areas:** According to the **2021 India State of Forest Report (ISFR)** by the Forest Survey of India, **35.47% of the country's forest cover is fire-prone**.
- b. **Fire Season:** The forest fire season in India runs from November to June, with most fires occurring between February and May. **April and May** are usually the worst months for forest fires.

Significance

These updated IFM guidelines offer a **comprehensive framework** for countries to manage wildfire risks effectively. By emphasizing a **multi-faceted approach** that considers economic, environmental, social, and health aspects, the guidelines promote sustainable and **resilient fire** management practices. The collaboration with **Indigenous Peoples and local communities** further ensures that traditional knowledge and practices are integrated into fire management strategies.





G. SOCIETY AND CULTURE

1. Annapurthi: India's first 24/7 'Grain ATM'

India's first 24/7 'Grain ATM,' called 'Annapurthi,' will be set up across Odisha to provide food grains to beneficiaries with 24/7 access under the National Food Security Act (NFSA).

- NFSA entitles up to 75% of the rural population and 50% of the urban population to receive subsidized food grains.

About Annapurthi

1. It is a Made-in-India product (designed and developed by WFP India).
2. It dispenses the type and quantity of the selected grain (wheat, rice or millet) to each beneficiary, after biometric authentication.
3. It can provide universal access to food grains and reduce the waiting time by 70%.
4. It is energy efficient and can be connected to solar panels for automatic refilling.
5. At the 2022 WFP Innovation Awards, it was recognized as one of the WFP's top 5 innovative solutions for disrupting hunger.

About UN World Food Programme (WFP)

1. Established in 1961 by the United Nations to help alleviate world hunger.
2. world's largest humanitarian organization saving lives in emergencies and providing food assistance.
3. WFP is awarded the Nobel Peace Prize in 2020.

2. NEHHDC Achieves Oeko-Tex Certification for Eri Silk

On August 15, 2024, the North Eastern Handicrafts and Handlooms Development Corporation (NEHHDC), operating under the Ministry of Development of North Eastern Region (DoNER), Government of India, attained the esteemed Oeko-Tex certification for its Eri Silk.

About Eri Silk

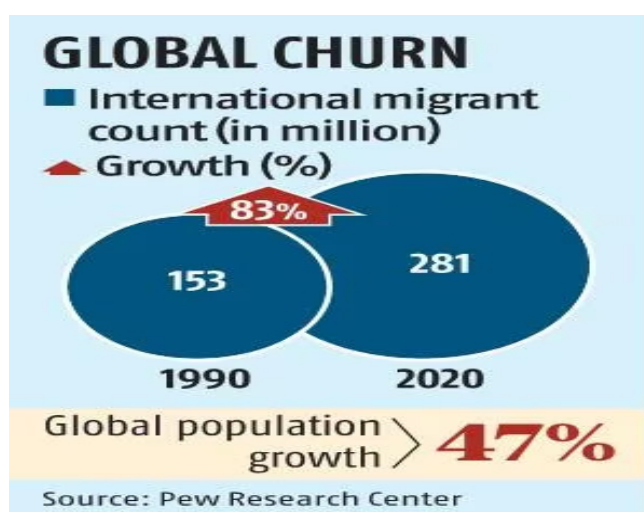
1. Eri Silk is distinguished as the world's only vegan silk. Unlike other silks, which require killing the moth inside the cocoon, **Eri Silk allows the moth to naturally exit the cocoon.** This ethical method of production makes Eri Silk a symbol of compassion and sustainability in the textile industry.
2. silkworm *Philosamia ricini*, which primarily feeds on castor leaves, Eri Silk is predominantly cultivated in the northeastern states of India, including Assam.
3. It is also found in Bihar, West Bengal, and Orissa.
4. Eri Silk is recognized as a **Geographical Indication (GI) product from Assam.**

Significance of Oeko-Tex Certification

1. **Certification Standards:**
 - a. The Oeko-Tex certification represents a rigorous standard ensuring that textiles are tested for harmful substances and produced under **environmentally friendly conditions.** This endorsement is crucial for establishing Eri Silk's credentials as a sustainable and safe product in the global market.
2. **Impact on Global Market:**
 - a. The certification is a **step in expanding Eri Silk's presence in the global export market.** It enhances the silk's international appeal and positions it as a leading eco-friendly fabric.
3. **Commitment to Heritage and Sustainability:**

This accomplishment underscores NEHHDC's dedication to promoting and preserving the rich cultural heritage of Assam while aligning with global sustainability practices.

3. India leads as top origin country and destination for Hindu migrants



Recently, the **Pew Research Center** released a report titled “**The Religious Composition of the World’s Migrants,**” based on data from the **United Nations** and **270 censuses and surveys**. This report examines the global patterns of **religious migration** and provides insights into how **religion** influences both **emigration** and **immigration** trends.

About Pew Research Center

1. The Pew Research Center is a nonpartisan **American think tank** based in **Washington, D.C.**, established on **July 1, 2004**.
2. It conducts research on **social issues, public opinion, and demographic trends** in the U.S. and globally.
3. It operates under The Pew Charitable Trusts.

Key Findings: Global Migration Statistics

1. **Total International Migrants:** Over **280 million** people (**3.6%** of the world’s population) were international migrants in **2020**.
2. **Migration Increase:** From **1990** to **2020**, the number of international migrants increased by **83%**, significantly outpacing global population growth of **47%**.
3. **Average Distance Traveled:** Migrants travel an average distance of **2,200 miles (3540.557 kilometers)**.

Religious Composition of Migrants

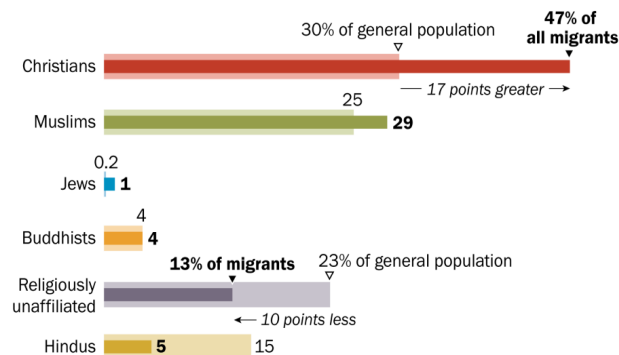
1. **Christians:** Represent the largest share of global migrants at **47%**.
2. **Hindus:** Comprise **5%** of all international migrants. Hindus tend to travel longer distances, averaging **3,100 miles**.



Trends by Religion and Region

Christians, Muslims and Jews make up higher shares of migrants than of the overall population

% of global and migrant populations who are ...



1. Hindu Migration Trends:

- a. **Emigration (out-migration) & Immigration (in-migration):** India is both a top source and destination for Hindu migrants.
- b. **Global Distribution:** Hindu migrants are predominantly from the **Asia-Pacific** region, with significant numbers from **India, Bangladesh, and Nepal**.
- c. **Destinations:** The largest share of Hindu migrants resides in the **Asia-Pacific** region (**44%**), followed by the **Middle East-North Africa (24%)** and **North America (22%)**.

2. Christian Migration Trends:

- a. **Global Share:** Christians make up **47%** of the global migrant population.

3. Muslim Migration Trends:

- a. **Indian Muslim Migrants:** Represent **33%** of all Indian-born migrants, with significant populations in **UAE, Saudi Arabia, and Oman**.
- b. **Global Trends:** **India** is the second-largest source of Muslim migrants.



4. GCC Countries:

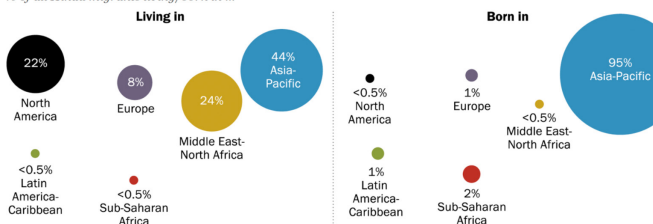
- Growth:** Migrant population in GCC countries grew by **277%** since **1990**.
- Religious Breakdown:** **75%** of GCC migrants are Muslims, while Hindus and Christians make up **11%** and **14%**, respectively.
- Indian Migrants:** GCC countries host **9.9 million** Indian migrants.

Migration Patterns and Religion:

- Religious Alignment:** Migrants often move to countries where their religion aligns with the local population, influenced by cultural and religious familiarity.

Regions where Hindu migrants now live and where they came from

% of all Hindu migrants living/born in ...



