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A. POLITY & GOVERNANCE

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1. Digital Access is a Fundamental Right: SC

1. In April 2025, the SC ruled that **meaningful digital access** is a part of **Right to Life under Article 21**.
2. The judgment came in the case ***Amar Jain v. Union of India & Ors*****,** filed by acid attack survivors and visually impaired persons.
3. Petitioners faced exclusion from banking/welfare due to **biometric-based e-KYC** systems.

What Was the Issue in the Case?

1. Petitioners challenged the exclusionary nature of digital KYC systems.
2. Biometric-based methods like fingerprint and facial scans are **not accessible to many persons with disabilities (PwDs)**.
3. **Acid attack survivors** faced failures in facial recognition due to disfigurement.
4. **Visually impaired users** struggled with apps lacking **screen-reader support**.
5. As a result, they were **denied access to banking, welfare, and digital services**.
6. These exclusions violated their **Right to Dignity, Equality, and Access**.
7. Petitioners emphasized that the system's design lacked **reasonable accommodation**, violating both **constitutional rights** and **international obligations under the UNCRPD** (United Nations Convention on the Rights of Persons with Disabilities).

What Did the Court Rule and Direct?

1. The Court held that **access to digital platforms is a constitutional guarantee under Article 21**, not a privilege.
2. It emphasized that **digital access is essential to live with dignity** and to avail **basic public and private services**.
3. The Court issued strong directions to **revise e-KYC norms** to remove exclusionary practices.
4. It urged the **Reserve Bank of India (RBI)** and all **regulated entities**, including **private banks and fintech platforms**, to ensure **inclusive digital systems**.
5. These digital systems must comply with the **Rights of Persons with Disabilities (RPwD) Act, 2016**.
6. The Court mandated the **appointment of nodal officers in all departments** to **monitor accessibility compliance**.
7. It directed that **regular accessibility audits** be conducted by **certified professionals** to ensure continued compliance.
8. It also required the **active involvement of persons with disabilities (PwDs)** in the **design of digital infrastructure and platforms**.

Constitutional Basis and the Need for Substantive Equality

The ruling draws strength from multiple constitutional provisions:

1. **Article 21**: The right to life includes **dignified digital access**.
2. **Article 14**: Denial of access to inclusive digital services violates **the right to equality**.
3. **Article 15**: Systems that fail to accommodate language or disability concerns amount to **discrimination**.
4. **Article 38**: The State must strive to **minimize inequalities**, including access to digital infrastructure.

The Court emphasized that **digital transformation must not reinforce social exclusion** but should actively promote **substantive equality**, where systems are designed to ensure inclusion for all—especially the most vulnerable.

Past Judicial Precedents Strengthening Digital Rights

This judgment builds upon prior landmark rulings:

1. In **Maneka Gandhi v. Union of India (1978)**, the SC laid down that any restriction on Article 21 must be **just, fair, and reasonable**—a principle now extended to include **digital exclusions**.

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2. In **Faheema Shirin RK v. State of Kerala (2019)**, the Kerala High Court held that **internet access is part of the Right to Life and Education**.
3. In **Anuradha Bhasin v. Union of India (2020)**, the Supreme Court recognized **internet freedom** as essential under **Article 19(1)(a)** (speech) and **Article 19(1)(g)** (business), insisting on proportionality in any restriction.

These rulings establish that **digital rights are intertwined with civil liberties** and that access to the internet and digital infrastructure is now a **necessary condition for full citizenship**.

What Is KYC and What Are Its Digital Challenges?

1. **KYC (Know Your Customer)** is a mandatory identity verification process under the **Prevention of Money Laundering Act (PMLA), 2002**.
2. It requires submission of **documents like ID proof, address proof, and photographs** for verification.
3. The **Digital KYC system** increasingly relies on **Aadhaar-based e-KYC**, which includes **biometric verification** such as fingerprint and facial recognition.
4. The **Central KYC Records Registry (CKYCRR)**, maintained by **CERSAI**, had over **94 crore KYC records** as of **September 2024**, showing the vast scale of digital reliance.
5. However, this digital dependence **excludes those unable to provide fingerprints**, such as persons with **burn injuries or scars**.
6. It also excludes people who **can't align their face for digital scans**, such as **acid attack survivors or individuals with facial disfigurements**.
7. Many individuals, particularly the marginalized, are **unfamiliar with uploading digital documents**, creating further barriers.
8. As a result, **digital KYC, in its current form, risks becoming exclusionary**, particularly for **marginalized communities and persons with disabilities**.

Who Is Affected by Digital Exclusion?

The Court recognized that digital exclusion is **not limited to PwDs**. It affects a broad range of vulnerable groups:

Group	Digital Barriers
PwDs	Lack of screen readers, exclusionary biometrics, non-intuitive interfaces
Rural Citizens	Poor internet access, lack of affordable smartphones
Senior Citizens	Low digital literacy, unfamiliarity with apps
Linguistic Minorities	Most platforms available only in Hindi/English
Economically Weaker Sections	Inability to afford devices or data plans

Measures Recommended for Inclusive Digital Empowerment

To bridge this gap, the Court and experts suggest a range of measures:

1. **Inclusive Digital Infrastructure**:
   a. Use screen readers, voice commands, and **AI-based sign language translators**.
   b. Avoid biometric-only systems—offer **audio/haptic navigation** for those with facial injuries.
   c. Mandate adherence to **Web Content Accessibility Guidelines (WCAG)**.
2. **Targeted Digital Literacy**:
   a. Expand **PMGDISHA** (Pradhan Mantri Gramin Digital Saksharta Abhiyan) to include disability-specific modules.
   b. Partner with institutions like **NIEPMD** and companies like **Google** or **Microsoft** to develop accessible training programs.
3. **Smart City Accessibility**:
   a. Install **digital signage in Braille, audio, and sign formats** under the Smart Cities Mission.
   b. Ensure accessible public transport systems and navigation tools.
4. **Inclusive Innovation Labs**:
   a. Establish **public-private tech hubs** to create **low-cost assistive technology**.
   b. Develop innovative tools for **digital onboarding of PwDs**.

2. Demands for a Caste Census

1. On **April 30, 2025**, the **Cabinet Committee on Political Affairs (CCPA)**, chaired by **Prime Minister Narendra Modi**, gave its approval to include **caste-based enumeration** in the upcoming **Census of India**.
2. This is a significant policy shift, as it will be the **first time since 1931** that the Government of India officially will gather **caste-wise data for communities beyond Scheduled Castes (SCs) and Scheduled Tribes (STs)**.
3. According to the official statement, the caste census will aim to **"strengthen the social and economic structure of our society while the nation continues to progress."**
4. This decision has come after years of political demand, social debate, and legal scrutiny, especially concerning the representation and welfare of **Other Backward Classes (OBCs)** in India.

What is the Census in India

1. The Census of India happens once every 10 years.
2. It collects demographic (population), economic, and social data about every person in the country.
3. The **1st attempt at a Census was in 1872 during British rule**.
4. But the first proper and organized Census was in **1881, done under W.C. Plowden**, who was the Census Commissioner of India.
5. After independence, India continued this every 10 years under the **Census Act of 1948.**
6. It is done by the **Registrar General and Census Commissioner**, who works under the **Ministry of Home Affairs.**
7. Last census was conducted in 2011.
8. However, The 2021 Census was postponed because of the COVID-19 pandemic.
9. Since then, there has been pressure to resume the Census.
10. Now, with the 2025 decision, the new Census will have a wider scope — it will include caste data

What is a Caste Census?

1. A caste census collects detailed information on people's caste, as well as related details like education, jobs, and economic status.
2. During British rule, caste data was collected regularly.
3. The **last full caste census was in 1931.**
4. In **1941**, caste data was collected but **not published due to World War II.**
5. After independence, the Indian government chose not to collect caste data in detail.
6. They said the country should move beyond caste divisions.
7. So, from 1951 onwards, the Census only recorded caste **details for SCs and STs**. Other castes, including OBCs, were left out.
8. The Census is a **Union subject**, under **Entry 69 of the Union List in the 7th Schedule** of the Constitution.
9. This means only the central government can conduct a national census.
10. In **1961**, the Government of India **allowed states to conduct their own surveys to identify OBCs** for state-level use, since there were no central OBC reservations at that time.
11. The Collection of Statistics Act, 2008 also allowed states and local governments to collect data when needed.
12. For example, Karnataka did a caste survey in 2015, and Bihar did one in 2022.
13. Even though OBCs were not included in the national census, they were officially recognized — especially after the **Mandal Commission Report** in 1980.
14. That report used **1931 caste data** and expert estimates, not new data.
15. This has created a serious problem: OBCs make up a large part of India's population, but there is no updated or accurate caste data to support reservation or welfare policies for them.

SECC 2011: An Attempt That Fell Short

1. In 2011, the UPA government attempted a caste-based enumeration under the **Socio-Economic and Caste Census (SECC)**.
2. This was the 1st such data collection since Independence that attempted to include caste data beyond SCs and STs.

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3. However, the SECC turned out to be a **deeply flawed exercise**.
4. Firstly, it was **not conducted under the Census Act, 1948**, which meant it did not have the same legal protections or methodological rigour.
5. Secondly, the process was managed by the **Ministries of Rural Development and Urban Development**, which lacked the expertise required for such a large-scale sociological study.
6. Worse, the design of the questionnaire was **open-ended**, and enumerators were not trained to differentiate between:
   a. Castes vs sub-castes
   b. Clan names vs surnames
   c. Gotras vs jatis
7. Because of this confusion, the SECC recorded **46 lakh (4.6 million)** unique caste names — a number that makes no sense, since the 1931 Census had recorded only **4,147** castes.
8. The collected data was given to NITI Aayog and the Ministry of Social Justice.
9. But it was **never published** because there were serious doubts about how accurate or useful it was.

Legal and Constitutional Backing for a Caste Census

1. The Indian Constitution supports affirmative action (like reservations), but to apply these policies properly, the government needs accurate data.
2. Here are the key constitutional rules that support reservations:
   a. **Article 15(4)** – Allows the state to make special provisions for the **educational advancement** of socially and educationally backward classes.
   b. **Article 16(4)** – Allows reservation in **public employment** for backward classes not adequately represented.
   c. **Article 340** – Empowers the President to appoint a commission to investigate the conditions of backward classes (e.g., Mandal Commission).
3. There is also **legal precedent** influencing reservation limits.
4. The **Indra Sawhney case (1992)** capped total reservations at **50%**, while upholding OBC reservations.
5. However, it allowed **internal sub-categorization** within the OBCs — provided that caste-wise data was available.
6. In local elections, the **73rd and 74th Amendments** of the Constitution require OBC reservations in **panchayats and municipalities**. This is mentioned in:
   a. **Article 243D(6)** for panchayats
   b. **Article 243T(6)** for municipalities
7. But in states like Uttar Pradesh, Madhya Pradesh, Gujarat, and Maharashtra, High Courts and even the Supreme Court have stopped OBC reservations in local elections.
8. The reason: there is **no solid caste data** to support these reservations.

How States Have Stepped In: State-Level Caste Surveys

1. With the Centre reluctant to conduct a caste census in the past, **individual states have taken the initiative**.
2. **Bihar (2023):**
   a. In 2022, Bihar announced a caste survey in the State and released the results in October 2023 that revealed data on **215 caste groups**.
   b. Based on the report, the government had raised reservation in Bihar to 65% from 50% in educational institutions and government jobs, but the hike was quashed by the Patna High Court.
3. **Telangana (2024):**
   a. The Congress-led government in Telangana conducted a detailed survey covering caste, economic status, educational attainment, and political participation.
4. **Karnataka (2025):**
   a. CM **Siddaramaiah** released the long-delayed **Socio-Economic and Educational Survey** (commissioned in 2015), adding momentum to the national debate.
5. These state efforts pressured the Union government to reconsider its position, eventually resulting in the 2025 Cabinet approval for a nationwide caste census.

Why Is a Caste Census Important Now?

There are several urgent reasons why a caste census is being demanded today:

1. Accurate data is essential to design welfare schemes for different caste groups.
2. Without data, policies risk being inefficient or inequitable.
3. **Sub-Categorization of OBCs**: There is increasing recognition that a few dominant castes benefit disproportionately from OBC reservations.
4. Data can help create **"quota within quota"** systems to ensure justice for **Extremely Backward Classes (EBCs)**.
5. Courts have repeatedly demanded **quantifiable data** to justify OBC reservations.
6. A caste census would help meet this requirement.
7. The next **delimitation of constituencies (post-2026)** will rely on updated Census data.
8. The **Women's Reservation Act (2023)** also hinges on fresh Census data.

Challenges and Concerns

While a caste census has its benefits, it also raises valid concerns:

1. Critics argue it may deepen caste identities and promote division.
2. Self-reporting, inconsistent terminology, and lack of standardization can affect the credibility of data.
3. The data might become a political weapon, leading to increased demand for quotas and fueling identity-based politics.
4. The **50% cap** on reservations may come under challenge if the new data suggests greater backwardness.

In a democracy like India, where **social justice, equality, and representation** are constitutional promises, the absence of reliable caste data is a glaring anomaly. A caste census is not just a political tool — it is a **constitutional, administrative, and ethical necessity**. However, its success depends on the **methodology, transparency, and intent** with which it is carried out.

3. Urdu is Indian, Not Foreign language: Supreme Court

1. The case began with a petition by Varshatai, a former member of the **Municipal Council** in **Patur, Akola district**, Maharashtra.
2. She objected to the **use of Urdu** alongside Marathi on the signboard of a newly built **Municipal Council building**.
3. She then **filed a petition before the Bombay High Court**, challenging the inclusion of Urdu on the signage.
4. The signboard displayed the words "**Municipal Council, Patur**" in both **Marathi and Urdu**.
5. The petitioner argued that using Urdu was **wrong** and violated the **Maharashtra Local Authorities (Official Languages) Act, 2022**, which declares **Marathi as the official language** of the State.

Bombay High Court's Ruling

1. The **Bombay High Court dismissed the petition**, upholding the use of Urdu on the signboard.
2. It clarified that the **2022 Act does not prohibit** the use of **Urdu or any other language**.
3. The purpose of signage is to **communicate clearly with the public**, and using Urdu is justified in areas where people **understand and speak Urdu**.
4. The Court emphasized that the **government must be inclusive**, especially **local bodies**, which are the closest to the citizens.
5. **Unhappy with the High Court's verdict**, the petitioner then **approached the Supreme Court**, challenging the decision.

Supreme Court Ruling

1. The Supreme Court had to decide on three main questions:
   a. Does the **use of Urdu** on the signboard **violate the Maharashtra government's language policy**?
   b. Does it **undermine the official status of Marathi**?
   c. Does using Urdu have any **religious or communal implications**?
2. The **Supreme Court rejected** the appeal and upheld the Bombay High Court's verdict.