Hindu Migration Patterns

- Underrepresentation:** Hindus make up a smaller share (**5%**) of international migrants compared to their global population proportion (**15%**).
- Longest Distance:** Hindu migrants travel the longest distances, averaging **3,100 miles**, the farthest among Asian religious groups.
- Regional Destinations:** Major destinations include the **Asia-Pacific** region, **Middle East-North Africa**, and **North America**.
- Source Countries:** Primarily from **India** (**57%** of Hindu migrants), with significant numbers from **Bangladesh** and **Nepal**.

Notable Migration Routes:

- India to US:** **1.8 million** Hindus migrate from **India** to the US for employment and education.
- Bangladesh to India:** **1.6 million** Hindus migrate from **Bangladesh** to **India** due to historical and socio-economic reasons.

Impact of Diaspora on Home-Country Growth

- Remittances:** In **2022**, migrants from emerging and developing countries sent **USD 430 billion** in

remittances, three times more than financial aid received.

- GDP Contribution:** Remittances constitute a significant portion of GDP in countries like **Tajikistan (37%)**, **Nepal (30%)**, and others.
- Diaspora Investments:** Includes investments in home-country businesses and government bonds, enhancing financial capital.
- Knowledge Transfer:** Diasporas contribute to productivity and development by transferring skills and knowledge.
- Business and Governance:** Diaspora members assist with navigating global markets and improving local business practices, such as **Indian executives** facilitating outsourcing to **India**.

Conclusion

Migration and diaspora communities play a crucial role in boosting home-country economies through remittances, investments, and knowledge transfer. To maximize these benefits, governments should foster strong diaspora networks, reduce investment barriers, and support diaspora-driven initiatives to enhance capital inflow and sustainable development.

4. UP Commemorates Centenary of Kakori Train Action

- The Government of Uttar Pradesh has launched year-long celebrations to commemorate the 100th anniversary of the **Kakori Train Action**, a daring revolutionary act carried out by the **Hindustan Republican Association (HRA)** in **1925**.
- The event marks a significant milestone in **India's struggle for independence** and highlights the bravery and sacrifices made by the HRA revolutionaries.

The Kakori Train Action Centenary Festival

To mark this historic occasion, the state government has planned a series of events and activities throughout the year. A special "**Kakori Shaurya Gatha Express**" train will traverse various cities, educating youth and school children about the heroic Kakori saga.

Hindustan Republican Association: A Brief Overview

- Genesis:** Formed in 1924 as a radical revolutionary organization, the HRA aimed to establish a Federated Republic of the United States of India through an organized armed revolution.
- Key Figures:** Prominent members included Ram Prasad Bismil, Ashfaqulla Khan, Sachindra Nath Bakshi, Sachindranath Sanyal, and Jogesh Chandra Chatterjee.
- Ideologies:** The HRA embraced socialism and advocated for the **armed overthrow** of the imperialist British government. Their manifesto emphasized the use of force to fight for national rights, even if it meant making the ultimate sacrifice.
- Publications:** Notable publications included **“The Revolutionary”** by Ram Prasad Bismil and **“Philosophy of the Bomb”** by Bhagwati Charan Vohra. The latter defended the revolutionaries’ use of force and criticized the condescending attitude of the **Indian National Congress** towards their actions.

The Kakori Train Action

- Execution:** On August 9, 1925, HRA revolutionaries looted a British treasury train near Kakori, Uttar Pradesh, without harming any innocent passengers.
- Objective:** The aim was to secure funds for revolutionary activities by robbing the train carrying the British Indian Government treasury.
- Key Participants:** The action involved **Ram Prasad Bismil, Ashfaqullah Khan, Thakur Roshan Singh, Rajendra Lahiri, and Sachindra Bakshi**, among others.
- Aftermath:** The subsequent **Kakori Conspiracy Case** led to death sentences for Bismil, Ashfaqullah Khan, Rajendra Nath Lahiri, and Thakur Roshan Singh. Others received long-term imprisonment, including deportation to the **Cellular Jail**.

Key Revolutionary Activities of HRA/HSRA

- Avenging Lala Lajpat Rai’s Death (1928):** Rajguru, Bhagat Singh, and Chandra Shekhar Azad killed J.P. Saunders, the chief police executive responsible for the lathi charge that led to **Lala Lajpat Rai’s** death during an **anti-Simon Commission** protest.

- Assembly Bomb Explosion (1929):** **Bhagat Singh and B.K. Dutt** threw bombs in the **Central Legislative Assembly**, resulting in their conviction and life imprisonment. Bhagat Singh later faced trial in the **Lahore Conspiracy Case** for the killing of J.P. Saunders.

Lahore Conspiracy Case and its Impact

- Revolutionaries’ Stand:** The revolutionaries used the courtroom to counter the government’s narrative and expose their actions.
- Hunger Strikes:** They organized hunger strikes to demand better conditions for political prisoners, highlighting the British government’s unjust treatment.
- Martyrdom:** Jatin Das’s death after a 63-day hunger strike sparked widespread outrage. Bhagat Singh, Sukhdev, and Rajguru were ultimately executed on March 23, 1931, further fueling the flames of the independence movement.

Conclusion

The Kakori Train Action centenary celebrations serve as a powerful reminder of the sacrifices made by the HRA revolutionaries in their pursuit of India’s freedom. Their unwavering courage and dedication continue to inspire generations, and their legacy remains an integral part of India’s rich history.

5. 78th Independence Day 2024

- India celebrated its 78th Independence Day on August 15, 2024.
- The theme for the 78th Independence Day was **“Viksit Bharat” (Developed India)**.
 - This theme reflects the government’s goal of transforming India into a **developed nation by the year 2047**, which marks the **100th anniversary of India’s independence**.

Independence Day: Historical Background

- The road to independence was long and arduous, filled with numerous movements and protests against British colonial rule. Key events include:
 - Non-Cooperation Movement (1920-22):** Led by Mahatma Gandhi, this movement involved boycotts of British goods and institutions.





- **Civil Disobedience Movement (1930-32):** Another Gandhi-led movement, featuring acts of civil disobedience like the Salt March.
 - **Quit India Movement (1942):** A mass movement demanding an end to British rule in India.
2. After World War II, a weakened Britain finally granted India its independence, formalized through the Indian Independence Act of 1947. This historic act also partitioned British India into India and Pakistan.
 3. Finally, on the midnight of **August 14-15, 1947**, India officially gained independence.
 - a. **Jawaharlal Nehru, the first Prime Minister of India**, delivered his famous **“Tryst with Destiny”** speech, marking the birth of a new nation.
 4. This day is now **commemorated annually as Indian Independence Day**, celebrating the end of British colonial rule and the birth of a sovereign nation.

Great Indian Freedom Fighters

1. India couldn't have acquired independence without the efforts of numerous extraordinary freedom fighters.
 - Bhagat Singh, Rani of Jhansi, Chandra Shekhar Azad, Subhas Chandra Bose, Mohandas Karamchand Gandhi, Jawaharlal Nehru, Ram Prasad Bismil, and Ashfaqulla Khan are some of the notable names.

Role of Women in India's Independence

1. Several women have played a significant part in the Indian freedom movement. Savitribai Phule, Mahadevi Verma, Capt Laxmi Sehgal, Rani Laxmibai, and Basanti Devi are just a few crucial names to remember.
 - These women along with many others played a prominent role in leading India towards its independence.

Quotes on Indian Independence Day

1. “Long years ago, we made a tryst with destiny, and now the time comes when we shall redeem our pledge.” - **Jawaharlal Nehru**”
2. The best road to progress is freedom's road.” - **Mahatma Gandhi**”
3. India is, the cradle of the human race, the birthplace of human speech, the mother of history, the grandmother of legend, and the great-grandmother of tradition.” - **Mark Twain**”

4. We owe a lot to the Indians, who taught us how to count, without which no worthwhile scientific discovery could have been made.” - **Albert Einstein**

The ‘Good’ British Rulers in India

Not all the British were awful; many started adoring India and did incredible things for it. Some even took part in the Indian Independence struggle. Some of the good British rulers include Warren Hastings who developed court reforms; **Freda Bedi** who supported Indian nationalism; **Allan Octavian Hume** who started the Indian National Congress, etc.

How India Celebrates Independence Day?