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3. The Court **rejected the argument** that Urdu is a religious or foreign language.
4. It declared that **Urdu is an integral part of India's composite culture and history**.
5. The Court emphasized that **language is a tool for communication**, not a marker of religious identity.
6. It held that **using Urdu on signage is justified** in regions with a substantial Urdu-speaking population.
7. The Court underscored that **language should be a uniting force, not a dividing one**.
8. It affirmed that **Urdu is not confined to any religion** but is a **cultural asset shared by many communities**.
9. It hailed Urdu as part of the **"Ganga-Jamuni Tehzeeb"**, symbolizing India's **communal harmony**.
10. The judgment noted that **Urdu, like Hindi and Marathi, is an Indo-Aryan language** developed on Indian soil.
11. The Court cited **common legal terms of Urdu origin** used across courts in India, such as:
    a. *Adalat* (Court)
    b. *Halafnama* (Affidavit)
    c. *Peshi* (Hearing)
    d. *Vakalatnama* (Power of Attorney)

Facts About Urdu and Indian Languages

1. The **first Urdu newspaper**, *Jam-i-Jahan-Numa*, was published on **March 27, 1822** from Kolkata by **Harihar Dutta**.
2. **Maulvi Muhammad Baqir** (1780–1857), an Urdu journalist, was the **first journalist to die for the nation**. He ran *Delhi Urdu Akhbar*, later renamed *Akhbar-us-Zafar* during the **1857 Revolt**.
3. **English and Hindi** are the two **official languages of the Central Government**.
4. **Urdu is one of the 15 Indian languages printed on Indian currency notes**.
5. Urdu is an **official language** in states like **Jammu & Kashmir, Telangana, Uttar Pradesh, Bihar, Delhi, and West Bengal**.
6. In **Punjab**, old **Revenue Department records** are preserved in Urdu.
7. As per the **2001 Census**, India had **122 major languages and 234 mother tongues**.
8. Urdu was the **6th most spoken scheduled language in India** in 2001.
9. Urdu is **spoken in almost every Indian state**, except possibly in parts of the Northeast.
10. The **Eighth Schedule** of the Constitution lists **22 official languages**, including Urdu, Hindi, Tamil, Marathi, Telugu, etc.
11. **Article 343(1)** declares **Hindi in Devanagari script** as the official language of the Union.
12. It also prescribes the **international form of Indian numerals** for official use.
13. **Article 343(2)** allowed English to be used for Union purposes for **15 years** after the Constitution's commencement.
14. **Article 343(3)** empowered **Parliament to extend** the use of English and Devanagari numerals beyond the 15-year period.

4. Telangana: First State to Implement SC Sub-Categorisation

Categorisation in the Reservation System

1. Categorisation refers to the classification of the population into broad social groups such as Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Classes (OBCs), and the General category.
2. These categories are recognised based on historical discrimination, untouchability, social exclusion, and systemic oppression.
3. The Indian Constitution provides affirmative action through reservations in education, public employment, and political representation to uplift these disadvantaged groups.
4. The SCs are recognised under **Article 341**, STs under **Article 342**, and OBCs under **Article 340**.
5. However, despite these measures, inequality continues within each category, with some castes advancing significantly while others remain left behind.
6. This inequality within reserved categories **led to the idea of sub-categorisation** for equitable internal distribution of benefits.

What is Sub-Categorisation?

1. Sub-categorisation is the process of **creating smaller sub-groups within a larger reserved category** like SCs, STs, or OBCs.
2. The objective is **to prevent advanced sub-castes from monopolising reservation benefits** and to include extremely backward sub-castes who are left out.
3. For example, within the OBC category, the **Rohini Commission (2017)** found that out of 2,633 OBC castes, only 40 sub-castes availed **97% of the benefits**.
4. The principle of **substantive equality** underlies sub-categorisation — which goes beyond equal treatment and focuses on equal outcomes.
5. Sub-categorisation helps achieve **intra-group equity**, where the most marginalised among the reserved groups also get proportionate access to opportunities.
6. This idea was later extended specifically to Scheduled Castes (SCs) in several states**, leading to legal and constitutional debates.**

Sub-Categorisation of Scheduled Castes (SCs)

1. Scheduled Castes are notified under **Article 341** of the Constitution and currently receive **15% reservation** in central government jobs and educational institutions.
2. However, data shows that certain castes among SCs — often numerically larger or politically powerful — have cornered most benefits.
   - For instance, in **Andhra Pradesh**, **Madiga** and **Mala** are two major SC sub-castes, but Madigas remained underrepresented despite having larger numbers.
3. To address this, sub-categorisation of SCs involves dividing them into internal groups and allocating the 15% reservation proportionally.
4. This does **not increase the overall SC quota**, but ensures that **weaker sub-castes** within the SC category also get fair share.
5. The aim is **intra-caste justice** and **removal of internal dominance**, while ensuring that more backward SCs are not sidelined by the relatively better-off ones.
6. However, the legality and constitutionality of such **sub-categorisation led to major judicial interventions, starting with the Davinder Singh case**.

Constitutional Provisions Related to SCs

1. **Article 341(1)**: Empowers the **President** to notify SCs for each state in consultation with the Governor.
2. **Article 341(2)**: Only **Parliament** can modify the list once notified.
3. **Article 366(24)**: Defines SCs as groups notified under Article 341.
4. **Article 15(4) and 16(4)**: Allow the State to make special provisions for **socially and educationally backward classes**, including reservations.

How Did the Legal Debate Begin? — The Davinder Singh Case

1. The issue first surfaced in **Punjab (1975)** when the state gave **first preference to Balmiki and Mazhabi Sikh communities** (the most backward SCs) within reservations.
2. In 2006, the Punjab & Haryana High Court struck down this 1975 notification in *Dr. Kishan Pal v State of Punjab*.
3. That same year, Punjab passed the *Scheduled Caste and Backward Classes (Reservation in Services) Act, 2006*, reintroducing the first preference.
   - Davinder Singh, from a non-Balmiki, non-Mazhabi Sikh SC community, challenged this 2006 Act.
4. In 2010, the High Court struck down the Act again, and the case went to the Supreme Court.
5. In 2014, the Supreme Court referred the matter to a five-judge Constitution Bench to reconsider the *E V Chinnaiah* ruling.
6. In 2020, a Constitution Bench led by Justice Arun Mishra observed that courts cannot ignore ground realities and suggested revisiting the 2004 decision.
7. **In 2024,** a seven-judge Supreme Court Bench was formed, which finally delivered the verdict.

What Did the Supreme Court Decide in 2024?

1. In **2024**, a **7-judge Constitution Bench** headed by then **CJI D.Y. Chandrachud** in **State of Punjab vs Davinder Singh** delivered a landmark judgment.
2. The Court **overruled the 2004 E.V. Chinnaiah judgment**, stating that **sub-categorisation among SCs is constitutionally valid**.

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3. The ruling clarified that while **Article 342** allows the President to notify SCs, it **does not prohibit internal classification** for equitable benefit-sharing.
4. The Court held that **Articles 15(4)** and **16(4)** empower the State to make **special provisions** for **socially and educationally backward** sub-groups, including among SCs.
5. It observed that reservation is not just about representation but aims at **uplifting the most disadvantaged within SCs**.
6. The Court emphasized that **sub-categorisation must be based on empirical data**, and that **states have the legislative competence** to do so.
7. This paved the way for **targeted affirmative action**, especially in southern states like **Telangana and Andhra Pradesh**, where **dominant groups (like Malas)** had monopolised benefits, sidelining others like **Madigas**.

Current Context

1. Following the Supreme Court's ruling, Telangana became the first state to implement SC sub-categorisation for reservations.
2. On **April 14, 2025** (Ambedkar Jayanti), the state enacted the **Telangana Scheduled Castes (Rationalisation of Reservations) Act, 2025**.
3. The state divided the **existing 15% SC quota** into **four sub-groups**, based on backwardness and population:
   a. **Group A** – Malas
   b. **Group B** – Madigas
   c. **Group C** – Rellis
   d. **Group D** – Others
4. This move aimed to ensure that **historically excluded groups like Madigas** get a proportionate share in education and government jobs.
5. Telangana plans to **amend reservation rules**, **update databases**, and collect **caste-wise socio-economic data** for effective implementation.

Demographic Context (Census 2011)

As per **Census 2011**:

1. **Scheduled Castes** comprise **16.6%** of India's population.
2. **Scheduled Tribes** comprise **8.6%**.
3. Combined, they form nearly **25% of the total population**.
4. The **highest SC population** is in **Punjab (31.9%)**.
5. Between 2001–2011, SCs grew by **20.8%**, and STs by **23.7%**.

Classification of 59 SC Communities in Telangana:

1. **In 2023**, Telangana government constituted**, Justice Shameem Akther Commission** to examine the issue of **inequitable distribution of reservation benefits among SCs** in the state.
2. The Commission submitted its report in **January 2024**, recommending a **three-tier grouping of SC communities** with separate internal quotas to ensure **intra-group justice**.
   - Based on the **Commission,** the state reclassified **59 SC sub-castes** into three major groups:

Group	No. of Sub-Castes	Reservation Share	Key Description
Group I	15	1%	Most backward SCs; only 0.5% of the population
Group II	18	9%	Marginally benefitted sub-castes
Group III	26	5%	Relatively better-off among SCs

   a. **33 out of 59 sub-castes remained in the same group**, while **26 were shuffled**, affecting about **3.43% of SC population**.
   b. This sub-categorisation applies to **new recruitments and educational admissions** only, not to already notified vacancies.
   c. The **reservation quotas will be updated** further after the **2026 Census** data is released.

Arguments For and Against SC Sub-Categorisation

Aspect	Arguments For	Arguments Against
Targeted Support	Prevents dominant SC groups from monopolising benefits; addresses gaps from unreleased SECC 2011 data.	Risks becoming a **political tool** and may deepen **caste divisions**.
Addressing Inequalities	Recognises **internal heterogeneity** in SCs (e.g., Malas vs Madigas).	May fragment SCs further and weaken their **collective political voice**.
Constitutional Backing	Articles 15 and 16 empower states to make special provisions; backed by latest SC ruling.	Critics say it **distracts from dismantling larger caste-based hierarchies**.

The **Supreme Court's 2024 verdict** and **Telangana's bold policy move** mark a new chapter in **reservation policy**, focusing not just on broader inclusion, but **intra-group justice**. If implemented effectively and backed by robust data, **SC sub-categorisation** could serve as a **model for other Indian states** to replicate — ensuring that **no community is left behind** in the quest for equality.

5. Can senior citizens evict their children from their property?

1. Recently, the Supreme Court rejected a suit filed by a senior couple to evict their son from their home by invoking the Maintenance and Welfare of Parents and Senior Citizens Act, 2007 (Senior Citizens Act).
2. The Act provides a streamlined process for senior parents — often neglected and lacking financial support — to file suits seeking maintenance from their children.
3. Though the **Act does not explicitly give parents the right to evict** their children or relatives from their home, the Supreme Court has interpreted the provision related to property transfers to allow such eviction orders in certain circumstances.

What was the Case?

1. Urmila Dixit, who had purchased property in 1968. In 2019, she gifted it to her son **with the clear condition** that he would maintain her and ensure her peaceful living.
2. This condition was further confirmed through a **promissory note**. However, over time, the relationship deteriorated, and she alleged **mistreatment by her son.**
3. As a result, **in 2020**, she filed a case under **Sections 22 and 23 of the Senior Citizens Act** seeking cancellation of the gift deed.
   a. **Section 22** of the Act empowers **state governments to designate District Magistrates** for its implementation and mandates a **comprehensive action plan for the protection of elderly persons**.
   b. **Section 23** allows **the cancellation of property transfers (like gifts)** if they were made with the condition of care, which was later violated.
      - Such transfers are treated as having been made under fraud or undue influence.
4. The Sub-Divisional Magistrate (SDM) declared the **gift deed void,** and the Collector upheld this decision.
5. The son challenged this in the Madhya Pradesh High Court. While a single judge upheld the lower authority's view, the **Division Bench reversed it**, arguing that the **gift deed had no direct maintenance** condition and that Section 23 functioned independently.
6. **Urmila Dixit then approached the Supreme Court**. On 28 March 2025, the **Court ruled in her favor**.
7. It held that **Section 23 could not be treated as a standalone** clause.
8. Instead, it must be read in harmony with the Act's objective — which is to protect and empower senior citizens.
9. The Court said that the **gift deed was conditional** upon the son providing maintenance, and since he failed, the property must be returned to the mother.

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10. However, it clarified that **eviction of the son wasn't automatically** justified in this case.
11. The Court emphasized that while **eviction is not an automatic outcome** after cancellation, Tribunals under the Act do **have the implicit power to evict** if necessary.

Maintenance and Welfare of Parents and Senior Citizens Act, 2007.

1. This case highlights the growing importance of the **Maintenance and Welfare of Parents and Senior Citizens** Act, 2007.
2. The Act is Administered by the **Ministry of Social Justice & Empowerment**.
3. Act **defines a senior citizen as anyone aged 60 years** or more and lays down legal obligations on children or relatives to maintain them.
4. **Major Key features of the Act:-**
   a. **Maintenance Obligation (Sections 4–18)**
      - **Children** are legally obligated to maintain their parents.
      - **Relatives** must maintain childless senior citizens.
      - Senior citizens can **approach Maintenance Tribunals** to claim monthly support.
   b. **Maintenance Tribunals (Section 7)**
      - State Governments are required to **set up Maintenance Tribunals**.
      - These Tribunals ensure **speedy resolution** of maintenance-related claims.
   c. **Old Age Homes (Section 19)**
      - Every district must establish **at least one old age home**.
      - Responsibility lies with **State Governments**.
   d. **Protection of Life and Property (Sections 21–23)**
      - The Act offers **legal safeguards against abuse, neglect, and exploitation**.
      - It ensures the **right to property and peaceful living** for senior citizens.

Other legal protections available for the elderly

1. Apart from the Senior Citizens Act, there are other legal protections available for the elderly in India.
2. **Article 41 and Article 46** of the Constitution guide the State to provide public assistance to older persons.
3. Under the Hindu Adoptions and Maintenance Act, 1956, children are bound to maintain their aged parents.
4. Similarly, under **section 144 of Bharatiya Nagarik Suraksha Sanhita** (BNSS) (formerly Section 125 of the Criminal Procedure Code), parents can seek maintenance from their children through the legal system.
5. **Globally too**, the rights of the elderly are gaining attention. The United Nations has proposed a Convention on the Rights of Older Persons.
6. Back in 1982, the first major international discussion on aging was held, leading to the publication of the "International Plan on Ageing".
7. Later, in 2002, the **"Madrid International Plan of Action on Ageing"** was adopted, urging countries to create inclusive policies for elderly welfare.
8. At the national level, progressive states are leading by example. **Kerala** recently became the **first Indian state to pass the Kerala State Senior Citizens Commission Bill**. The commission will work to ensure the rights, welfare, and social security of elderly citizens, further strengthening their support system.

Initiatives for Ageing with Dignity

Recently, President of India launched initiatives for senior citizens at the 'Ageing with Dignity - Initiatives for the Welfare of Senior Citizens' event.

Initiatives launched

1. **Senior Citizen Welfare Portal:** A digital platform for elderly citizens, providing easy access to government schemes, healthcare benefits, and welfare services.
2. **Senior Citizen Homes:** Supported under the Ministry of Social Justice & Empowerment's programme aligned with the Maintenance and Welfare of Parents and Senior Citizens (MWPSC) Act.
3. **MoU with Brahma Kumaris:** Focuses on promoting emotional balance, mindfulness, and intergenerational bonding.

"India's Ageing Population: Challenges, Opportunities, and Policy Responses"

1. Although India has the largest number of young people, ageing is advancing rapidly.
2. India's elderly population (aged 60+) is **Percentage of Total Population in 2011:** 8.6% were senior citizens. **currently 153 million and is projected to reach 347 million by 2050(UNFPA).**
3. This shift is not just demographic but a massive societal transformation with deep implications.
4. The **United Nations Decade of Healthy Ageing (2021–2030)** acknowledges ageing's impact across health, labour, finance, social protection, and education systems.
5. In India, ageing brings **financial insecurity**—40% of elderly belong to the poorest wealth quintile, and about **20% have no income.**
6. Cultural norms often label the **elderly as a "burden", leading to abuse and exclusion.**
7. There's a **lack of robust social safety nets** to protect older individuals.
8. The **feminisation and ruralisation** of ageing further compound elderly vulnerability—more older women and a higher concentration of elderly in rural areas.
9. Despite challenges, India's ageing story holds promise due to proactive policy initiatives.
10. The Government of India has **launched several schemes** such as the **National Programme for Health Care of the Elderly (NPHCE), National Social Assistance Programme (NSAP), Maintenance and Welfare of Parents and Senior Citizens Act (2007)**, Atal Vayo Abhyuday Yojana (AVYAY), **AGRASR (self help groups)**
11. India released its National Policy on Older Persons (NPOP) in 1999, even before the Madrid International Plan of Action on Ageing (MIPPA) in 2002.
12. India must embrace **not just the demographic dividend from youth, but also the "silver dividend" from its elderly population.**
13. The silver economy includes sectors like insurance, pensions, travel, and digital banking for seniors.
14. It also provides opportunities for Indian start-ups to create innovative, affordable, and inclusive solutions.
15. August 21st is known as world senior citizen day across the world to honour their contributions.

6. SC Verdict on Governors' Powers over State Bills

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What was the Dispute?

1. In 2020–2023, the **Tamil Nadu Legislative Assembly** passed **several Bills**, mostly when the **DMK-led government** was in power.
   - The Bills included **10 key legislations**, affecting universities, public service commissions, and state administration.
2. These Bills were sent to **Governor R.N. Ravi** for assent, as required by **Article 200 of the Constitution**.
3. The **Governor neither assented, nor returned, nor reserved the Bills**, keeping them pending indefinitely.
4. The State government repeatedly requested, but **no decision came** from the Governor's office.
5. In **November 2023,** the Governor **returned all 10 Bills** to the Assembly, without clear reasons.
6. The **Tamil Nadu Assembly re-passed the same 10 Bills** without any changes, under **Article 200**.
7. Despite re-passage, the Governor **reserved all 10 Bills for the President's consideration**, instead of granting assent.
8. This **second reservation** was unprecedented and triggered a **constitutional challenge** by the Tamil Nadu government.
9. The State filed a writ petition in the **Supreme Court of India**, accusing the **Governor of unconstitutional inaction**.
10. The petition accused the Governor of **violating constitutional duties** and **undermining the federal structure** and elected State Legislature.

Supreme Court Proceedings

1. The **Supreme Court heard the case**, taking note of prolonged delays and **conflict between constitutional organs**.
2. **In April 2025** the Supreme Court ruled that Tamil Nadu Governor **R.N. Ravi acted illegally** by delaying action on 10 State Bills for years.
3. The Court invoked **Article 142** to ensure justice and **declared all 10 Bills as law**, given the unjustified delay.

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4. The Court concluded that the **Governor's actions lacked bona fides** *(did not act honestly or sincerely in fulfilling his constitutional duties)*, as he did not act "**as soon as possible**" as required.
5. The Court said **pocket veto and absolute veto are not permitted** under Article 200 of the Constitution.
6. It ruled that **once a Bill is re-passed unchanged**, the **Governor must grant assent** — no second reservation allowed.
7. The Court noted that the **Governor must follow the aid and advice of the State Cabinet**, as per **Article 163**.
8. It invoked **Article 142** to **deem the 10 Bills as validly passed laws**, ensuring "complete justice."

Significance of the Case

1. This was the **first time** the Supreme Court **set timelines** for action on Bills under Articles **200.**

Timelines Prescribed by Supreme Court (Under Article 200)	
Action by Governor	**Timeline**
Grant assent, withhold, or reserve Bill	**Within 1 month**
Return Bill (non-Money Bill) for reconsideration	**Within 3 months**
Reserve Bill for the President (contrary to State Govt. advice)	**Within 3 months**
Assent to re-passed Bill (unchanged)	**Within 1 month**

2. The Court protected the **legislative supremacy** of elected State governments against **executive delays**.
3. The judgment exposed a **gap in the Constitution**, where no time limit exists for either Governor or President to act on State Bills.
4. It addressed **broader national concerns**, as similar confrontations occurred in **Punjab, Kerala, West Bengal**, and other Opposition-ruled States.

Appointment and Qualifications of Governor

1. **Article 153**: A Governor is to be appointed for each State.
2. **Article 155**: The President appoints the Governor by warrant under her hand and seal.
3. **Article 156**: The Governor holds office during the pleasure of the President, with a normal term of five years.
4. The President acts on the aid and advice of the Prime Minister and the Union Council of Ministers, effectively appointing and removing Governors.
5. **Articles 157 and 158**:
   - Governor must be a citizen of India and at least 35 years old.
   - The Governor cannot be a member of Parliament or a state legislature, nor hold any other office of profit.

Roles of the Governor

1. The Governor must act on the advice of the Council of Ministers of the State, as per **Article 163**.
2. The Governor can summon, prorogue, or dissolve the State Assembly, but only after consultation with the Council of Ministers.
3. As the executive head of the State, the Governor appoints key officials like the Chief Minister, Council of Ministers, Advocate General, State Election Commissioner, and others.

Committees and Judgments on the Governor's Role

1. Various committees have reviewed the Governor's role, including:
   a. Administrative Reforms Commission (1969),
   b. Punchhi Commission (2007),
   c. Sarkaria Commission (1988),
   d. National Commission to Review the Working of the Constitution (2001).
2. The **Sarkaria Commission (1988)** suggested reforms regarding the Governor's power under Articles 200 and 201.
3. The **National Commission to Review the Working of the Constitution (2001)** observed that Governors often act as agents of the Centre, leading to controversies.
4. The **Punchhi Commission (2007)** recommended that Governors be appointed with consultation with the Chief Minister and that decisions on Bills be timely.
5. Judicial scrutiny of the Governor's office has occurred in landmark judgments, such as:

a. **Shamsher Singh vs State of Punjab (1974)**: The Governor must act on the aid and advice of the Council of Ministers.
b. **Raghukul Tilak Case (1979)**: Governors are not mere employees of the Centre but hold a high constitutional office.
c. **S R Bommai vs Union of India (1994)**: The Governor's decisions on President's Rule are subject to judicial scrutiny.
d. **Rameshwar Prasad vs Union of India (2006)**: The Governor's individual opinion cannot justify the imposition of President's Rule.

7. TSU: India's First National Cooperative University

1. The Tribhuvan Sahkari University Bill, 2025, was recently passed by the Lok Sabha.
2. The Bill proposes to convert the Institute of Rural Management Anand (IRMA) into a central university named **Tribhuvan Sahkari University (TSU)**.
3. Once the President gives assent, TSU will become India's first national cooperative university by law.

Location and Legal Framework

1. TSU will be headquartered in **Anand, Gujarat**, the birthplace of India's dairy cooperative movement.
2. It will be a **statutory body with perpetual succession**, capable of owning property, entering into contracts, and engaging in legal proceedings.
3. TSU can establish **campuses and affiliate institutions** across India and abroad with Central Government approval.

Global and National Context

1. India now joins countries like **Germany, Kenya, Colombia, and Spain**, which already host cooperative universities.
2. The university aims to elevate cooperative education and provide structured institutional support to cooperative societies.
3. It aligns with the vision of **"Sahkar Se Samriddhi"**, focusing on prosperity through cooperatives.

Tribhuvandas Patel: The Inspiration Behind TSU

1. TSU is named after **Tribhuvandas Kashibhai Patel**, a Gandhian, freedom fighter, and founder of Amul.
2. Born in **1903 in Anand, Gujarat**, Patel came from a farming family and was active in the Civil Disobedience Movement and Salt Satyagraha.
3. In **1946**, under the guidance of Sardar Patel and Morarji Desai, he founded the **Kaira District Cooperative Milk Producers' Union (KDCMPUL)** to counter the Polson monopoly.
4. This union began by collecting just **250 litres of milk**, which later evolved into the **Amul dairy cooperative**.
5. Patel's leadership attracted **Dr. Verghese Kurien** and **H.M. Dalaya**, together pioneering **India's White Revolution**.
6. Dalaya introduced **spray-dried buffalo milk powder**, a technological breakthrough in dairy processing.
7. After retiring in **1973**, Patel used ₹6 lakh, voluntarily contributed by farmers, to start the **Tribhuvandas Foundation** focused on rural health.
8. He also ran the **Deenbandhu Printing Press** to promote cooperative awareness.
9. His legacy earned him the **Ramon Magsaysay Award (1963)**, **Padma Bhushan (1964)**, and a seat in the **Rajya Sabha (1967–1975)**.

From IRMA to TSU: Institutional Transition

1. IRMA was established in **1979** by **Dr. Verghese Kurien**, supported by NDDB, SDC, and the Indian and Gujarat governments.
2. It was founded to meet the managerial needs of **Operation Flood**, the world's largest dairy development program.
3. IRMA becomes the **IRMA School of Rural Management** under TSU and is declared a **Centre of Excellence**.
4. The **IRMA Society**, registered under the Societies Registration Act, 1860, will be dissolved, but its identity, autonomy, academic structure, and staff rights will remain intact within TSU.

Why India Needs TSU

1. India's cooperative sector contributes:
   a. 19% of agricultural credit
   b. 35% of fertilizer distribution
   c. 25% of fertilizer production

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d. 31% of sugar production
e. 10% of milk production and procurement
f. 13% of wheat procurement
g. 20% of paddy procurement
h. 21% of fish production

2. Despite its size, the sector lacks consistent and standardized education and training.
3. Bodies like **NCDC** and **NCUI** have had limited impact due to fragmented curricula.
4. The TSU Act emphasizes the need for a centralized institution to build a consistent talent pool of cooperative managers, administrators, technocrats, and leaders.

Vision and Objectives of TSU

1. TSU is the **first sector-specific national university** dedicated solely to cooperative education.
2. It aims to build capacity by **training board members, officials, and cooperative staff**.
3. It will offer **undergraduate, postgraduate, diploma, and Ph.D. programs** in cooperative studies.
4. Focus areas include **applied research** in dairy, fisheries, credit systems, and cooperative banking.
5. TSU will promote **global integration** by designing programs aligned with international cooperative standards.
6. It will encourage **cooperative-based startups and innovation** through entrepreneurship support.
7. It will use **e-learning platforms** to expand educational reach across India.
8. The university targets to **certify over 8 lakh individuals annually** and govern cooperative training institutes nationwide.
9. It plans to create sector-specific schools:
   a. **Dairy and rural credit in Gujarat**
   b. **Fisheries in coastal states**
   c. **Sugar cooperatives in Maharashtra and Uttar Pradesh**
   d. **Cooperative finance and banking in urban/semi-urban areas**
   e. **Marketing, audit, and law across regions**
10. TSU also envisions **international campuses and affiliations** with Central Government approval.

Legal and Constitutional Backing

1. The **97th Constitutional Amendment (2011)** granted the right to form cooperative societies as a **fundamental right under Article 19(1)(c)**.
2. The cooperative sector is governed by:
   a. **Cooperative Societies Act, 1912**
   b. **Multi-State Cooperative Societies Act, 2002**
   c. **MSCS (Amendment) Act, 2023**, aimed at transparency and better governance
3. TSU reflects the Government's intent to institutionalize **cooperative leadership and formal education**.

A Legacy Honored in Anand

1. In **Moto Chowpato**, Anand—Patel's hometown—the Bill's passage triggered heartfelt celebrations.
2. Local leaders, like **Bipin Patel**, a cooperative bank chairman, recalled Patel's direct mentoring of farmers and loan facilitation efforts.
3. While some proposed naming the university after **Dr. Kurien**, his family and Anand's residents supported the naming in honor of **Tribhuvandas Patel**, recognizing the bond and mutual respect between the two legends.
4. For Anand and India's cooperative community, TSU is more than a university—it is a living **tribute to a legacy that reshaped rural India**.

8. From Democracy to Emocracy: Understanding the Shift

1. Democracy, by definition, is a system where people either directly or indirectly take part in decision-making through elected representatives.
2. Traditionally, democratic processes are based on reasoned debates, informed citizens, expert advice, and evidence-based policymaking.
3. However, there is a visible shift from rational governance to what is now being called **"Emocracy"**—a system where decisions are increasingly driven by emotions, viral trends, and public sentiment.
4. Emocracy combines emotion with democracy, where policies are often influenced by psychological persuasion, mass appeal, and reactionary public opinion.
5. This trend is evident globally, seen in the rise of emotionally charged campaigns like Brexit in the UK, Trump's election in the US, and nationalist waves in Europe.

What Is Driving This Shift?