1. **Arrival of the Prime Minister:** The Prime Minister arrives at the Red Fort in New Delhi.
2. **Guard of Honour:** The Prime Minister receives a formal Guard of Honour.
3. **Hoisting of the National Flag:** The Prime Minister hoists the National Flag.
4. **National Anthem:** The national anthem, “Jana Gana Mana,” is played, accompanied by a 21-gun salute.
5. **Prime Minister's Speech:** The Prime Minister addresses the nation.
6. **Parade:** A grand parade showcases India's cultural diversity, military strength, and technological advancements.
7. **Cultural Performances:** School children perform dances and songs celebrating India's rich heritage.
8. **This year India celebrated Independence Day with following events:**
 - a. **Nationwide Tree Plantation Drive:** The **Ministry of Defence** will undertake a massive **15 lakh tree plantation drive** across the country on the occasion of the 78th Independence Day ceremony on August 15, 2024.
 - The plantation drive is a part of the **‘Ek Ped Maa Ke Naam’ (A Tree in the Name of Mother) campaign** and will be conducted through the three Services and associated organizations such as DRDO, Defence PSUs, CGDA, NCC, Sainik Schools, and Ordnance Factories.



Key Points from PM Modi's 78th Independence Day Speech:

- Made in India Chip-Semiconductor Production:** Commitment to reducing import dependency and enhancing **self-sufficiency in semiconductor technology**.
- Skill India Initiative:** Focus on training the youth and **positioning India as the skill capital of the world, in line with Budget 2024 initiatives**.
- Hub of Industrial Manufacturing:** Vision to make India a global leader in manufacturing by utilizing its resources and skilled workforce.
- "Design in India, Design for the World":** Encouragement to develop products for **both domestic and international markets, showcasing indigenous design capabilities**.
- Green Jobs and Green Hydrogen Mission:** **Emphasis on creating green jobs**, focusing on climate change mitigation, and aiming to be a global leader in green hydrogen production.
- Climate Change Targets:** Commitment to achieving **500 GW of renewable energy capacity by 2030 and meeting Paris Accord goals**.
- Medical Education Expansion:** Plan to add 75,000 new medical seats in the **next five years to meet growing healthcare demands**.

Gallantry Awards for Armed Forces and CAPF Personnel

On the occasion of Independence Day 2024, the President of India has given approval for 103 Gallantry awards to be conferred upon personnel of the Armed Forces and Central Armed Police Forces (CAPF). These awards recognize acts of exceptional bravery and valor demonstrated by these individuals in service to the nation.

About Gallantry Awards in India

- Order of Precedence:** The highest to lowest order of precedence for these awards is: Param Vir Chakra, Ashoka Chakra, Mahavir Chakra, Kirti Chakra, Vir Chakra, and Shaurya Chakra.
- Announcement:** Gallantry Awards are announced twice a year – on Republic Day and Independence Day.

- Wartime Gallantry Awards:** Param Vir Chakra, Maha Vir Chakra, and Vir Chakra were instituted in 1950 to honor acts of bravery during wartime.
- Peacetime Gallantry Awards:** Ashoka Chakra, Kirti Chakra, and Shaurya Chakra, initially instituted as Ashoka Chakra Class-I, Class-II, and Class-III in 1952, are awarded for acts of gallantry in peacetime situations.

14 August: Partition Horrors Remembrance Day

Recently, in observance of Partition Horrors Remembrance Day (Vibhajan Vibhishika Smriti Diwas), the Prime Minister paid tribute to all those affected by the Partition of India.

- The Government declared August 14th as Partition Horrors Remembrance Day (Vibhajan Vibhishika Smriti Diwas) in 2021.
- August 14th serves as a day to remember and honor those who lost their lives or were displaced during the Partition.
- It is essential that future generations never forget the immense pain and suffering endured by countless people during this period. The birth of independent India was tragically marred by the violent Partition, which left lasting scars on millions of lives.
- The Partition triggered one of the largest and most tragic human migrations in history, accompanied by widespread communal violence and interreligious conflict.
- The legacy of the Partition continues to influence the region, contributing to ongoing tensions between India and Pakistan, particularly in the contested region of Kashmir.

6. Revised Guidelines for Foster Care

- In August 2024, The Ministry of Women and Child Development (MWCD) has recently issued the **Model Foster Care Guidelines (MFCG), 2024**, replacing the 2016 guidelines.
- These guidelines align with the provisions of the Juvenile Justice (Care and Protection of Children) (JJ) Act, 2015, JJ Model Rules, 2016, Adoption Regulations, 2022, and the **Mission Vatsalya Scheme**.



Foster care provides a nurturing family environment for children outside their biological families, chosen and approved by the Child Welfare Committee.

What is Foster Care?

1. **Fostering is an arrangement** in which a child temporarily lives with either extended family or unrelated individuals.
2. **In India**, children who can be fostered have to be above the age of six years living in child care institutions and having “unfit guardians”.
3. Minors who are placed in the category of “hard to place/ children having special needs” can also be fostered.

Model Guidelines for Foster Care 2016:

1. These guidelines (brought by the MWCD) detail the procedures, roles and responsibilities of stakeholders, along with various aspects related to the implementation of the foster care program in the districts.
2. **Under the guidelines, children in the age group of 6-18 years,**
 - a. Whose parents are unable to take care of them due to reasons such as mental illness, poverty or imprisonment and
 - b. Those staying in child care institutions will be placed in foster care.
3. **Children in the age group 0-6 years** will not prefer to be considered for placement in foster care as such small children will be encouraged for adoption under the Regulations Governing Adoption of Children, 2017.

Need to Revise the Foster Care Guidelines 2016:

1. The guidelines have been revised in accordance with the amendment to-
 - a. **The Juvenile Justice (Care and Protection of Children) Act 2021 and**
 - b. **The Juvenile Justice (Care and Protection of Children) Model Rules 2022.**
2. The change in guidelines was needed since single individuals were allowed to adopt children, but were not allowed to foster (as per the earlier guidelines).

Key Provisions of the Revised Guidelines:

1. **Opening up fostering to any person:**
 - a. Irrespective of their marital status (single/ unmarried/ widow/ divorcee/ legally separated) and whether or not they “have biological son or daughter”.
 - b. However, while a single woman can foster and eventually adopt a child of any gender, a man can only do so for male children.
2. **Allows the foster parent to adopt a child:** After s/he has been in foster care for a minimum of two years, as opposed to five years earlier.
3. **Guidelines for married couples who want to foster: Unless they have had a stable marital relationship of two years.**
 - a. **Earlier**, there was no such caveat for couples.
4. **Age of the foster parents:**
 - a. While the 2016 guidelines stated that both spouses must be above the age of 35, **the revised guidelines are more specific.**
5. **Registration of the foster parents:** The foster parents can now register online through a platform - **Child Adoption Resource Information and Guidance System (CARINGS)**, which is already being used by prospective adoptive parents for registration.

Significance

These revised guidelines represent a significant step towards promoting a more inclusive and **accessible foster care system** in India. They expand the pool of eligible children and potential foster parents while simplifying the process for foster parents to adopt.

7. Guidelines for 10 Bagless Days

1. Recently, The Union Ministry of Education announced the guidelines for the implementation of bagless days for classes 6 to 8 and making learning in schools more joyful, experiential and stress-free.
2. The guidelines, developed by PSS Central Institute of Vocational Education, a unit of the National Council for Educational Research and Training (NCERT), were released on the fourth anniversary of the new National Education Policy (NEP), 2020.



About Guidelines

- Objectives:** To build observation-based learning capacity, develop understanding of connectedness of community and interdependence, to promote dignity of labour through hands on activity, etc.
- Activities covered:** Visit and survey of vegetable markets, charity visits, survey and report writing on pet care, doodling, etc.

8. 25th of Women and Men in India 2023 Report

- The National Statistical Office (NSO), under the Ministry of Statistics and Programme Implementation (MoSPI), has released **the 25th edition** of its comprehensive report, **“Women and Men in India 2023.”**
- This report sheds light on the evolving gender dynamics in the country, offering valuable insights across various domains like population, health, education, and economic participation.

Key Findings:

- Population:** India’s population is projected to reach 152.2 crores by 2036, with an increase in the female percentage to 48.8%. The sex ratio is also expected to improve to 952 women per 1000 men by 2036.
- Working-Age Population:** The percentage of India’s working-age population (15-59 years) is set to rise to 64.9% by 2036, indicating a potential demographic dividend.
- Health:** Life expectancy is on the rise, with males expected to reach 71.2 years and females 74.7 years by 2031-36. There’s also a positive trend in maternal health, with non-institutional deliveries decreasing to 8.2%.
- Employment:** The Labour Force Participation Rate (LFPR) for women has significantly increased from 23.3 to 37 between 2017-18 and 2022-23, highlighting greater female participation in the workforce.
- Political Participation:** The 2019 national elections witnessed a historic milestone, with women’s voter turnout surpassing men’s for the first time, reaching 67.2%.

- Entrepreneurship:** Women are making strides in the startup ecosystem, with 47.6% of recognized startups being led by women.

What are Initiatives Related to Overall Demographic Development in India?

- Beti Bachao Beti Padhao Scheme
- Rashtriya Uchhatar Shiksha Abhiyan (RUSA)
- Aayushman Bharat Yojana
- Digital Health Mission
- Mission Indradhanush (MI)
- Stand-Up India Scheme

Overall, the report paints a picture of gradual progress towards gender parity in India. However, it also underscores the persistent challenges that remain, particularly in areas like education, economic empowerment, and health. This data serves as a crucial resource for policymakers, researchers, and civil society organizations working towards a more equitable and inclusive India.

9. 82nd Anniversary of the August Kranti Day

- On August 8, 2024, India commemorated the 82nd anniversary of the August Kranti Day, also known as the Quit India Movement (QIM).
 - The QIM was officially launched on August 8, 1942, under the leadership of Mahatma Gandhi.**
 - Its objective to demand the immediate withdrawal of British forces from India and to mobilize the Indian population in a non-violent civil disobedience campaign against British colonial rule.**

What Was the Quit India Movement (QIM)?

- Purpose:** A major campaign for India’s **independence** from British colonial rule. It aimed for the immediate end of British control.
- Strategy:** It was a **non-violent movement** advocating **civil disobedience**.

Reasons for Starting QIM:

- Failure of the Cripps Mission (1942):**
 - The **Cripps Mission** was sent by the British government to negotiate with Indian leaders.



However, it offered only **dominion status** rather than full independence and allowed provinces to secede, which contradicted the idea of national unity.

2. Economic Impact of World War II:

- a. Rising prices and shortages of essential goods caused public discontent. The poor were hit hard by **inflation**, while the rich faced excess **profit taxes**. The situation was worsened by mismanagement and profiteering.

3. British Evacuation from Southeast Asia:

- a. Reports from refugees indicated the collapse of **British power** in Southeast Asia and the abandonment of Indian refugees, leading to fears that Britain might also abandon India if **Japan** invaded.

4. Imminent Collapse of British Power:

- a. The **Allied reverses** and British retreats in Southeast Asia and **Burma** led to a belief that British rule was nearing its end.

5. Fear of Japanese Invasion:

- a. Leaders feared that India would lose **morale** and not resist if Japan invaded, thus prompting the need for an immediate struggle.

Key Aspects of the Quit India Resolution:

1. **Adopted on July 14, 1942:** By the **Congress Working Committee** in Wardha.
2. **Accepted on August 8, 1942:** By the **All-India Congress Committee (AICC)** in **Bombay**.
3. **Gandhi's Role:** Gandhi was named the leader of the struggle.
4. **Resolution Goals:**
 - a. Immediate end to **British rule**.
 - b. Commitment to defend a free India against **fascism and imperialism**.
 - c. Formation of a **provisional government** after British withdrawal.
 - d. Launching of a **civil disobedience movement**.
5. **Famous Speech:** Gandhi's "**Do or Die**" speech emphasized the urgency and determination of the movement, stating, "We shall either free India or die in the attempt."

Government Response and Movement Spread:

1. Public Reaction:

- a. Widespread attacks on symbols of authority, **sabotage**, and **civil disobedience**.
- b. Underground activities by leaders like **Rammanohar Lohia, Jayaprakash Narayan, and Aruna Asaf Ali**.
- c. Establishment of **parallel governments** in **Ballia (U.P.), Tamluk (Bengal), and Satara (Maharashtra)**.

2. British Response:

- a. **Arrest** of top Congress leaders and suppression of public demonstrations.
- b. Use of force, including **lathi-charges, tear-gassing, and shootings**. An estimated **10,000 people** were killed.
- c. **Gagging** of the press and heavy **finances** on rebellious villages.

Nature of the Movement:

1. Spontaneous Aspects:

- a. Described as the most serious **rebellion** since 1857 by **Viceroy Linlithgow**.
- b. Unplanned, violent, and widespread due to the arrest of leaders.

2. Organized Aspects:

- a. Preparations included a **twelve-point program** and radical movements by **Congress-affiliated groups**.
- b. Previous mass movements and **rural mobilization** contributed to the organized nature of QIM.

Lessons and Significance of QIM:

1. Lessons:

- a. **For Indian Masses:** Gandhi and Congress were seen as symbols of **liberation**.
- b. **For Congress:** Suppression discredited **left-wing** members advocating violence; led to a preference for **negotiation**.
- c. **For British:** Realized the difficulty in managing such movements without wartime powers, leading to a willingness for an **orderly withdrawal**.



2. Significance:

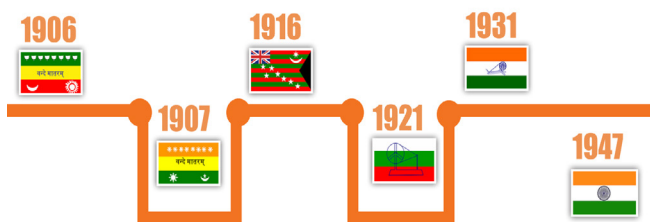
- Emphasized the immediate demand for **independence**.
- Marked a shift towards **constructive work** and **reorganization** within Congress.
- Set the stage for **negotiations** post-World War II, leading to eventual independence.

Conclusion:

The **Quit India Movement** was a crucial turning point in India's struggle for **independence**. Despite severe **repression**, it mobilized public support and intensified the demand for **freedom**, eventually accelerating the end of **British colonial rule** in India.

10. Pingali Venkayya, the Man Behind the Tricolour

- The PM Narendra Modi, paid tributes to **Pingali Venkayya** on his **birth anniversary**. He acknowledged Venkayya's significant role in designing the **Indian National Flag**, the **Tricolour**.

Evolution of the Indian National Flag**THE DEVELOPMENT JOURNEY OF THE TRICOLOR**

- Early Contributions (1916):** In 1916, Pingali Venkayya published a booklet titled “**A National Flag for India**.” This booklet featured nearly **30 designs** for a potential Indian flag, drawing inspiration from the flags of other nations.
- Approval by Mahatma Gandhi (1921):** Venkayya's design for the National Flag was finally approved by **Mahatma Gandhi** during a Congress meeting in **Vijayawada** in 1921.
- Initial Design (Swaraj Flag):** The initial flag, known as the **Swaraj flag**, consisted of two bands—**red** and **green**—representing the Hindu and Muslim religious communities. The flag also featured a **charkha** (spinning wheel), symbolizing **Swaraj** (self-rule).

- Modifications by Mahatma Gandhi:** Mahatma Gandhi advised Venkayya to add a **white band** to the flag to represent **peace**.

- Flag Committee Changes (1931):** The **Flag Committee** in 1931 made further modifications. They replaced the **red band** with **saffron** and arranged the colors in the order of **saffron** (top), **white** (middle), and **green** (bottom). The charkha was placed on the white band in the middle.

- Symbolism of Colors:** The colors of the flag were chosen to represent specific qualities rather than communities:
 - Saffron:** Courage and sacrifice.
 - White:** Truth and peace.
 - Green:** Faith and strength.
 - Charkha:** Welfare of the masses.

- Post-Independence Changes:** After India gained **independence**, a national flag committee under **President Rajendra Prasad** replaced the charkha with the **Ashok Chakra**. This change was made to reflect the new republic's commitment to **justice** and **progress**.

Pingali Venkayya:

- Military Service:** Venkayya fought in the **Second Boer War (1899-1902)**, demonstrating his patriotism and bravery.
- Lecture in Japanese (1913):** In 1913, he delivered a lecture in **Japanese** in **Bapatla**, Andhra Pradesh. This lecture was titled “**Japan Venkayya**,” highlighting his linguistic skills and interest in **international relations**.
- Research on Cotton:** Venkayya was also known as “**Patti Venkayya**” for his extensive research into **Cambodia Cotton**. His work contributed significantly to the field of **agriculture**.
- Postage Stamp (2009):** In recognition of his contributions, a **postage stamp** was released in his honor in 2009.