Several structural and cultural transformations are accelerating this shift:

1. **Social Media Sensationalism**: Platforms like Facebook, Twitter, and Instagram amplify emotional content. Sensationalism, outrage, and fear go viral more quickly than facts or policy discussions. Studies (MIT Media Lab, 2018) show that false news spreads six times faster than the truth online.
2. **Decline of Traditional Media**: Print and broadcast media, once the gatekeepers of verified information, are increasingly being replaced by digital platforms that lack editorial scrutiny. This weakens public trust and gives rise to echo chambers that prioritize emotional alignment over accuracy.
3. **Emotionally Framed Political Messaging**: Political campaigns are now crafted with a strong emotional narrative—whether invoking past injustices, national pride, or religious identity. The rational, manifesto-based appeal has largely given way to sentimental mobilization.
4. **Identity Politics Over Policy Politics**: Elections today are often fought on lines of caste, religion, or regional identity. Vote banks are created and maintained by invoking emotional connections, sidelining larger policy frameworks.
5. **Populism over Prudence**: Short-term populist measures like **free electricity, farm loan waivers**, or **cash transfers** attract voters but often ignore long-term sustainability. These decisions are made to appeal emotionally rather than address structural concerns.
6. **Erosion of Rational Discourse**: Emotional rhetoric increasingly dominates TV debates, political rallies, and online discussions. Expert opinions are dismissed as elitist or out of touch, and dissent is often labeled anti-national.
7. **Media's Role in Fear and Outrage**: The rise of 24x7 news cycles and TRP-driven journalism has turned public discourse into a spectacle. News is curated to invoke outrage or fear rather than facilitate informed debate.
8. **Pressure on Institutions**: Even independent institutions like the Election Commission, judiciary, and civil services face pressure to align with popular sentiment. This endangers their objectivity and undermines institutional checks and balances.

Democracy vs. Emocracy – A Comparative View

Feature	Democracy	Emocracy
Decision-Making	Rational, evidence-based	Emotion-driven, impulsive
Political Leadership	Accountable, policy-focused	Charismatic, populist
Public Engagement	Informed debate	Sentiment-driven reactions
Media Influence	Free press, investigative	Sensationalism, misinformation
Long-Term Governance	Stability, institutional continuity	Short-term, reactionary policies

What Are the Consequences of Emotion-Driven Governance?

1. Populist leaders tend to make decisions based on emotional appeal rather than policy merit, which can destabilize state finances.
   - **Example:** Farm loan waivers in Punjab and Maharashtra were announced due to protests, but RBI (2023) data revealed that less than 30% of small farmers benefited, while state budgets suffered.
2. Laws created in haste often lack legal scrutiny, causing long-term complications.
   - **Example: Demonetization (2016), introduced as an emotional strike against black money, caused significant** job losses and economic disruption, with NSSO data (2018) showing 1.5 million informal sector job losses.
3. Emotion-based welfare schemes can strain state resources.
   - **Example:** Free electricity schemes in Delhi and Punjab led to power sector debts, as per a 2021 CAG report, limiting infrastructure investment.
4. Emotionally polarizing laws may result in protests and unrest.
   - **Example**: Citizenship Amendment Act (2019) triggered nationwide protests over religious discrimination fears, delaying NRC implementation.
5. Reactionary decisions may lack preparedness.
   - **Example**: The sudden COVID-19 lockdown in 2020 left millions of migrant workers stranded. CMIE (2021) reported 75 million job losses due to unplanned execution.

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- In contrast, countries like Germany and South Korea executed phased lockdowns with social security measures to minimize disruption.

Are Emotions Always Harmful in Policy? Can Emotions Ever Be Constructive in Policy?

1. While excessive emotional influence can derail rational governance, emotions can also bring about social justice and reform.
   - Reservation policies for SCs, STs, and OBCs have improved education and social mobility, as noted in NITI Aayog's 2023 report.
2. Quick emotional responses in crises can ensure timely support and relief.
   - **Example:** PM Garib Kalyan Yojana provided relief to 80 million people during the pandemic, ensuring food and financial support.
3. Emotional narratives can foster national unity and pride.
   - **Example:** Swachh Bharat Abhiyan inspired behavior change, leading to a 60% fall in rural open defecation (UNICEF, 2021).
4. Emotionally engaging campaigns often enhance public health outcomes.
   - **Example:** India's Polio Eradication Campaign used celebrity outreach and community drives to eliminate polio by 2014.
5. Gender-focused emotional policies can address deep-rooted biases.
   - **Beti Bachao Beti Padhao (BBBP)** campaign helped boost girl child enrolment and curb female infanticide in selected districts.
6. Conservation efforts are also fueled by emotionally engaging campaigns.
   - **Example:** Project Tiger emotionally connected with the public and led to an increase in tiger population from 1,411 (2006) to 3,167 (2022).

The Way Forward

To safeguard democratic institutions and ensure effective governance, a balance must be struck between empathy and evidence.

1. Governance must return to a foundation of **data, research, and evidence**.
   - **Example:** Kerala's Nava Keralam Mission uses real-time analytics to improve health and education outcomes.
2. **Social media platforms** need regulation to curb misinformation without compromising free speech.
3. There is a need to **restore reasoned public debate** through universities, civil societies, and think tanks.
4. Policy proposals must undergo **institutional scrutiny and long-term impact analysis**.
   - **Example:** The FRBM Act ensures fiscal discipline and guards against populist spending.
5. The **2nd Administrative Reforms Commission** recommended establishing **Impact Assessment Committees** to evaluate the long-term consequences of proposed laws and schemes before implementation.

9. Equivalence Certificates for Foreign Degrees

1. On **April 4, 2025**, the **University Grants Commission (UGC)** notified the **University Grants Commission (Recognition and Grant of Equivalence to Qualifications Obtained from Foreign Educational Institutions) Regulations 2025**.
2. This regulation aims to streamline the process of recognizing foreign degrees and academic qualifications in India.
3. It will address the challenges faced by Indian students returning from abroad with international credentials.

What is an Equivalence Certificate?

1. An **Equivalence Certificate** confirms that a foreign qualification (degree, diploma) is equivalent to a specific qualification level in India. This certification is necessary for:
   - **a. Higher Studies**: To ensure eligibility for admission to Indian institutions.
   - **b. Employment**: For employment opportunities that require UGC-recognized qualifications.

Key Features of the New Regulations:

1. **Issuing Authority**:
   - a. The **University Grants Commission (UGC)** will be the authority responsible for issuing equivalence certificates.
   - b. This new system replaces the earlier process managed by the **Association of Indian Universities (AIU)**.
2. **Scope and Applicability**:
   - a. The regulations apply to **non-professional degrees** (e.g., undergraduate and postgraduate degrees) obtained from foreign institutions.
   - **b. Exclusions**: The new rules **do not apply to professional degrees** in fields like **Medicine**,

Pharmacy, **Nursing**, **Law**, **Architecture**, etc., as these are regulated by specific statutory councils in India.

3. **Validity**:
   a. The equivalence certificate will be valid for all **UGC-recognized academic institutions** and applicable for higher education, research, and employment in India, with a few exceptions as noted above.
   b. It will also apply to qualifications obtained via **distance learning** or **online education**.
   c. School qualifications (with at least **12 years of schooling**) for undergraduate admissions are also covered.
4. **Equivalence Parameters**: The UGC's process for granting equivalence is based on several parameters:
   a. Recognition of the foreign institution in its home country.
   b. Comparability of entry requirements, course duration, and credits with Indian programs.
   c. A **Standing Committee on Equivalence** will evaluate institutions and qualifications, assessing factors such as:
      - The institution's status in national and international rankings.
      - The **minimum duration** and credit requirements for the course (with a permissible variation of up to 10%).
      - The **structure of the curriculum**, including core, elective, cross-disciplinary courses, lab work, contact hours, self-study hours, and experiential learning components.
      - **Evaluation mechanisms**, such as thesis or dissertation assessments and internship requirements.
5. **Online Portal and Evaluation Process**:
   a. Application: Applicants must submit requests through a **dedicated online portal**.
   b. Evaluation: Each application will be reviewed by a **Standing Committee** of education experts within **10 working days**.
   c. The final decision will be communicated within **15 working days**.
   d. If **additional documents** are required, applicants will be given more time, and the decision timeline will be adjusted accordingly.
   e. Review Process: In case of rejection, applicants can seek a review within **30 working days** by paying a specified fee.
   f. The **Review Committee** will reassess the application and issue a recommendation within **10 working days**.
6. **Unrecognized Institutions Not Eligible**:
   a. Degrees obtained from **unrecognized institutions** or **unaccredited programs**, including those offered through franchise arrangements, will not be eligible for equivalence.

Why is This Regulation Needed?

1. **Alignment with NEP 2020**:
   a. The new regulations are in line with the **National Education Policy (NEP) 2020**.
   b. It envisions transforming India into a global hub for education.
   c. A transparent and efficient mechanism for recognizing foreign degrees is key to attracting international students and ensuring smooth mobility.
2. **Addressing Delays and Uncertainty**:
   a. The move addresses a long-standing issue.
   b. where students returning from abroad often faced delays and ambiguity in getting their foreign qualifications recognized, either for admission to Indian institutions or for employment.
3. **Global Integration**:
   a. This initiative will facilitate the integration of foreign-educated students into India's education system and workforce, promoting a more **internationalized and integrated** academic ecosystem.
   b. It supports **student mobility** and brings diverse **global perspectives** to India's education sector.
4. **Fairness and Transparency**:
   a. By establishing a clear, **technology-driven process** with defined benchmarks, the new framework ensures fairness and **transparency** in recognizing foreign qualifications.
   b. The **online portal** allows applicants to track the status of their applications, reducing uncertainty and delays.
5. **Internationalization of Education**:
   a. The regulations aim to **integrate foreign qualifications** into India's education system, making the process more streamlined and aligned with international standards.
   b. This will not only benefit students but will also enhance India's global standing as an education hub.

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B. International Relations

1. PM Modi's Visit to Thailand and the 6th BIMSTEC Summit

1. In **April 2025**, Thailand hosted the **6th BIMSTEC Summit** in **Bangkok**, marking the first in-person summit after the **5th (virtual) summit held in 2022**.
2. The summit was organized under the theme **"BIMSTEC: Prosperous, Resilient, and Open."**
3. **Thailand**, the Chair of BIMSTEC at the time, handed over the Chairmanship to **Bangladesh** on **4 April 2025**.
4. The **Chief Advisor of Bangladesh, Muhammad Yunus**, formally accepted the chairmanship for a 2-year term.

BIMSTEC – Background and Evolution

1. **Establishment**: 06 June 1997, through the **Bangkok Declaration**.
2. **Original Name**: BIST-EC (Bangladesh, India, Sri Lanka, Thailand Economic Cooperation).
3. **Initial Members**: Bangladesh, India, Sri Lanka, and Thailand.
4. **Membership Expansion**:
   - **Myanmar** joined on 22 December 1997 → renamed to **BIMST-EC**.
   - **Nepal and Bhutan** joined in July 2004.
5. **Renaming to BIMSTEC**: During the **1st Summit (31 July 2004)** in Bangkok, renamed as **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)**.
6. **Current Members (7)**: Bangladesh, Bhutan, India, Nepal, Sri Lanka, Myanmar, and Thailand.
7. **Headquarters**: **Dhaka, Bangladesh**.
8. **Population Represented**: Over **1.7 billion** (~22% of world's population).
9. **Combined GDP**: Around **USD 4.5 trillion**.

BIMSTEC Chairmanship and Rotation

1. Chairmanship rotates **every two years**, in **alphabetical order of country names**.
2. After Thailand, it was **Bangladesh's turn** in 2025.

Prime Minister Narendra Modi's Participation

1. PM Modi actively participated in the 6th BIMSTEC Summit.
2. Presented a **21-point action plan** to deepen regional cooperation.
3. Aimed to boost integration in areas like connectivity, trade, security, health, disaster management, youth, and technology.

Key Highlights from PM Modi's Address

Opening Remarks

1. Expressed gratitude to **Thai PM Paetongtarn Shinawatra** for efficient summit organization.
2. Extended condolences to **Myanmar and Thailand** for recent **earthquake losses**.
3. Called BIMSTEC an important **bridge between South and Southeast Asia**.
4. Emphasized that BIMSTEC is evolving into a **strong platform for cooperation, prosperity, and growth**.
5. Highlighted the entry into force of the **BIMSTEC Charter in 2024**.
6. Expressed confidence in the implementation of the **Bangkok Vision 2030**.

PM Modi's 21-Point Action Plan: Key Proposals

A. Institutional Strengthening

1. Proposed establishment of a **BIMSTEC Home Ministers' Mechanism** to address:
   a. Cybersecurity threats
   b. Terrorism
   c. Drug and human trafficking
2. India offered to **host the first meeting** of this mechanism later in 2025.

B. Connectivity

1. Stressed **physical, digital, and energy connectivity** as essential for regional growth.
2. **BIMSTEC Energy Centre in Bengaluru** has started operations.
3. India proposed:
   a. Establishing an **electric grid interconnection**.

b. Sharing **Digital Public Infrastructure (DPI)** expertise.
c. Conducting a **needs assessment** for DPI across member nations.
d. UPI integration with other countries' payment systems to facilitate trade, tourism, and remittances.

C. Economic Integration

1. Proposal for a **BIMSTEC Chamber of Commerce**.
2. Organize an **Annual BIMSTEC Business Summit**.
3. Explore **trade in local currencies** to reduce dependence on third-party currencies.

D. Maritime & Security Cooperation

1. Emphasized a **free, open, secure, and inclusive Indian Ocean region**.
2. Supported **Maritime Transport Cooperation Agreement** signed at the summit.
3. Proposed setting up a **Sustainable Maritime Transport Centre** focusing on:
   a. Research and innovation
   b. Capacity building
   c. Maritime policy coordination

E. Disaster Management & Public Health

1. Proposed a **BIMSTEC Centre of Excellence for Disaster Management**.
2. India to host the **4th Joint Disaster Management Exercise**.
3. Continued support for:
   a. Cancer care training,
   b. Traditional medicine research,
   c. Agriculture knowledge-sharing.
4. Proposed a Centre of Excellence for **agricultural training and innovation**.

F. Science & Technology: India offered:-

1. **Satellite technology support**,
2. **Nano-satellite development**,
3. **Remote sensing training** for BIMSTEC personnel.

G. Youth & Culture

1. Launch of **BODHI (BIMSTEC for Organized Development of Human Resource Infrastructure)** to train **300 youth annually**.
2. Scholarships at:
   a. Nalanda University,
   b. Forestry Research Institute.
3. Annual **Young Diplomats Training Programme**.
4. Promotion of shared heritage via:
   a. Odisha's Bali Jatra,
   b. Common **Buddhist and Hindu traditions**.
5. Hosting of:
   a. BIMSTEC Traditional Music Festival
   b. Young Leaders' Summit
   c. Hackathon
   d. Young Professionals Visitors Programme

H. Sports and Celebrations: India to host:-

1. **BIMSTEC Athletics Meet** in 2025.
2. **Inaugural BIMSTEC Games** in 2027 (30th BIMSTEC Anniversary).

Closing Statement

1. Reiterated India's vision of **"Sabka Saath, Sabka Vikas, Sabka Prayas"** (Together, for Everyone's Growth, Through Everyone's Effort).
2. BIMSTEC is a model for **inclusive growth** and **regional stability**.

Agreements and Documents Adopted

1. **Bangkok Declaration** – Reaffirming commitment to a Prosperous, Resilient, and Open BIMSTEC.
2. **Bangkok Vision 2030** – Aligned with **UN SDGs**, focusing on:
   a. Trade & sustainable development
   b. Disaster resilience
   c. Regional inclusivity and connectivity
3. **Maritime Transport Cooperation Agreement**:
   a. Enhances cargo/passenger transport
   b. Sets up a **Joint Shipping Coordination Committee**
4. **Rules of Procedure for BIMSTEC Mechanisms** – Strengthen institutional decision-making and clarity.
5. **MoUs Signed**:
   a. IORA: Maritime cooperation & blue economy
   b. UNODC: Combating crime, drugs, and justice reform
6. **EPG Report** (Eminent Persons Group):
   a. Strategic vision for future BIMSTEC direction
   b. Institutional reform and priority sector focus

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India–Thailand Bilateral Strategic Partnership

A. Political Relations

1. PM Modi visited Thailand on a **2-day visit** in April 2025.
2. India and Thailand **upgraded their ties to a Strategic Partnership**.
3. Agreement to initiate a **Strategic Dialogue** between security agencies on:
   a. Maritime security
   b. Defence cooperation
   c. Counter-terrorism
4. A **Maritime Cooperation Agreement** was signed to enhance:
   a. Port development
   b. Maritime infrastructure
   c. Coastal security

B. Cultural and Historical Ties

1. Shared Buddhist legacy and civilizational roots.
2. Indian epics like the **Ramayana** exist in Thailand as **Ramakien**.
3. Thailand issued a **commemorative stamp** of **Ramayana mural paintings**.
4. Gift of **World Tipitaka: Sajjhaya Phonetic Edition** to PM Modi:
   a. A major Buddhist scripture (Pali Canon)
   b. Divided into **Vinaya Pitaka**, **Sutta Pitaka**, and **Abhidhamma Pitaka**
   c. Symbol of deep spiritual and cultural ties

C. Economic Cooperation

1. Thailand was India's **21st largest trading partner** in **FY 2023–24**.
2. Bilateral trade: ~**USD 14.94 billion**.
3. Collaboration through **ASEAN**, **BIMSTEC**, and initiatives like the **India–Myanmar–Thailand Trilateral Highway**.
4. Shared interest in enhancing **MSMEs, investments**, and **regional connectivity**.

D. Indian Diaspora in Thailand

1. Over **250,000 Indians** in Thailand.
2. Active in **trade, jewellery, services**, and **hospitality**.
3. Strong cultural presence through **community organizations** and **spiritual networks**.

Indo-Pacific Vision

1. PM Modi reaffirmed India's support for **ASEAN Centrality**.
2. Advocated for a **free, open, rules-based Indo-Pacific**.
3. Opposed **"Vistaarvaad"** (expansionism); promoted **"Vikaasvaad"** (developmental approach).
4. BIMSTEC seen as a key part of **India's Indo-Pacific strategy**, complementing **Act East and Act West** policies.

Challenges Ahead for BIMSTEC

1. **FTA signed in 2004 remains unimplemented**.
2. Delays in **Kaladan Project** and **Trilateral Highway**.
3. **Consensus-based decision-making** often delays progress.
4. **Intra-regional trade <10%**, reflecting poor economic integration.
5. **Myanmar's internal instability** affects BIMSTEC cohesion.
6. Secretariat remains **under-resourced** and lacks **permanent funding**.
7. Visibility and engagement lag behind platforms like **ASEAN**.

Conclusion

1. The 6th BIMSTEC Summit and PM Modi's visit to Thailand marked a **pivotal moment** in advancing **regional cooperation**, **strategic ties**, and **India's Act East vision**.
2. With new frameworks like the **Bangkok Vision 2030**, **Maritime Transport Agreement**, and **BIMSTEC Games**, the Bay of Bengal region is poised to become a hub of **connectivity, prosperity, and stability**.

2. Prime Minister Modi's Visit to Sri Lanka

1. PM Modi visited **Sri Lanka on April 4–5, 2025**, after attending the **BIMSTEC Summit in Thailand**.
2. Theme of the visit: **"Friendship of Centuries – Commitment to a Prosperous Future"**.
3. It was Modi's **4th visit to Sri Lanka in the past decade**, highlighting strong bilateral ties.

4. The visit reaffirmed India's **Neighbourhood First Policy** and **Vision MAHASAGAR** for maritime cooperation.
5. It was also the **first foreign leader visit** after **President Anura Kumara Dissanayake** assumed office in **September 2024**.

Reception and Ceremony

1. Modi was welcomed at **Bandaranaike International Airport** by top Sri Lankan ministers including:
   - Foreign Minister Vijitha Herath
   - Health Minister Nalinda Jayatissa
   - Fisheries Minister Ramalingam Chandrasekar
2. He received a **guard of honor at Independence Square, Colombo**.
3. PM Modi visited the **IPKF Memorial**, honoring Indian soldiers who served in Sri Lanka during the 1980s.

Key Outcomes of Bilateral Talks

1. **Defence and Security Cooperation**
   a. A **5-year Defence MoU** was signed:
      a. Joint military exercises
      b. Maritime surveillance
      c. Defence industry collaboration
   b. The agreement marks a new era in security ties, 35 years after the withdrawal of the **Indian Peace Keeping Force (IPKF)**.
   c. Sri Lanka reaffirmed that its territory **will not be used against Indian interests**.
   d. Military exercises: **SLINEX (Navy)** and **MITRA SHAKTI (Army)** continue to deepen cooperation.
2. **Energy and Infrastructure Collaboration**
   a. Finalization of the **India–Sri Lanka electricity grid interconnection**.
   b. A **tripartite MoU (India, Sri Lanka, UAE)** was signed to develop **Trincomalee as an energy hub**.
   c. Inauguration of the **120 MW Sampur Solar Power Project**.
   d. Agreement to develop the **Thirukoneswaram Temple** as part of Trincomalee's energy zone.
   e. **5,000 solar rooftop units** installed at religious places across Sri Lanka (USD 17 million credit, generating 25 MW green energy).
   f. Plans for a **multi-product energy pipeline**.
   g. **Temperature-controlled warehousing facility** inaugurated in **Dambulla**.
3. **Development and Economic Support**
   a. India converted over **USD 100 million** of Sri Lankan loans into **grants**.
   b. Interest rates on existing loans were reduced.
   c. **Debt restructuring agreements** signed.
   d. A **Currency Swap Agreement** finalized to stabilize Sri Lanka's foreign reserves.
   e. Refurbishment of the **Maho–Omanthai railway line** (USD 91.27 million Indian assistance).
   f. India pledged **multi-sectoral grant aid** for Sri Lanka's eastern region.
   g. Announcement of a **training program for 700 Sri Lankans annually** to enhance skill development.
4. **Digital Cooperation**
   a. MoU signed to strengthen collaboration in the **digital sector**, including **cybersecurity** and **infrastructure development**.
   b. Sri Lanka adopted **India's UPI platform** and **Indian Rupee** for trade settlements.
5. **Cultural and Religious Diplomacy**
   1. PM Modi announced the **Holy Relics of Lord Buddha** from Gujarat's Aravali would be sent for **Vesak Day celebrations** in **May 2025**.
   2. Indian support pledged for development of:
      a. **Anuradhapura Sacred City**
      b. **Sita Eliya Temple Complex** in **Nuwara Eliya**

PM Modi Awarded Sri Lanka's Highest Civilian Honour

Sri Lanka Mitra Vibhushana

1. **Awarded by**: President Anura Kumara Dissanayake
2. **Reason**: For Modi's exceptional role in strengthening bilateral relations.
3. **Significance**: Sri Lanka's highest civilian honor for foreign dignitaries (above Sri Lanka Ratna).
4. **Past Recipients**:
   - 2008: Maldivian President Maumoon Abdul Gayoom
   - 2014: Palestinian leaders Yasser Arafat (posthumous) & Mahmoud Abbas

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5. **PM Modi's 22nd international award**.
6. **Design of the Medal**:
   - Silver, adorned with **Navarathna gems**
   - **Pun Kalasa** (prosperity), **Sun & Moon** (eternity), **Dharma Chakra** (Buddhist heritage)
   - **Globe with lotus petals** – symbolizing unity and peace

Longstanding Issues Addressed

1. **Fishermen Dispute**
   - PM Modi and President Dissanayake agreed on a **humanitarian approach**.
   - Discussion referenced:
     - **1974 Indo–Sri Lanka Agreement**
     - **Sri Lanka's Fisheries Acts** (1996, 2018, 2023) that criminalize illegal fishing
   - Both sides agreed to form a **Joint Working Group on Fisheries** for regular dialogue.
2. **Maritime Boundaries**
   - Sri Lanka sought India's support in **technical discussions** to extend its **continental shelf** beyond the **exclusive economic zone** (under UN mandate).

India–Sri Lanka Relations: Key Dimensions

1. **Trade and Economy**
   a. **India is Sri Lanka's largest trading partner**.
   b. **2023–24 Bilateral trade**: USD 5.5 billion
      - Indian exports: USD 4.1 billion
      - Sri Lankan exports: USD 1.4 billion
   c. **FDI**: India's cumulative investment ~USD 2.25 billion
   d. India supported Sri Lanka with **$4.5 billion during its 2022 crisis**.
2. **Tourism and Connectivity**
   a. India was **Sri Lanka's top tourist source** in 2024 (~4.16 lakh visitors).
   b. Fintech ties enhanced with **UPI** and **INR-based trade settlement**.
3. **Cultural Ties**
   a. Buddhism introduced to Sri Lanka by **Mahinda, son of Emperor Ashoka** in 3rd century BCE.
   b. Shared heritage includes **Jaya Sri Maha Bodhi** (Sri Lanka) and **Bodh Gaya** (India).
   c. Indian support for **temple restoration** and cultural exchange programs under **1977 Cultural Cooperation Agreement**.
4. **Development Cooperation**
   a. India extended over **USD 7 billion** in credit and **USD 780 million in grants**.
   b. During **COVID-19**, India provided vaccines and medical supplies.
5. **People-to-People Ties:** Around **10,000 Persons of Indian Origin (PIOs)** and **1.6 million Indian-Origin Tamils (IOTs)** live in Sri Lanka.
6. **Multilateral Engagement**
   a. Shared platforms: **SAARC, BIMSTEC, IORA, UN**
   b. Sri Lanka supports **India's UNSC non-permanent seat bid (2028–29)**.

Challenges in the Relationship

1. **Chinese Presence in Sri Lanka**
   a. China has invested **$3.7 billion**, mostly in **infrastructure**.
   b. **Hambantota Port**:
      - Leased to China for **99 years**
      - Security concerns for India due to repeated docking of **Chinese surveillance vessels** (e.g., Yuan Wang 5)
   c. Despite concerns, Sri Lanka allows port access under "replenishment".
2. **Katchatheevu Island Dispute**
   a. Island was ceded to Sri Lanka in **1974 Agreement**, causing **fishermen arrests** and diplomatic friction.
   b. Different interpretations have led to **recurring tensions**.
3. **Ethnic Reconciliation**
   a. **13th Amendment** (from 1987 Indo-Sri Lanka Accord) remains partially implemented.
   b. **Sinhala nationalists** oppose devolution; **Tamil groups** demand autonomy.
   c. Sensitive issue in **Tamil Nadu's political landscape**, influencing India's diplomatic stance.
4. **Political Pressures**
   a. **India**: Domestic politics in Tamil Nadu affect foreign policy.
   b. **Sri Lanka**: Anti-India sentiment occasionally rises due to **leftist factions**.

Recommendations to Strengthen Ties

a. **Technology Collaboration**: Joint ventures in Sri Lanka's IT and digital sectors.
b. **Renewable Energy**: Expansion of solar, wind projects using India's expertise.
c. **ETCA (Economic and Trade Cooperation Agreement)**: Speedy implementation to reduce trade barriers.
d. **Maritime Cooperation**:
   - Joint patrolling of **International Maritime Boundary Line (IMBL)**.
   - Institutionalize the **Joint Working Group on Fisheries** for regular dialogue.

3. India and Chile to Start Talks for Comprehensive Trade Pact: PM

1. On **April 1, 2025**, Prime Minister **Narendra Modi** announced that **India** and **Chile** have initiated discussions for a **comprehensive trade pact** (an agreement to regulate trade relations, addressing various sectors such as goods, services, and investments).
2. The aim of this pact is to create a **mutually beneficial** (both countries will gain from the agreement) and comprehensive economic relationship, with a focus on sectors such as mining and critical minerals.
3. This announcement came after an agreement between state-owned **copper mining firms** from both countries, aiming to enhance Chile's access to India's mining market.

Key Facts about Chile:

Location & Borders:

1. **Geography**: Chile is a long, narrow country located in South America with an average width of just 110 miles (~178 km).
2. **Borders**:
   a. **North**: Peru
   b. **Northeast**: Bolivia
   c. **East**: Argentina
   d. **West**: Pacific Ocean
3. **Overseas Territories**: Chile has sovereignty over Easter Island, the Juan Fernández Archipelago, and other islands in the Pacific Ocean.

Physical Features:

1. **Mountainous Terrain**: The Andes Mountains, the longest mountain range in the world, dominate Chile's geography.
2. **Deserts**: The Atacama Desert in the north, the driest non-polar desert in the world.
3. **Highest Peak**: Ojos del Salado (6,893 m), an active stratovolcano located in the Atacama region.
4. **Natural Hazards**: Chile is prone to earthquakes, tsunamis, and volcanic eruptions due to its position on the Pacific Ring of Fire.

Economic Importance:

1. **Copper Mining**: **Chile is the world's largest producer of copper**, a key metal used in electronics, renewable energy, and electric vehicles.
2. **Lithium Reserves**: Part of the **"Lithium Triangle" along with Argentina and Bolivia,** a crucial area for the global supply of lithium used in battery production.
3. **Rivers**: The Loa River, Chile's longest river, originates from the Andes.

Political and Cultural Aspects:

1. **Capital**: Santiago
2. **Official Language**: Spanish
3. **Government**: Unitary Presidential Republic
4. **Cultural Heritage**: Chile has a rich blend of European and Indigenous influences, particularly Spanish colonial heritage.
5. **Geopolitical Significance**: Chile is known as the "Gateway to Antarctica" due to its proximity to the Southern Hemisphere.