H. ETHICS

1. The Art of Balancing Work and Leisure

1. The United Nations Convention on the Rights of the Child recognizes the vital role of play in children's development and has declared **June 11th as the International Day of Play**.
2. Research also suggests that **leisure activities** like *painting, knitting, or pottery can enhance well-being* even more than work. However, while over-identifying with a job can cause stress, not having one can contribute to anxiety and depression.

What is Leisure and what is its significance?

1. **Leisure** is often seen as *free time*, but it more broadly refers to the freedom to choose whether or not to do something.
 - a. **Unemployment is not leisure** because the person is forced not to work despite wanting to.
2. True leisure allows people to pursue activities like rest, hobbies, entertainment, sports, and travel, but only when there's a genuine sense of freedom.
 - a. Travel required for work loses the essence of leisure because the person is obliged to pursue it.
3. Leisure, unlike mere amusement, involves pleasure, happiness, and living blessedly.

Relationship between Work and Leisure

Work and leisure often complement each other, but they can also be contrasting at times.

Complimentary Relationship

1. **Freedom of choice and intrinsic motivation:** When a job is based on freedom of choice, it can feel like leisure.
 - a. Writing novels or columns for newspapers might feel like leisure to persons who enjoy reading and writing.
2. **Ensuring well-being:** Just like leisure, work can also contribute to well-being.
 - a. Employment allows people to form relationships and improve emotional control, which helps overcome trauma and improves problem-solving skills.

Contrasting Relationship

1. **Freedom vs. Responsibilities:** Leisure is characterized by freedom and enjoyment, which improves creativity, performance, and job satisfaction. Work often requires effort and responsibility, driven by external expectations and goals. It promotes financial security, personal development, and a sense of accomplishment but can be tiring.
 - a. Even leisure activities can lead to fatigue, anxiety, and bad health when performed due to work commitments.
2. **Self-Expression vs Personal growth:** Performance below a certain standard may not be acceptable in the workplace. However, excessive effort to satisfy these standards could jeopardize one's capacity for self-expression, a crucial aspect of leisure.
 - a. School education ceases to be a joyful learning activity when students are forced to cram information without understanding its meaning, solely for the sake of excelling in academics and future careers.

The complimentary and contrasting relationship of work and leisure underscores the necessity of striking a balance between the two in order to have a fulfilling good life.

Factors that make it difficult to maintain a balance between Work and Leisure

1. **Workplace culture:** A capitalist workplace culture pushes employees toward job creeps, expectation of perfectionism, and encourages extra hours to get noticed or promoted, leading to a constant cycle of overwork.
 - a. Job creep happens when a person performs tasks that are outside the agreed scope of their job.
2. **Technological advances:** Technology like email and cell phones has blurred the line between work and home, making it hard to disconnect.



3. **Desire for overearning:** Some people work beyond their needs due to uncertainty about the future or the desire to bequeath wealth, often working until they're exhausted rather than satisfied.
4. **Hustle culture:** Society often glorifies being busy as a sign of success, encouraging people to constantly push themselves, further diminishing leisure time.

Way ahead for ensuring work and leisure coexist harmoniously

1. **Positive work culture:** Promote a positive work culture by adopting participative democratic leadership styles, fostering open communication, organizing team-building activities at the workplace, etc.
 - a. Giving workers an **extra day off a week actually increases productivity, boosts physical and mental health, and reduces CO2 emissions.**
2. **Bounded rationality:** Instead of pursuing perfectionism, bounded rationality should be accepted, and people should be allowed to fail sometimes in some works.
 - a. The term 'bounded rationality' refers to rational decision-making that considers the cognitive limitations of the decision-maker.
3. **Embrace flexibility:** While technology has blurred boundaries, it also offers flexibility.
 - a. Flexible hours and hybrid working enhance job satisfaction and productivity by allowing employees to balance work and personal life.
4. **Set boundaries:** Clearly define work hours and stick to them. Avoid checking work emails or taking calls outside these hours to maintain a separation between work and home life.

Conclusion

Both **Aristotle and Rabindranath Tagore** emphasize the importance of leisure in cultivating a fulfilling life. Aristotle argues that true leisure allows individuals to engage in noble pursuits that nurture virtue, such as music, poetry, and philosophy. Similarly, Tagore warns that without leisure, we risk becoming mere workers, performing tasks mindlessly without any deeper purpose.

Case Study:

You are currently employed in a well-paid MNC that requires you to travel to different cities based on the location of the client. The monthly bonus and long-term promotion to the higher post is solely based on the number of clients served within a month. Recently, your mother has been diagnosed with stage 2 cancer that not only requires care but also a stable and good source of income. However, continuous travel, work targets, and frequent hospital visits leave little time to practice for an upcoming city play. You have been a great admirer of theatrics and have pursued it since your childhood. Practicing it regularly gives you great joy and makes you feel detached from the nuances of the fast-moving world. Work burden and family responsibilities have not only reduced your chances of bagging a role there but have also overburdened you with anxiety and mental exhaustion, reducing your performance at work.

Questions:

1. **Discuss the causative factors responsible for the occupational stress among the people in the present times.**
2. **Citing examples, suggest measures that MNCs must take to ensure effective work-life balance for their employees.**
3. **What steps should you take to ensure an optimum performance towards your work, passion, and family?**

Answers:

1. **Causative factors for occupational stress:**
 - a. **High workload and performance pressure:** Unrealistic deadlines, excessive workload, and constant pressure to achieve targets can lead to chronic stress.
 - b. **Lack of control over work:** Limited autonomy and decision-making power can create a sense of helplessness and frustration.
 - c. **Poor work-life balance:** Long working hours, frequent travel, and the inability to disconnect from work can blur the boundaries between personal and professional life, leading to burnout.
 - d. **Job insecurity:** Fear of layoffs or job loss can create anxiety and stress.





- e. **Workplace conflicts:** Difficult relationships with colleagues or supervisors can contribute to a stressful work environment.
 - f. **Technological advancements:** Constant connectivity and the expectation to be available 24/7 can lead to information overload and stress.
2. **Measures MNCs can take to ensure work-life balance:**
- a. **Flexible work arrangements:** Offer flexible hours, remote work options, or compressed workweeks to allow employees to manage their personal and professional responsibilities.
 - b. **Encourage breaks and vacations:** Promote a culture where employees feel comfortable taking breaks and utilizing their vacation time to recharge.
 - c. **Wellness programs:** Provide access to wellness programs, such as yoga classes, meditation sessions, or stress management workshops.
 - d. **Employee assistance programs:** Offer confidential counselling and support services to help employees cope with personal or work-related challenges.
 - e. **Clear communication and expectations:** Set realistic expectations, provide regular feedback, and ensure open communication channels to reduce stress and uncertainty.
3. **Steps to ensure optimum performance:**
- a. **Prioritize and delegate:** Identify the most critical tasks and delegate whenever possible to free up time for your passion and family.
 - b. **Time management:** Create a schedule that allocates dedicated time for work, family, and your passion.
 - c. **Communicate with your employer:** Discuss your situation with your supervisor and explore options for flexible work arrangements or reduced travel.
 - d. **Seek support:** Talk to your family and friends about your challenges and ask for their help and understanding.
 - e. **Self-care:** Make time for activities that help you relax and recharge, such as exercise, meditation, or spending time in nature.

2. Case Studies For Practice

Case Study: All students of the State-run M.R. Narayanan National Institute of Visual Science and Arts, a film school at Thekkumthala, Kottayam, have been on an indefinite strike since last month. The students have been demanding the ouster of Ankur Mohan, director of the school, for allegedly discriminating against the students and staff based on caste. The State Higher Education Minister, R. Sindhu, has now instituted a high-level inquiry on the issue and you are the head of that committee. You are a joint secretary whose file for promotion to cabinet secretary is under process in the office of the same minister who is a relative of Mr Mohan. The team has been instructed to submit their findings in two weeks.

The institute has witnessed several waves of protests since its opening in 2016. In the latest bout of protest, led by the students' council of the school, they have raised a set of charges against Mr Mohan that varied from caste discrimination to forcing sanitation workers to do domestic labour at his official residence, including cleaning of toilets.

According to the students, Mr Mohan took the lead in shortening three-year courses offered by the institute into two-year programmes without due consultation and research. The sanitation workers, employed by the institute on a daily wage basis, have testified their experience of receiving inhumane treatment at the hands of Mr Mohan. Another Dalit employee of the institute has approached the SC/ST commission with a complaint of caste discrimination against Mr Mohan.

Documents that emerged in the public domain showed that as many as 26 out of the 30 seats reserved for different categories of students have not been filled while admitting students to the 2022 batch. It showed that several candidates were denied admission with the abrupt introduction of cut-off marks by the institute's academic committee.

The protest, which had been largely limited to the institute's campus in the first few days, struck a chord with filmmakers, film students as well as cinephiles



during the 27th International Film Festival of Kerala (IFFK) in Thiruvananthapuram. An array of faces from contemporary local cinema, including filmmakers Aashiqui Abu, Mahesh Narayanan, Joe Baby, Kamal, K.M. Kamal, Vidhu Vincent, actor Sajith Madathil and musician Shahbaz Aman joined the students at a protest staged at the main venue of the event.

Mr Mohan has stayed largely aloof from the public eye. But talking to The Hindu, he denied all the charges and maintained that “the truth has a way of revealing itself”. Eminent filmmaker A.K. Gopalakrishnan, chairman of the institute, has been firm in his support for Mr Mohan and described him as a ‘well-bred man’.

The statement, however, drew sharp reactions and the protesters issued an open letter challenging Mr Gopalakrishnan’s stance. The institution, meanwhile, is also accused of indulging in retaliatory action by cancelling the room reservations for 52 students who arrived in Thiruvananthapuram to attend the IFFK.

Though the students attempted to contact the director and other officials, their calls went unattended. The State Chalachitra Academy later arranged temporary accommodation for the students. The State government has taken serious note of the issue as is evident from its decision to institute a high-level inquiry into the issue. It, at the same time, does not want to antagonise A.K. Gopalakrishnan, a filmmaker of towering stature, and is treading a cautious path before taking any final decision.

- (a) Under the given conditions, what are the options available to you as a head of the inquiry committee?
- (b) Critically evaluate each of the options listed by you.
- (c) What option would you adopt and why?
- (d) What can be the consequences of overlooking the questions raised by the protesting students?

SOLUTION

The above-given case deals with multiple issues like caste-based discrimination, misuse of authority, irresponsible behaviour, lack of transparency etc.

(a) Options available are:

- i. Investigating all accusations of students against Mr Mohan with full zeal and honesty.
- ii. Saving the director by misleading investigation.
- iii. Recusing from the case.

(b) Evaluation of options

Options	Merit	Demerit
	Justice to duty. Establish universal action.	May lose a promotion
	Denial of duty.	May get promotion
	Preventing the probability of conflict of interest	Escaping from the duty

(c) As head of investigating team, one should follow option number 1st because by doing so

- i. He will uphold foundational values of civil servants that is integrity, objectivity and honesty etc.
- ii. He may ensure greatest good to the greatest number that is the students.
- iii. He may establish universal action and can create a role model for others in future.
- iv. He will promote virtue ethics in society at large.

(d) Probable consequences of ignoring the demands of the students:

- i. Caste-based discrimination may be increased in the institutions.
- ii. Exploitation of workers may continue.
- iii. Promote crony capitalism because the duration of course has been reduced without reducing fees.
- iv. Violation of law of land because reserved seats are not being filled.
- v. Damage reputation of the institution, which in turn may harm the institution in the long run.
- vi. Peaceful protests may turn into a violent one.

Conclusion: Thus, based on above discussion we can conclude that to ensure quality education and justice to society at large such accusations should be dealt with on a priority basis efficiently and transparently.





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I. ESSAY

Technology is a Useful Servant but a Dangerous Master

In 1945, while the world slept, one of the brightest minds of that time was deep in thought. During the testing of the **first atomic bomb**, scientist **Robert Oppenheimer** witnessed an explosion that changed history. As he watched the enormous **power of destruction**, he remembered a line from the ancient Indian text, the **Bhagavad Gita**: “Now I have become Death, the destroyer of worlds.” This moment revealed a crucial truth: **technology**, when uncontrolled, can shift from a helpful **servant** to a **dangerous master**, capable of great destruction.

In this essay, we will explore the many aspects of technology, focusing on how it improves our lives and when it begins to control us. We will examine the **benefits** and **dangers** of relying too much on technology and seek practical solutions to keep it useful. Finally, we will consider how society can manage the **risks** of advanced technologies like **AI** and **automation** while still enjoying their progress.

The Power to Create: Technology as an Enabler of Human Potential

When managed properly, technology boosts **productivity** and **creativity**, encouraging growth and development. It is often said that technology is “the **great engine of change**.” For instance, the **World Health Organization (WHO)** reported a 30% increase in **telemedicine** usage after **COVID-19**, which greatly improved healthcare access for rural communities. Telemedicine enabled doctors to diagnose and treat patients without the need for them to travel long distances. Additionally, **CRISPR technology** has achieved an **89% success rate** in treating genetic disorders like **sickle cell anemia**, transforming the possibilities in medicine and giving hope to many families affected by these diseases.

However, if technology is mismanaged, it risks becoming a master rather than a servant. The potential benefits can easily turn into **risks** if we do not use technology wisely and ethically.

The Unseen Threats: When Technology Outpaces Humans and Ethics

Technology without **ethical oversight** can lead to serious **inequalities**. For example, **China’s Social Credit System**, which monitors citizens’ behavior through **AI**, raises major concerns about **privacy** and **individual freedom**. A 2020 report from **Human Rights Watch** noted that over **200 million cameras** tracked citizens, showing how technology can outpace regulations and invade personal privacy. Furthermore, a study from **MIT Media Lab** found that **facial recognition systems** had error rates as high as **34.7% for dark-skinned women**, highlighting the risks of unchecked technology and the potential for **discrimination**.

These problems are just the beginning of a much larger issue where technology often acts without **moral considerations**. When technology is used without regard for human rights, it can lead to a society where personal freedoms are limited and people are constantly monitored.

Machines vs. Man: The Economic Cost of Technological Advancement

Automation and **AI** have made many tasks easier, but they also threaten to **displace millions of jobs**, especially in low-skill sectors. The **McKinsey Global Institute** predicts that **AI** could add **\$13 trillion** to the global economy by **2030**, yet it also risks widening the **wealth gap**. For instance, automation in manufacturing could replace up to **20 million jobs** by 2030, particularly in lower-income areas. This displacement creates a divide between those who can adapt to new technologies and those who cannot, further increasing **economic inequality**.

While technological advancement has transformed industries, it often comes at a significant **social cost**. Many workers find themselves struggling to adapt, and entire communities may suffer when local jobs are replaced by machines. This situation raises important questions about the **future of work** and how society can support those affected by these changes.



Environmental Cost: The Visible and Hidden Impact of Technological Growth

When technology serves humanity and focuses on **sustainability**, it can help reduce **environmental harm**. **Renewable energy technologies**, such as **solar** and **wind power**, accounted for **83% of new global power capacity** in 2022, showing a positive shift toward cleaner energy sources. However, uncontrolled technological growth can lead to major **environmental damage**. For instance, the **UN** reported that **53.6 million metric tons** of **e-waste** were generated in 2020, with only **17.4% recycled**, resulting in toxic chemicals polluting our land and water.

The environmental impact of **cryptocurrency mining** is another concern; **Bitcoin mining** uses more energy each year than some countries, showing the hidden costs of technological growth. This highlights the need for responsible practices in technology development to prevent further harm to our planet.

The Inevitability of Progress: Can We Control Technology?

Technology has historically outpaced **ethical** and **regulatory frameworks**. As we advance in **AI**, **biotechnology**, and **automation**, the lines between **progress** and potential **harm** can blur. The **World Economic Forum** estimates that over **85 million jobs** could be displaced by automation by **2025**, even as it might create **97 million new roles**. This situation exemplifies the dual nature of technology—both an **enabler** and a **disruptor**—making it a challenge to manage its impact while benefiting from its advancements.

Ethics in Innovation: Guiding the Future of Technology

Innovation must be guided by **ethical frameworks** to ensure it helps humanity. As advancements reshape society, balancing **human welfare** with the **unintended consequences** of technology becomes essential. Without responsible oversight, progress risks deepening **inequalities** and infringing on **rights**. For example, AI alone could displace **85 million jobs** by **2025**, emphasizing the need for fair development and the creation of new opportunities.

Governments, tech developers, and society must work together to create policies that encourage **innovation** while protecting **human dignity**. The **European Union's**

General Data Protection Regulation (GDPR) is an example of ethical regulation, ensuring that **data privacy** remains a basic right in an increasingly digital world. Such regulations are crucial to maintaining public trust and ensuring that technology serves society as a whole.