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Bilateral Trade and Diplomatic Relations:

1. **Mining Deal and MoUs**: During the event at **Hyderabad House**, 3 **MoUs** and an agreement were signed.
2. A key agreement was the **Agreement for Cooperation and Exchange of Information** between **CODELCO** (Corporación Nacional del Cobre de Chile, the national copper corporation of Chile, and the world's largest copper producer) and **Hindustan Copper Limited** (India's state-owned copper mining company).
3. The deal aims to promote cooperation in **mining exploration** and **mineral beneficiation**.
4. Sharing knowledge and expertise in these areas will enhance the capabilities of both sides.

Focus on Critical Minerals:

1. **Critical minerals** (minerals essential for advanced technologies, such as lithium, cobalt, copper, etc.) will be a priority in these discussions.
2. Both countries aim to create **resilient supply and value chains** for these minerals, which are essential for various industries, particularly in renewable energy and technology.

India-Chile Cooperation in Antarctica:

1. **Gateway to Antarctica**: Chile is strategically located near **Antarctica**, and Prime Minister Modi described it as a "gateway to Antarctica."
2. Both countries signed a **Letter of Intent** (a document outlining the intention to engage in a future agreement) to deepen their cooperation in the exploration of Antarctica.
3. This cooperation will be based on sharing scientific research and resources related to **Antarctic exploration**.
4. **Digital Infrastructure and Renewable Energy**: India expressed its readiness to share its experience in sectors like **digital public infrastructure** (technological systems and services provided by the government, such as e-governance, digital identity, etc.), **renewable energy**, and **railways** highlighting India's expanding role in global innovation.

Yoga and Cultural Exchange:

1. Prime Minister Modi also mentioned that Chile has embraced **Yoga** as part of a healthy lifestyle.
2. Chile officially declared **November 4 as National Yoga Day**, a recognition of India's cultural influence and soft power.

Enhancing Diplomatic Relations:

1. **7 Decades of Relations**: President **Gabriel Boric Font** of Chile visited India to **consolidate the bilateral relationship**, which has spanned over **7 decades**.
2. This visit marks a significant step in strengthening the ties between the two nations, with Chile aiming to deepen its relationship with India in various sectors.

Cooperation on International Issues:

1. **UN Security Council Reform**: India and Chile agreed on the need for **reform in the UN Security Council (UNSC)**.
2. Both nations emphasized that international disputes should be resolved through **dialogue** .
3. They also concurred that a reformed UNSC would be crucial for addressing global crises more effectively.
4. **International Disputes**: Although Chile has disputes with neighboring countries like **Peru** and **Argentina**, it has played a significant role in crisis resolution.
5. For instance, Chile condemned Russia's military actions in Ukraine and participated in a peace summit focused on resolving the **Ukraine-Russia conflict**.

4. India–Saudi Arabia Relations

1. Prime Minister Narendra Modi paid a **state visit to Saudi Arabia** in April 2025.
2. During the visit, he **chaired the 2nd meeting of the India–Saudi Arabia Strategic Partnership Council (SPC)**.

Key Outcomes of the India–Saudi Arabia Engagement

1. Two **new Ministerial Committees** were established:
   a. **Defence Cooperation Committee**
   b. **Tourism and Cultural Cooperation Committee**

2. The Strategic Partnership Council now operates through **four committees**:
   a. Political, Consular & Security Cooperation
   b. Defence Cooperation
   c. Economy, Energy, Investment & Technology
   d. Tourism & Cultural Cooperation
3. A **High-Level Task Force on Investment (HLTF)** was discussed.
4. Saudi Arabia committed to investing **USD 100 billion in India** in sectors such as **energy, infrastructure, technology, and healthcare**.
5. The HLTF has advanced projects, including **two refinery collaborations** and improvements in **investment-related taxation frameworks**.

Key MoUs and Agreements Signed

1. **Space Cooperation**: MoU between the Saudi Space Agency and India's Department of Space for peaceful space collaboration.
2. **Health Cooperation**: MoU to promote healthcare collaboration between the two countries.
3. **Anti-Doping Cooperation**: MoU between Saudi Anti-Doping Committee (SAADC) and India's National Anti-Doping Agency (NADA) to promote anti-doping education.
4. **Postal Cooperation**: Agreement between Saudi Post and India Post to enhance surface parcel services between the two countries.

Evolution of India–Saudi Arabia Relations

1. Diplomatic relations between India and Saudi Arabia were **established in 1947**.
2. The **Delhi Declaration (2006)** and **Riyadh Declaration (2010)** elevated bilateral ties to a **Strategic Partnership**.
3. PM Modi's **2019 visit** resulted in the creation of the **Strategic Partnership Council (SPC)**.

Economic Cooperation

1. India is **Saudi Arabia's 2nd largest trading partner**.
2. Saudi Arabia is **India's 5th largest trade partner**.
3. In **FY 2023–24**, bilateral trade was valued at **USD 42.98 billion**.
   a. Indian exports: **USD 11.56 billion**
   b. Indian imports: **USD 31.42 billion**
4. Indian companies have invested around **USD 3 billion** in Saudi Arabia, focusing on **IT, telecom, pharma, and construction**.
5. Saudi investments in India stand at around **USD 10 billion**, mainly led by the **Public Investment Fund (PIF)**.
6. Saudi Arabia ranks **20th in FDI equity inflows** into India with cumulative investments of **USD 3.22 billion (2000–2024)**.

Energy Partnership

1. In FY 2023–24, Saudi Arabia was **India's 3rd largest source of crude oil**.
2. Saudi oil accounted for **14.3% of India's total crude imports**.
3. It was also **India's 3rd largest LPG supplier**, contributing **18.2% of India's LPG imports**.

Defence Partnership

1. The first **joint land military exercise EX-SADA TANSEEQ** was conducted in India in 2024.
2. The **bilateral naval exercise 'Al Mohed Al Hindi'** has also been held.
3. Defence ties are expanding with increased cooperation and planning through the SPC.

Cultural Relations

1. The **Bilateral Haj Agreement 2024** allotted a quota of **1.75 lakh Indian pilgrims** to Saudi Arabia.
2. The agreement supports **women pilgrims travelling without a Mehram**.
3. **Yoga is growing in popularity** in Saudi Arabia and was officially recognized as a sport in 2017.
4. **Ms. Nouf Al-Marwaai** was awarded the **Padma Shri** in 2018 for promoting yoga in Saudi Arabia.
5. The **Indian community in Saudi Arabia numbers 2.6 million**, making it the **largest expatriate group** and the **most preferred community** in the Kingdom.

Key Challenges in India–Saudi Arabia Relations

1. **Labour welfare concerns** persist, especially among Indian blue-collar workers.
2. Many workers face **poor working conditions, wage delays, and exploitation**.
3. The **Kafala system**, which ties a worker's legal status to their employer, restricts mobility and rights.

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4. India faces a **rising trade deficit** with Saudi Arabia, which reached **USD 20 billion in 2023–24**.
5. The deficit is primarily driven by **heavy crude oil imports**.
6. Although Saudi Arabia is diversifying under **Vision 2030**, its economy remains **highly oil-dependent**.
7. India's reliance on Saudi oil makes it vulnerable to **global oil price fluctuations**.
8. Saudi Arabia's **foreign policy actions** in Yemen, Syria, and the **Qatar blockade** contribute to regional instability.
9. The **Saudi–Iran rivalry** poses diplomatic challenges for India, which seeks good relations with both nations.
10. Saudi Arabia's **growing strategic closeness to China and Pakistan** complicates India's regional positioning.
11. These shifts challenge India's **traditional alignment with the United States** and its strategic balancing in the Gulf region.

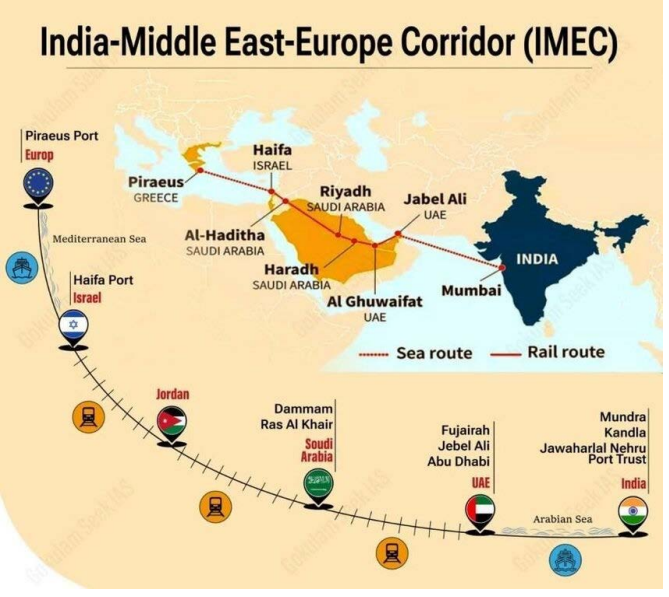
Key Areas to Strengthen the Partnership

1. **Green energy collaboration** is a major opportunity under Saudi Arabia's Vision 2030.
2. India's strengths in **solar energy and green hydrogen** complement Saudi Arabia's natural resources.
3. Both nations could jointly develop **large-scale solar projects** and boost clean energy exports.
4. The **International Solar Alliance** offers a platform to build the world's **largest solar energy zone**.
5. **Technology and innovation** can be a new pillar of cooperation.
6. India's expertise in **AI, IT, and FinTech** can align with Saudi Arabia's **technology-driven transformation goals**.
7. A joint **AI and FinTech Innovation Lab** in **Riyadh or Bengaluru** could foster regional leadership in next-gen technologies.
8. The **India–Middle East Economic Corridor (IMEC)** is a game-changing project.
9. It offers seamless **connectivity in trade, transport, and energy** across India, the Middle East, and Europe.
10. Investment in **ultra-modern trade and shipping hubs** will benefit both India and Saudi Arabia.
11. India should enhance **diplomatic coordination within the GCC (Gulf Cooperation Council)**.
12. As Saudi Arabia adopts a **more assertive foreign policy**, India can use GCC platforms to advance **regional peace and cooperation**.
13. This is especially relevant given evolving **ties with Iran and changing Gulf dynamics**.

5. India–Italy Relations and the India–Middle East–Europe Economic Corridor (IMEEC)

1. In **April 2025**, Italian Deputy Prime Minister and Foreign Minister **Antonio Tajani** visited India.
2. India and Italy agreed to enhance cooperation under the **Joint Strategic Action Plan (JSAP) 2025–2029**.
3. Both sides reaffirmed their commitment to the timely implementation of the **India–Middle East–Europe Economic Corridor (IMEEC)**.

What is the India–Middle East–Europe Economic Corridor (IMEEC)?



1. A strategic, multimodal transport initiative launched during the **G20 Summit in Delhi (2023)**.
2. Backed by **India, EU, France, Germany, Italy, Saudi Arabia, UAE, and USA**.
3. Part of the **Partnership for Global Infrastructure and Investment (PGII)**.
4. Seen as a counter to **China's Belt and Road Initiative (BRI)**.

Corridor Structure

1. **Eastern Corridor:** India → Gulf
2. **Northern Corridor:** Gulf → Europe via Israel

Proposed Route:

- **India → UAE → Saudi Arabia → Jordan → Israel → Greece → Italy → Europe**

Infrastructure Focus:

1. Rail, Road, Ports
2. Energy pipelines
3. Digital connectivity (data cables)

Strategic Objectives of IMEEC

1. Boost **regional trade and connectivity**
2. Strengthen **energy and supply chain security**
3. Encourage **infrastructure investment**
4. Provide an alternative to **China's BRI**

India–Italy Role in IMEEC

1. Italy has appointed a **Special Envoy for IMEEC**, signaling strong commitment.
2. India and Italy to collaborate on:
   a. **Infrastructure development**
   b. **Policy coordination**
   c. **Logistics and customs harmonization**

Multilateral and Regional Cooperation

1. Shared positions on:
   a. **WTO reforms**
   b. **Climate finance**
   c. **Global digital regulation**
2. Strong cooperation in **G20, G7, UN forums**
3. **Italy supports India's bid** for a **permanent seat in the UN Security Council (UNSC)**.

India–Italy Bilateral Relations

Historical Background

1. Diplomatic relations established in **1947**, the year of India's independence.
2. Early cooperation centered on culture, architecture, design, and education.

Strategic Partnership

1. In **March 2023**, during PM **Giorgia Meloni's** visit, India and Italy elevated ties to a **Strategic Partnership**.
2. Focus areas: **Defence, technology, climate, and multilateral governance**.

High-Level Engagements

1. PM **Narendra Modi** and PM **Meloni** met during:
   a. G7 Summit (Hiroshima, 2023)
   b. G20 Summit (Brazil, 2024)

Joint Strategic Action Plan (JSAP) 2025–2029

1. A roadmap for institutional cooperation across:
   a. Trade and Investment
   b. Defence and Security
   c. Space, S&T, AI, Cybersecurity
   d. Clean Energy & Climate Action
   e. Mobility of Professionals & Students
   f. Cultural & Academic Exchanges
   g. Multilateral Coordination
2. JSAP reviewed by **Dr. S. Jaishankar** and **Antonio Tajani** during the April 2025 visit.

Economic and Trade Relations

Bilateral Trade

1. FY 2023–24: **$15.2 billion**
   a. **Exports to Italy:** $8.4 billion
   b. **Imports from Italy:** $6.8 billion
2. Italy is India's **4th largest EU trading partner**, after Germany, Netherlands, and Belgium.

Key Sectors

1. **Automotive & Industrial Equipment**
2. **Pharmaceuticals & Chemicals**
3. **Fashion, Leather & Textiles**
4. **Green Technologies & Biofuels**

Investment Links

1. Italian **FDI in India** exceeds **$3 billion**.
2. Over **700 Italian companies** operate in India.
3. Indian firms have invested **€400 million** in Italy, mainly in **IT, textiles, and manufacturing**.

Strategic and Defence Cooperation

1. Collaboration in:
   a. **Naval shipbuilding**
   b. **Aerospace & defence electronics**
2. Aligned with **India's Make in India** initiative.
3. Italy supports India's **Indo-Pacific vision**.
4. Dialogues held on:
   a. **Maritime security**
   b. **Counterterrorism**
   c. **Regional stability**

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Science, Technology, and Clean Energy

1. Enhanced collaboration in:
   a. **AI, 5G, Cybersecurity**
   b. **Space (ISRO–Italian Space Agency)**
2. Clean energy focus on:
   a. **Green hydrogen**
   b. **Solar energy**
   c. **Biofuels**
3. Italy backs India's climate mission: **Mission LiFE** (Lifestyle for Environment).