Conclusion: Striking the Balance

Therefore, as we conclude this essay and continue to develop increasingly powerful technologies, it is essential that we maintain **control** over them. Only by ensuring that **human ethics** and **responsibility** guide innovation can we keep technology as a **servant** rather than allowing it to become a **master**. Technology reflects our shared **ambitions** and **fears**. If we use it wisely and thoughtfully, it has the potential to uplift humanity. However, if we do not approach it carefully, it may end up controlling us in ways we cannot foresee.

At the **individual level**, technology helps us by making tasks easier and more **efficient**. Yet, if we rely on it too much, it can become a form of **addiction**, reducing our **independence**. As the **Bhagavad Gita** reminds us, we must elevate ourselves through **self-control** rather than surrender to outside influences. This principle is essential for all of us to follow.

On a **societal level**, technology can promote progress by connecting people and spreading **knowledge**. However, without proper **ethical oversight**, it can deepen **inequalities** and spread **misinformation**. **Neil Postman**, in his book *Technopoly*, warns that societies risk losing their culture when they uncritically embrace technology. We must ensure that technology bridges gaps instead of widening them.

At the **government level**, technology can be used for governance and **public welfare**. However, unchecked **surveillance** and **digital authoritarianism** can threaten our **civil liberties**. **Plato's Republic** reminds us that wise leaders must balance power with justice: "He who is not a good ruler is unfit to rule." All governments should keep this idea in mind when dealing with technology and governance.

The challenge we face is not to reject technology but to engage with it **critically**. We need to appreciate its benefits while remaining aware of its dangers. The future of technology should not simply be about whether it is a **servant** or a **master** but about our ability to find a balance where it serves humanity's greatest goals.





J. SCHEME

1. Unified Pension Scheme

On August, 2024 The Union Cabinet, led by Prime Minister Narendra Modi, approved the Unified Pension Scheme (UPS), marking a significant shift in India's pension policy.

- a. The UPS aims to address the limitations of the Old Pension Scheme (OPS) and the National Pension System (NPS).

Unified Pension Scheme (UPS):

Approval and Rollout:

1. **Implementation Date:** April 1, 2025.
2. **State Adoption:** States can opt to adopt the UPS, which differs from OPS by incorporating employee contributions and addressing the financial sustainability of pension schemes.

Features:

1. **Pension Amount:** Guarantees 50% of the average basic pay over the last 12 months of service. For employees with less than 25 years of service, the pension is proportionate, with a minimum of ₹10,000 per month guaranteed for those with at least 10 years of service.
2. **Family Pension:** Provides 60% of the retiree's pension amount to the family in case of death.
3. **Lump-Sum Payment:** A lump sum equivalent to 1/10th of the last drawn monthly pay (including DA) for every six months of service is provided in addition to gratuity.
4. **Inflation Protection:** Pensions are adjusted based on the All India Consumer Price Index for Industrial Workers (AICPI-IW), similar to Dearness Allowance (DA) adjustments.
5. **Contributory Nature:** Employees contribute 10% of their salary, while the government contributes 18.5%. Contributions are subject to periodic adjustments based on actuarial assessments.

Background :

What is the Old Pension Scheme (OPS)?

Features:

1. **Pension Amount:** Guarantees 50% of the last drawn basic pay as pension, providing a stable and predictable post-retirement income.
2. **Family Pension:** Continues the same pension amount to the family upon the retiree's death.
3. **Gratuity:** Entitles employees to a gratuity of up to ₹20 lakh upon retirement.
4. **Employee Contributions:** No salary deductions for pension contributions during employment.
5. **Dearness Allowance (DA):** Pensions are adjusted periodically based on DA, which compensates for inflation.

Financial Aspects:

1. **Funding:** Financed directly from the government's treasury, making it an unfunded scheme.
2. **Challenges:** Became financially unsustainable due to increasing life expectancies and rising pension liabilities, creating strain on government finances by 2020-21.

What is the National Pension System (NPS) ?

Features:

1. **Contribution:** Employees contribute 10% of their basic salary plus Dearness Allowance (DA), with a matching government contribution. This rate increased to 14% in 2019.
2. **Pension Amount:** Pension depends on the accumulated corpus and investment returns. Upon retirement, individuals can withdraw 60% of their corpus tax-free, with the remaining 40% used to purchase an annuity for a monthly pension, typically around 35% of their final salary.
3. **Investment Options:** Offers various investment schemes managed by fund managers, allowing employees to choose between different risk profiles.



4. Tax Benefits: Contributions are tax-deductible under Section 80 CCD of the Income Tax Act, but withdrawals and pension payouts are subject to taxation.

Criticisms:

- 1. No DA Adjustments:** Unlike OPS, NPS does not provide automatic DA increments for inflation, leading to unpredictable pension amounts.
- 2. Market-Linked:** Reliance on market-linked investments results in variable pension returns and dissatisfaction among employees.
- 3. Mandatory Contributions:** The scheme's mandatory contributions and tax implications have been contentious.

Comparison and Implications:

Advantages of UPS Over OPS:

- 1. Guaranteed Pension with Inflation Protection:** The UPS offers a guaranteed pension with inflation adjustments based on AICPI-IW, combining stability with modern inflation protection.
- 2. Minimum Pension Guarantee:** Introduces a minimum pension of ₹10,000 per month for those with at least 10 years of service, addressing gaps in the OPS.
- 3. Contributory Aspect:** Balances financial sustainability with employee benefits through a contributory system, unlike the non-contributory OPS.

Advantages of UPS Over NPS:

- 1. Fixed Pension Amount:** Provides a predictable pension based on the last drawn salary, contrasting with the variable returns of NPS.
- 2. Inflation Indexation:** Includes inflation protection similar to OPS, reducing the pension volatility seen in NPS.
- 3. Lump-Sum Payment:** Offers additional financial support through a lump-sum payment upon retirement, enhancing overall retirement benefits.

Reactions:

- 1. Prime Minister's Statement:** Modi emphasized the UPS's role in providing financial security and dignity for government employees, reflecting a commitment to their well-being.
- 2. Mixed Reactions:** Employee representatives showed varied responses. The Central Secretariat Service Forum welcomed the UPS but continued to demand OPS, while others expressed concerns about the contributory nature.



Conclusion:

The Unified Pension Scheme aims to blend the stability of the Old Pension Scheme with the modern features of the National Pension System. By ensuring a fixed pension amount with inflation adjustments and providing additional lump-sum payments, the UPS seeks to offer a more predictable and secure retirement plan. It addresses the criticisms of the NPS while preserving the financial predictability of the OPS, aiming to provide a balanced solution for government employees.

2. Vigyan Dhara Scheme

In August 2024, Union Cabinet approved the continuation of a new central sector scheme named **Vigyan Dhara**, which unifies 3 existing umbrella schemes under the **Department of Science and Technology (DST)**.

Key Features of the Vigyan Dhara Scheme:

- 1. Unification of Schemes:** Merges three schemes into one for better efficiency and coordination.
- 2. Components of the Scheme:**
 - a. Science and Technology (S&T) Institutional and Human Capacity Building**
 - b. Research and Development (R&D)**
 - c. Innovation, Technology Development, and Deployment**
- 3. Financial Outlay:** The proposed budget for the scheme is **Rs. 10,579.84 crore** for the period from **2021-22 to 2025-26**.
- 4. Objective:** To enhance India's S&T capabilities and strengthen the overall Science, Technology, and Innovation ecosystem.



Strategic Goals:

1. Promote research in areas like:
 - a. Basic research with access to international mega facilities.
 - b. Translational research in sustainable energy and water.
 - c. Collaborative research through international partnerships.
2. **Human Resource Development:** Aim to increase the pool of researchers in the country, focusing on improving the Full-Time Equivalent (FTE) researcher count.
3. **Gender Parity in S&T:** Implement focused interventions to increase women's participation in science, technology, and innovation.
4. **Alignment with National Goals:** Programs will align with the 5-year goals of the DST and contribute to the vision of **Viksit Bharat 2047**.
5. **Integration with ANRF:** The R&D component will be aligned with the **Anusandhan National Research Foundation (ANRF)**.

Related Initiative:

Anusandhan National Research Foundation (ANRF)

1. Established by the **ANRF 2023 Act**, it aims to promote research and innovation across India's educational and research institutions.
2. Acts as the apex body for strategic direction in scientific research.
3. Integrates the functions of the **Science and Engineering Research Board (SERB)**.
4. Fosters collaboration among industry, academia, and government.