People-to-People and Cultural Ties

1. **200,000-strong Indian diaspora** in Italy, mainly from Punjab.
2. Growing:
   a. **Academic MoUs**
   b. **Student and scholar exchanges**
3. Cultural diplomacy **includes:**
   a. **Yoga, Ayurveda, Indian classical arts**
   b. **Promotion of Italian language and arts** in India

6. Indus Waters Treaty & Its Suspension (2025)

1. On **24 April 2025**, a **terrorist attack** took place in **Pahalgam**, a town in **Jammu & Kashmir**.
2. The attack killed **26 people**, including **25 Indian tourists** and **1 Nepalese national**.
3. The group believed to be responsible is **The Resistance Front (TRF)**.
4. TRF is an **offshoot of Lashkar-e-Taiba**, a Pakistan-based terror group.
5. On **25 April 2025**, India's **Cabinet Committee on Security (CCS)** met to discuss the response.
6. The CCS decided to **suspend the Indus Waters Treaty with Pakistan indefinitely**.
7. This is the **first time** India has suspended the treaty since it was signed.
   - **In 2016**, After Uri attack, India suspended Commission meetings and vowed full use of its share.
   - In **2019**, after the Pulwama terror attack, Prime Minister **Narendra Modi** had said: **"Blood and water cannot flow together."** India again highlights full use of eastern rivers.
8. But at that time, the treaty was **not suspended**.
9. Now, in 2025, India has taken that step.

History of the Indus Waters Treaty

1. During **India's independence**, the boundary line was drawn through the **Indus Basin**.
2. This made **Pakistan the lower riparian** country.
3. After **Partition**, 2 important irrigation headworks — **Madhopur** and **Ferozepur** — were left in Indian territory.
4. This led to disputes over **irrigation water**.

What is the Indus Waters Treaty (IWT)?

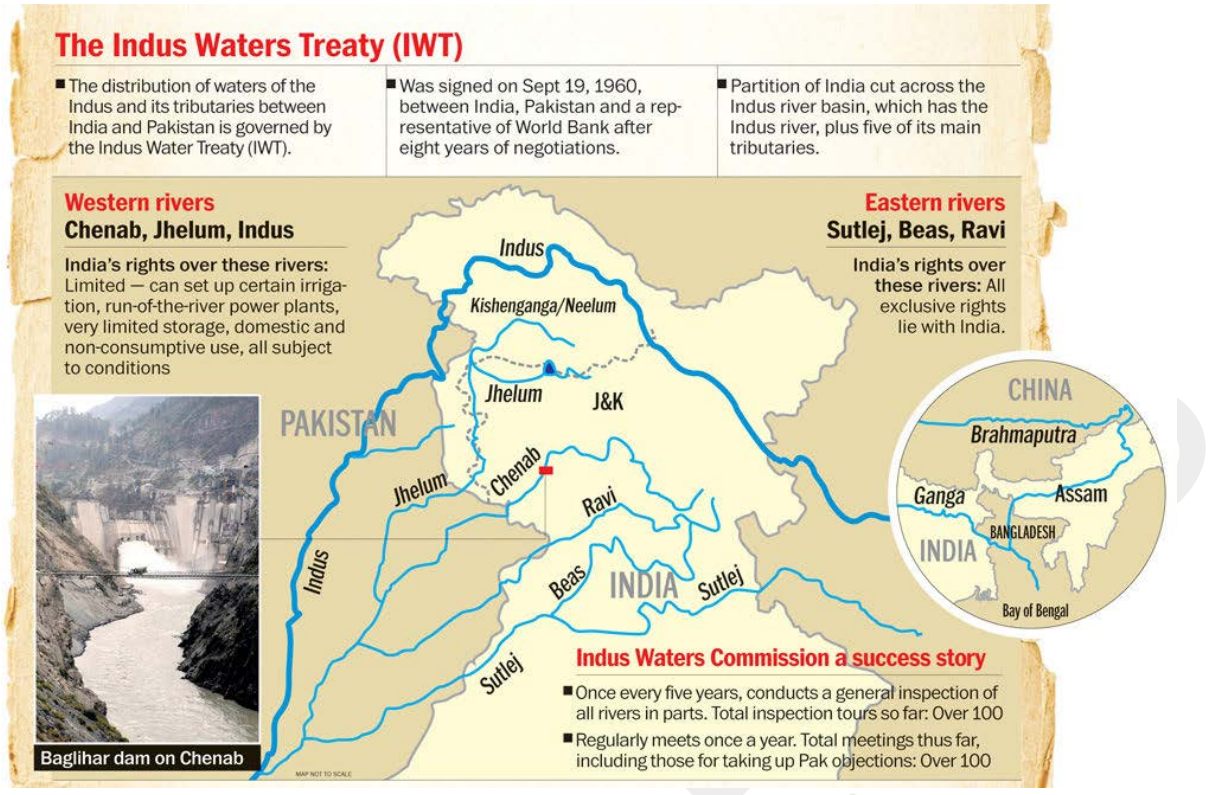
1. Then, **Indus Waters Treaty** was signed in **1960**.
2. It was signed by **India and Pakistan**.
3. The **World Bank (then IBRD)** mediated between the 2 countries.
4. The treaty was signed in **1960** by:
   a. **Jawaharlal Nehru** (India)
   b. **Mohammad Ayub Khan** (Pakistan)
   c. **W.A.B. Iliff** (World Bank)
5. It became effective from **1 April 1960**.
6. The treaty was created to **divide the waters** of the **Indus River system**.
7. The treaty divides the use of **six rivers** between the two countries.
8. It gives **detailed rules** about water use, dam construction, and dispute settlement.

Permanent Indus Commission (PIC)

1. The treaty created the **Permanent Indus Commission**.
2. It has one **Commissioner from each country**.
3. The Commission is required to **meet annually**.
4. It is the **main body for sharing data and cooperation**.

Who Gets What? – River Allocation Under the Treaty

1. The **Eastern Rivers**:
   a. **Beas**, **Ravi**, and **Sutlej**
   b. These rivers are located in **India**.
   c. The **average annual flow** of these rivers is **41 billion cubic metres**.
   d. These rivers are **fully allocated to India**.
2. The **Western Rivers**:
   a. **Indus**, **Chenab**, and **Jhelum**
   b. These rivers flow through **Jammu & Kashmir** and then into **Pakistan**.



c. The **average annual flow** of these rivers is **99 billion cubic metres**.
d. These rivers are **mainly allocated to Pakistan**.

3. **India's share** of the total water from the Indus system is about **30%**.
4. **Pakistan's share** is about **70%**.

What India Can Do Under the Treaty

1. India can use water from the **Western Rivers** for:
   a. **Limited irrigation** (agriculture)
   b. **Non-consumptive uses**, including:
      - **Hydroelectric power projects**
      - **Navigation**
      - **Fishing**
      - **Floating goods**
      - **Household use** in the river basin
2. India is **not allowed** to store large volumes of water from these rivers.
3. The treaty lays down **technical rules** for project design to ensure fair water flow to Pakistan.

Purpose and Spirit of the Treaty

1. The **preamble** of the treaty talks about **goodwill**, **friendship**, and **cooperation**.
2. It recognises the **rights and responsibilities** of both countries.
3. The goal is to use water **efficiently and peacefully** without harming each other.
4. The treaty includes **legal and technical mechanisms** to solve disputes.

Dispute Resolution Mechanism (3 Levels)

1. **Questions** – Solved by the **Permanent Indus Commission**.
2. **Differences** – Handled by a **Neutral Expert** appointed by the World Bank.
3. **Disputes** – Sent to the **Court of Arbitration** (ad hoc international tribunal).

Exchange of Data and Cooperation

1. Both countries must **exchange data every month** on water usage.
2. They must **cooperate** to:
   a. Set up **hydrologic stations**
   b. Take **joint steps for river health**
   c. Handle **new drainage work**

Legal Framework of the Indus Waters Treaty

1. The treaty is a **permanent agreement**.
2. It has **no exit clause**.
3. **Unilateral withdrawal** is not allowed.
4. Changes require **mutual agreement**.

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5. Disputes are handled using **Article IX** and **Annexures F and G**:
   a. PIC (Commission)
   b. Neutral Expert
   c. Court of Arbitration

Limitations in the Treaty

1. If India **revokes** or **suspends** the treaty, the **legal mechanism no longer applies**.
2. There is **no clause to force enforcement** or to restart the treaty after suspension.
3. **Pakistan cannot go to the International Court of Justice (ICJ)**.
4. India has made **reservations** under the ICJ statute, blocking such cases.
5. As a result, **Pakistan has no peaceful or legal way** to bring back the treaty.

Why the Treaty Was Considered Successful

1. The treaty has worked **for over 60 years**, despite tensions between India and Pakistan.
2. It has helped **prevent "water wars"** even during times of military conflict.
3. Disputes were handled through:
   a. Bilateral talks
   b. Neutral experts
   c. Court of Arbitration
4. Many experts call it **one of the most successful water-sharing agreements** in the world.
5. However, some say it should be **updated** to deal with **climate change** and new challenges.

Disputes Over Indian Dams :

1. In recent years, India and Pakistan have disagreed over the design of 2 **Indian hydropower projects**.
2. These are the Kishenganga project on the Jhelum River and the Ratle project on the Chenab River.
3. Both rivers are part of the Western Rivers, which are mainly allocated to Pakistan under the Indus Waters Treaty.
4. Pakistan claims that the design of these projects may violate the rules of the treaty.
5. According to the treaty, India is allowed to build hydroelectric plants on the Western Rivers.
6. However, these projects must follow specific design limits set by the treaty.
7. The main concern is whether India's dam designs follow these rules.
8. Pakistan believes that the dams might store more water than allowed or reduce water flow into Pakistan.
9. India, on the other hand, says that the designs follow the treaty's conditions.
10. It argues that the projects do not stop or divert the flow of water in a harmful way.
11. Because both countries could not agree, the matter was taken to international legal bodies.
12. The dispute remains one of the main reasons for tension under the Indus Waters Treaty in recent times.

Kishanganga Hydroelectric Project

1. Located in **Bandipora district**, Jammu & Kashmir.
2. Built on the **Kishanganga River**, a tributary of the **Jhelum**.
3. Inaugurated in **2018**
4. Pakistan says this dam reduces water flow into its territory.

Ratle Hydroelectric Project

1. Located in **Kishtwar district**, Jammu & Kashmir.
2. Built on the **Chenab River**.
3. Currently under construction.
4. Pakistan has raised concerns about its **design** and **impact on water flow**.

Legal Disputes:

1. In **2013**, a **court of arbitration** gave an interim ruling.
2. The court allowed India to **continue construction** of the Kishanganga project.
3. It said Pakistan had **not proved its past use** of the water for irrigation.
4. **2022**: Disputes unresolved; World Bank appoints both Neutral Expert and Arbitration Court.
5. **2023**: India invokes Article XII(3) to seek treaty changes. Pakistan rejects the proposal.
6. **2024**: India issues formal notice to amend the treaty.
7. In **2025**, the **Permanent Court of Arbitration** in **The Hague, Netherlands** gave another decision about the Indus Waters Treaty between India and Pakistan.
8. The court said that the Neutral Expert, who was appointed by the World Bank, has the right to decide on the design and water use of 2 hydropower projects in Jammu and Kashmir.

9. The court supported India's view that the Neutral Expert can make such decisions as per the rules of the treaty.
10. India welcomed this.
11. Pakistan wanted a full arbitration process instead of a neutral expert.
12. This shows the growing disagreement between both sides over the treaty rules.

Why Pakistan Is Worried

1. Pakistan is a **downstream country** in the Indus River system.
2. This means most rivers **flow into Pakistan after passing through India**.
3. Pakistan fears that in times of war or tension:

a. India may **stop or reduce water flow**.

b. India could cause **droughts** or **floods** in Pakistan.

4. In **1948**, during the **first India-Pakistan war**, India temporarily **cut off water**.
5. This caused fear in Pakistan about water security.
6. Though the treaty has worked so far, **trust has always been low**.

Why the Treaty Was Suspended in 2025

1. The suspension happened **after the Pahalgam terror attack**.
2. India believes that **Pakistan-based groups** were responsible.
3. India wants to show that **cooperation cannot continue alongside terrorism**.
4. Suspending the treaty is seen as a **strong diplomatic and strategic move**.
5. It may impact Pakistan's **agriculture**, **drinking water**, and **power supply**.

Pakistan's Response :

1. **Strong Rejection**: Rejected India's decision to suspend the Indus Waters Treaty.
2. **Warning**: Said that stopping or diverting water will not be accepted.
3. **Riparian Rights**: Claimed that as the **lower riparian**, it has legal rights to river water.
4. **Act of War**: Said that taking away Pakistan's share of water will be treated as an **"Act of War"**.
5. **Source**: Official statement from the **Prime Minister's Office (PMO) of Pakistan**.

Implications of Indus Waters Treaty Suspension for Pakistan

1. India suspended the Indus Waters Treaty in response to the terror attack in Pahalgam in April 2025.
2. This decision could have serious effects on Pakistan's water security and economy.
3. Pakistan depends on the Indus River system for nearly 80% of its water.
4. This water is used for agriculture, drinking, and other daily needs, especially in Punjab and Sindh provinces.
5. Big cities like Karachi, Lahore, and Multan rely directly on water from the Indus and its tributaries.
6. Any cut in supply can severely affect the daily water needs of these cities.
7. Agriculture makes up 23% of Pakistan's GDP
8. It also supports around 68% of the rural population.
9. About 93% of the water used in Pakistan goes toward irrigation.
10. The Indus Basin supplies nearly 154.3 million acre-feet of water every year
11. This water is critical for growing crops and ensuring food security.
12. If water flow is disrupted, crop production could go down.
13. This may lead to food shortages and damage to Pakistan's rural economy
14. The country is dealing with falling groundwater levels and increasing soil salinity.
15. It also lacks proper water storage facilities.
16. The two main reservoirs, Mangla and Tarbela, together store only 14.4 million acre-feet of water.
17. This is just 10% of the total water Pakistan receives from the Indus system each year.
18. The suspension of the treaty removes the legal guarantee of water supply from India.
19. This adds to Pakistan's existing challenges in water management and makes the country more vulnerable.

Implications of Indus Waters Treaty Suspension for India

1. India also faces certain changes and opportunities after suspending the treaty.
2. This marks a major shift in regional water-sharing rules.
3. India now has more freedom to use water from the Jhelum, Chenab, and Indus rivers.

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4. These rivers were earlier mainly reserved for Pakistan under the treaty.
5. India can now design and run hydropower projects on these rivers without earlier restrictions.
6. This means better use of water for generating electricity.
7. India can build reservoirs and take steps to control floods, especially in the Kashmir Valley.
8. Earlier, the treaty had put limits on how much water India could store.
9. India may stop sharing flood data with Pakistan.
10. This could affect Pakistan's readiness during the monsoon season.
11. India is no longer bound to allow Pakistani teams to visit Indian dam sites.
12. Earlier, these visits were required under the treaty to ensure transparency
13. In the short run, the suspension may not bring major changes.
14. This is because India still does not have enough infrastructure to stop or divert river flows immediately

7. President Of India's Visit To Portugal

1. On **April 7, 2025**, the President of India, **Smt. Droupadi Murmu**, visited **Portugal** as part of a state visit.
2. This visit marks a significant moment in **India-Portugal bilateral relations**, especially as both countries celebrate **50 years of diplomatic ties**.