3. Saksham Anganwadi and Poshan 2.0

In August 2024, the Ministry of Women and Child Development released operational guidelines for the implementation of 'Saksham Anganwadi and Poshan 2.0', an **Integrated Nutrition Support Programme**, approved for the **15th Finance Commission** period (2021-2022 to 2025-2026).

Key Features of Saksham Anganwadi and Poshan 2.0:

Objective: To combat **malnutrition** among **children, adolescent girls, pregnant women, and lactating mothers** by enhancing **nutrition content** and **delivery mechanisms**, while fostering a supportive **ecosystem** for health and **immunity**.

Primary Components of Poshan 2.0:

1. **Nutrition Support:**
 - a. **Supplementary Nutrition Programme (SNP)** for:
 - i. **Children aged 0-6 years.**
 - ii. **Pregnant women and lactating mothers (PWLM).**
 - iii. **Adolescent girls (14-18 years) in Aspirational Districts and the North Eastern Region (NER).**
2. **Early Childhood Care and Education:**
 - a. Focus on **children aged 3-6 years** and **early stimulation** for those aged **0-3 years**.
3. **Infrastructure Development:**
 - a. **Modernization and upgrading** of Anganwadi centers.
4. **Poshan Abhiyaan:**
 - a. Ongoing campaign to improve **nutritional outcomes**.

Objectives of Poshan 2.0:

1. **Human Capital Development:**
 - a. Contribute to the country's **human capital** through improved **nutrition**.
2. **Malnutrition Challenges:**
 - a. Directly address various forms of **malnutrition**.
3. **Nutrition Awareness:**
 - a. Promote **healthy eating habits** and **nutritional awareness** for long-term health.
4. **Address Deficiencies:**
 - a. Implement key strategies to tackle **nutrition-related deficiencies**.

Focus Areas:

1. **Maternal Nutrition:**
 - a. Emphasizing the importance of **nutrition** during **pregnancy and lactation**.



2. Infant and Young Child Feeding Norms:

- a. Establishing **protocols** for optimal **feeding practices**.

3. Treatment Protocols:

- a. Specific protocols for **Severe Acute Malnutrition (SAM)** and **Moderate Acute Malnutrition (MAM)**.

4. Wellness Practices:

- a. Incorporating **AYUSH** (Ayurveda, Yoga, Unani, Siddha, and Homoeopathy) practices to combat issues like **wasting, underweight, stunting, and anemia**.

Technological Integration:

1. Poshan Tracker:

- a. Introduction of a centralized **ICT data system** linked with the **RCH Portal (Anmol)** of the **Ministry of Health and Family Welfare (MoHFW)** to monitor and improve implementation.

Conclusion:

Saksham Anganwadi and Poshan 2.0 aims to create a comprehensive framework for addressing **malnutrition** and enhancing **health and nutrition outcomes** for vulnerable populations in India, ensuring better **health practices and resource allocation**.

4. PM JAN Dhan Yojana

The year 2024 marks the tenth year of the **Pradhan Mantri Jan-Dhan Yojana (PMJDY)**, the national mission for financial inclusion to ensure access to financial services, namely, a basic savings & deposit account, remittance, credit, insurance, and pension in an affordable manner.

About:

1. Pradhan Mantri Jan-Dhan Yojana (PMJDY) is National Mission for Financial Inclusion to ensure access to financial services, namely, basic savings & deposit accounts, remittance, credit, insurance, pension in an affordable manner.
2. Under the scheme, a basic savings bank deposit (BSBD) account can be opened in any bank branch or Business Correspondent (Bank Mitra) outlet, by persons not having any other account.

Benefits/Pillars under PMJDY

1. **One basic savings bank account** is opened for unbanked people.
2. There is **no requirement to maintain any minimum balance** in PMJDY accounts.
3. **Interest is earned** on the deposit in PMJDY accounts.
4. **Rupay Debit card** is provided to the PMJDY account holder.
5. **Accident Insurance Cover** of Rs.1 lakh (enhanced to Rs. 2 lakh to new PMJDY accounts opened after 28.8.2018) is available with RuPay card issued to the PMJDY account holders.
6. An **overdraft (OD) facility** up to Rs. 10,000 to eligible account holders is available.
7. PMJDY accounts are **eligible for Direct Benefit Transfer (DBT)**, Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), Atal Pension Yojana (APY), Micro Units Development & Refinance Agency Bank (MUDRA) scheme.

Challenges in Implementation of PM Jan Dhan Yojana and Financial Inclusion:

1. **Dormant Accounts** : Over **20% of Jan Dhan accounts** remain inactive due to limited financial literacy, as reported by the **Reserve Bank of India (RBI)** in 2023.
2. **Low Financial Literacy**: A **NABARD report (2022)** found that **only 27% of rural households** understand formal banking processes, hindering effective utilisation of financial services.
3. **Limited Digital Infrastructure** : The **World Bank** estimates that **45% of rural India** lacks reliable internet, creating challenges for digital banking and financial inclusion.
4. **Gender Disparity** : According to the **Global Findex Report (2021)**, **women account holders** are **8% less likely** to use formal financial services, reflecting gender barriers in access.
5. **Banking Penetration in Remote Areas** : The **RBI Financial Inclusion Report (2022)** highlights that **rural banking branches** are insufficient, leading to under-coverage in remote regions with sparse banking facilities.



Need of the hour:

1. **Enhanced Digital Literacy** : Promote digital literacy through programs like Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) to ensure effective use of financial services.
2. **Strengthen Financial Infrastructure**: Expand banking infrastructure in rural areas by increasing the number of banking correspondents from 1.26 lakh (2023 data) to ensure wider reach.
3. **Improve Credit Access**: Ensure greater access to formal credit by enhancing Mudra loan disbursement, which crossed ₹23 lakh crore as of 2022, supporting micro-entrepreneurs.
4. **Focus on Women's Financial Inclusion**: Increase women account holders from 55% to 70% by 2025 to bridge the gender gap in financial inclusion. (Source: Global Findex Report 2021, World Bank).
5. **Leverage FinTech for Inclusion** : Boost FinTech adoption for last-mile delivery of services. India's digital transactions rose by 88% in 2022, enabling real-time financial inclusion.

5. National Coastal Mission Scheme

In August 2024, the **Minister of State for Environment, Forest and Climate Change** provided updates on the **National Coastal Mission Scheme (NCMS)** in Lok Sabha.

Key Details of the National Coastal Mission Scheme:

1. **Launch Year**: 2014
2. **Context**: Part of the National Action Plan on Climate Change (NAPCC).
3. **Objective**: To address the impacts of climate change on coastal and marine ecosystems, infrastructure, and communities. This is achieved through a combination of adaptation and mitigation strategies.

Components of the National Coastal Mission:

1. **Management Action Plan**:
 - a. Focus on the conservation of mangroves and coral reefs.
2. **Research & Development**:
 - a. Emphasis on marine and coastal ecosystems.

3. Sustainable Development of Beaches:

- a. Under the Beach Environment & Aesthetic Management Service.

4. Capacity Building/Outreach:

- a. Training and awareness programs for Coastal States/UTs, including beach cleaning initiatives.

Implementation:**1. Implementing Agencies:**

- a. State Governments of Coastal States and Union Territory (UT) Administrations are responsible for executing the scheme.

Key Facts about the National Action Plan on Climate Change (NAPCC):

1. **Launch Date**: June 30, 2008
2. **Purpose**: Identifies measures that balance development objectives with climate change mitigation.
3. **Core Missions**: Eight "National Missions" focus on climate change adaptation, mitigation, and resource conservation:
 - a. National Solar Mission
 - b. National Mission for Enhanced Energy Efficiency
 - c. National Mission on Sustainable Habitat
 - d. National Water Mission
 - e. National Mission for Sustaining the Himalayan Ecosystem
 - f. National Mission for a Green India
 - g. National Mission for Sustainable Agriculture
 - h. National Mission on Strategic Knowledge for Climate Change

Related Mission: Green India Mission

1. **Launch Year**: 2014
2. **Objective**: Enhance carbon sinks and adapt vulnerable species/ecosystems to climate change through combined adaptation and mitigation measures.

Conclusion:

The National Coastal Mission Scheme plays a crucial role in mitigating the adverse effects of climate change on India's coastal regions, ensuring the protection of ecosystems and supporting sustainable development initiatives.



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