City Key of Honour – A Symbol of Friendship

1. The **Mayor of Lisbon** presented the **'City Key of Honour'** to President Murmu at the **Lisbon City Hall**.
2. This is a **symbolic gesture of respect and friendship**, acknowledging the strong and growing relationship between the two nations.
3. The President appreciated Lisbon's cultural diversity, technological innovation, and global outlook, noting the **potential for cooperation** in areas like **digital transition and innovation**.

Banquet by the President of Portugal

1. A **banquet was hosted in her honour** by **President Marcelo Rebelo de Sousa** at **Palacio da Ajuda**.
2. In her remarks, President Murmu emphasized the **centuries-old cultural ties** between India and Portugal.
3. These ties are visible in shared **architectural styles, historical monuments, linguistic influences**, and **culinary traditions**.

Key Areas of Bilateral Cooperation

President Murmu highlighted the growing cooperation in several areas:

1. **Science and Technology :** Both countries are engaging in **joint research, technological innovation**, and scientific exchanges.
2. **Defence :** There's a growing interest in **defence partnerships**, joint training, and **strategic collaboration**.
3. **Startups & Innovation :** Focus on **start-up ecosystems, digital entrepreneurship**, and innovation-driven economic models.
4. **Education and Culture :** Collaboration between **academic institutions** and promotion of **cultural exchange programs**.
5. **Information and Communication Technology (ICT) & Digital Infrastructure :** Portugal is seen as a **key partner in India's digital journey**, including **Digital Public Infrastructure (DPI)** initiatives.

India as a Knowledge-Based Economy

1. President Murmu reiterated India's focus on becoming a **knowledge-based, innovation-driven economy**.
2. Areas of emphasis include:
   a. Digital technology
   b. Sustainable development
   c. Inclusivity through tech and innovation

Portugal's Role in India-EU Relations

1. Portugal has historically supported **India-EU ties**:
   a. Hosted the **1st India-EU Summit (2000)**.
   b. Hosted the **India-EU+27 Summit (2021)** under its EU presidency.

Global Significance of the Visit

1. This visit underlines **India's strategic diplomacy in Europe**.
2. Strengthens India's ties with **smaller but influential EU nations** like Portugal.
3. It promotes **multilateral cooperation**, enhances **soft power**, and supports India's role as a **global tech and cultural leader**.

8. Why Pakistan Has Put Its Ambitious Canals Project on Hold

1. On **April 24, 2025**, the **Pakistan government paused** its $3.3 billion canal infrastructure plan.
2. The decision followed **massive protests in Sindh**, rooted in fears over water rights and regional inequality.
3. The **canal project**, key to the **Green Pakistan Initiative (GPI)**, has deepened political tensions between **Punjab and Sindh**.

What is the Green Pakistan Initiative (GPI)?

1. A **national agricultural modernization program**, launched in **2023** by PM **Shehbaz Sharif** and **Army Chief Gen. Asim Munir**.
2. Aims to:
   a. Boost agricultural productivity using modern irrigation systems.
   b. Address **food insecurity** and climate change impacts.
   c. Reduce reliance on **food imports** and improve economic resilience.
3. Total investment: **$3.3 billion**

The Canal Project: Strategic Importance

1. In **July 2024**, **President Asif Ali Zardari** approved the construction of **6 major canals**.
2. Most notable: **Cholistan Canal**
   a. Length: **176 km**
   b. Region: **Southern Punjab**, near **India's Rajasthan**
   c. Estimated Cost: **$800 million**
   d. Intended to irrigate: **1.2 million acres (5,000 sq km)** of barren land.

Sindh's Concerns

1. **Water Source Issues:**
   a. Canal water comes from **India's Sutlej River**, but critics question its sufficiency.
2. **Worsening Water Stress:**
   a. Pakistan's water resources are already overexploited.
3. **Impact on Sindh:**
   a. Potential reduction in **Sindh's water supply**.
   b. Risk of **Indus delta degradation**, leading to **seawater intrusion** and ecological damage.

Provincial Rivalries

1. **Punjab vs. Sindh Tensions:**
   a. Sindh accuses the central government of favoring Punjab.
2. **Historical Mistrust:**
   a. Sindh has long felt **marginalized in national water policy**.
   b. The project is seen as an **extension of Punjab's dominance** over shared resources.

PPP's Political Dilemma

1. The **Pakistan Peoples Party (PPP)**, which governs Sindh, was initially supportive.
2. A PPP leader had endorsed the project in early 2024.
3. Faced with protests, **PPP changed its stance**, citing protection of Sindh's water rights.
4. **Public Anger:**
   a. Student leaders called the project anti-poor.
   b. Protests spread across **Hyderabad, Sukkur, and Larkana**.

Decision to Pause the Project

1. PM **Shehbaz Sharif**, with **Bilawal Bhutto-Zardari** (PPP), announced a **pause** in canal construction.
2. Assurance: **"Not a drop of Sindh's water will be diverted."**
3. Despite this, **protests continue**, with many demanding **permanent cancellation**.

What's Next?

1. **Possible Project Revisions:**
   a. Government may alter canal plans to protect Sindh's interests.
   b. Legal guarantees or compensation mechanisms could be introduced.
2. **PPP under Pressure:**
   a. Must balance national cooperation with **provincial accountability**.
3. **Uncertain Future:**
   a. No clear timeline for resuming or abandoning the canals project.

Conclusion

The suspension of Pakistan's canals project reveals deep-rooted **inter-provincial water disputes**, particularly between **Punjab and Sindh**. While the Green Pakistan Initiative aims for national agricultural revival, it must now confront the challenge of ensuring **fair and sustainable water distribution** amid growing **climate pressure** and **political fragility**.

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C. SECURITY

1. AFSPA Extension in Northeast States

1. In March 2025, The **Central Government extended** the **disturbed area status** under the **Armed Forces (Special Powers) Act (AFSPA)** for another **6 months** across **Manipur**, with the exception of areas under **13 police stations** in **5 districts**.
2. The **AFSPA extension** has also been applied in parts of **Nagaland** and **Arunachal Pradesh** until **September 30, 2025**.
3. The extension of AFSPA comes amidst ongoing **insurgency** and **security challenges** in the Northeast region.

About AFSPA:

1. **AFSPA (1958)** was passed in **September 1958** by the Indian Parliament in response to the increasing violence and insurgency in the **Northeastern States**, which the state governments were unable to control.
2. It gives **special powers** to the **armed forces** in **disturbed areas** to maintain public order and **tackle security threats**.
3. **AFSPA allows**:
   a. The **use of force**, even **lethal force**, to maintain public order.
   b. **Arrests without warrants** and **searches without warrants**.
   c. **Immunity from prosecution** for actions taken under AFSPA, unless prior approval is obtained from the **Central Government**

Background and Historical Context:

1. **Colonial Era**:
   a. The **British colonial government** promulgated the **Armed Forces Special Powers Ordinance** in **1942** to suppress the **Quit India Movement**.
   b. The **Assam Disturbed Areas Act** of **1955** and the **Armed Forces (Assam and Manipur) Special Powers Act, 1958** were among the precursors to **AFSPA**.
2. **AFSPA (1958)**:
   a. The Act came into force in response to the **Naga insurgency** in the **Naga Hills** and the **Northeastern states**, where the government faced increasing threats from insurgent groups.
   b. AFSPA replaced earlier ordinances and applied more broadly across the **Northeastern region** and, later, **Jammu and Kashmir** (from 1990).

Disturbed Areas under AFSPA:

1. **Disturbed Area**:
   a. An area declared **disturbed** by the **Central Government**, or the **Governor** of a state or **administrator** of a Union Territory, where the presence of armed forces is required to maintain law and order.
   b. Such areas can be declared **disturbed** due to **regional conflicts**, **ethnic tensions**, **insurgency**, or **terrorist activities**.
2. **Provisions**:
   a. Areas can remain **disturbed** for **three months** after which the government can review and extend the status if needed.
   b. The **MHA (Ministry of Home Affairs)** issues **periodic notifications** regarding the status of disturbed areas, particularly for **Nagaland** and **Arunachal Pradesh**.

Arguments in Favor of AFSPA:

1. **AFSPA is deemed necessary** to address **persistent security threats** from insurgent groups and **armed rebels**.
2. The **presence of armed forces** is critical for maintaining **public safety** and ensuring **stability** in regions with ongoing insurgency.
3. It provides security personnel with the **legal authority** to conduct **counter-insurgency operations** and maintain **public order** effectively.
4. **Powers** include the ability to **arrest without warrants**, **search premises**, and **use force**, all of which are crucial to tackling armed insurgencies.

5. AFSPA offers **legal protections** for security forces, ensuring they are **shielded from prosecution** for actions taken during operations unless **prior approval** is obtained from the **Central Government**.
6. These protections are seen as essential to maintain the **morale** and confidence of armed forces operating in challenging environments.
7. The **legal safeguards** under AFSPA are argued to **boost the morale** of security forces, as they can perform their duties without fear of **undue legal consequences**.

Arguments Against AFSPA:

1. **AFSPA undermines state autonomy** by allowing the **Central Government** to declare an area disturbed, without requiring **consent** from the state government.
2. Critics argue this leads to potential **misuse of power** by the central government.
3. **Section 4** of AFSPA grants the **armed forces** the authority to use **lethal force** against individuals who defy the law, which can lead to **fatalities** and **human rights violations**.
4. There are concerns about **disproportionate** use of force by security forces.
5. **AFSPA violates civil liberties** by allowing **arrest without warrant** and **searches without warrants**, which bypasses standard legal protections.
6. This has led to allegations of **arbitrary detention** and **unjustified searches**.
7. Under **Section 7** of AFSPA, **security personnel** involved in **excessive use of force** or **human rights abuses** cannot be prosecuted without the **Central Government's permission**, leading to **lack of accountability**.
8. The **Hegde Commission (2013)** reported **extrajudicial executions** and **widespread abuse** by security forces in areas like **Manipur**, where AFSPA is heavily enforced.

Supreme Court's Guidelines and Rulings:

1. **1998 Ruling (Naga People's Movement of Human Rights v. Union of India)**:
   a. The **Supreme Court affirmed the constitutionality of AFSPA**, but laid down **certain guidelines**:
      - **Consultation with state governments** before declaring an area disturbed.
      - **AFSPA should have a time frame** and undergo **regular reviews** (every six months).
      - **Proportional use of force**: Security forces must use **minimum force** and follow **standard operating procedures**.

Recommendations and Way Forward:

1. **Jeevan Reddy Committee (2004)**:
   a. **Repeal AFSPA** and incorporate the necessary provisions into the **Unlawful Activities (Prevention) Act (UAPA)**.
   b. Establish **Grievance Cells** in districts where armed forces are deployed.
2. **Second Administrative Reforms Commission (ARC)**:
   a. Recommended **repealing AFSPA**, with modifications to the **UAPA** to address security issues without infringing on civil liberties.
3. **Santosh Hegde Commission**:
   a. Suggested that **AFSPA** should be **reviewed every 6 months** and that there should be **investigations into excesses committed** by security forces under AFSPA.
   b. Also recommended **amendments to UAPA** to address terrorism while reducing reliance on AFSPA.

2. Government Brings Cybercrime Centre (I4C) Under PMLA

1. On **April 25, 2025**, the **Revenue Department under the Ministry of Finance** notified that the **Indian Cyber Crime Coordination Centre (I4C)** has been brought under **Section 66 of the Prevention of Money Laundering Act (PMLA), 2002**.
2. This allows **I4C** to **share and receive information** with the **Enforcement Directorate (ED)** and other law enforcement agencies to strengthen the fight against **cyber fraud and money laundering**.

Why is This Important?

1. **Cybercrime is increasingly linked to financial frauds**, often involving money laundering.

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2. Fraudsters use **fake websites, deceptive ads, phishing links, OTP scams**, etc., often **operating transnationally**.
3. This move will **track the money trail** in cybercrimes, enabling authorities to **identify and arrest masterminds** behind such crimes.

About Section 66 of PMLA, 2002

1. Empowers the **Director of Enforcement** to share information with other agencies if there's evidence of a law being violated.
2. This inter-agency cooperation is crucial for complex investigations, especially in **financial and cyber crimes**.

About I4C (Indian Cyber Crime Coordination Centre)

1. **Launched**: Inaugurated in **2020** by the Ministry of Home Affairs (MHA).
2. **Attached Office of MHA**: Since **July 2024**.
3. **Objective**: To build a comprehensive ecosystem for **coordinated response to cybercrime**.

Key Components (Verticals):

1. **National Cybercrime Reporting Portal (NCRP)** – for public reporting of cybercrimes.
2. **National Cybercrime Threat Analytics Unit (NCTAU)**.
3. **National Cybercrime Ecosystem Management Unit (NCEMU)**.
4. **Joint Cyber Crime Coordination Teams (JCCT)**.
5. **Public Helpline**: Toll-free number **1930** and portal **cybercrime.gov.in**.

About Enforcement Directorate (ED)

1. **Formed**: Originally in **1956** as the "Enforcement Unit" under the Department of Economic Affairs.
2. Renamed to **Enforcement Directorate (ED)** in 1957.
3. **Mandated to enforce**:

1. **Foreign Exchange Management Act (FEMA), 1999** – Civil law for external trade/payments.
2. **Prevention of Money Laundering Act (PMLA), 2002** – Criminal law to prevent money laundering
3. **Fugitive Economic Offenders Act (FEOA), 2018** – Targets economic offenders abroad.

What is Cybercrime?

Cybercrime involves illegal activities using computers, networks, or digital tools. It can be:

1. **Hacking** – Unauthorized access to systems.
2. **Phishing** – Tricking individuals to reveal sensitive info.
3. **Malware** – Malicious software to harm or gain control.
4. **Identity Theft** – Stealing personal data for fraud.
5. **Cyber Espionage** – Gaining confidential data covertly.
6. **Cyberbullying** – Harassment using digital platforms.

Impact of Cybercrime

1. **Threat to National Security** – Attacks on government or critical infrastructure.
2. **Data Breaches** – Exposure of sensitive personal and business data.
3. **Service Disruption** – Essential services like power or communication may be targeted.
4. **Loss of Trust** – Victims (individuals or companies) face reputational harm.

Key Indian Government Initiatives Against Cybercrime

Initiative	Description
CERT-In	National nodal agency for cybersecurity incident response.
NCIIPC	Protects critical information infrastructure.
CCPWC Scheme	MHA initiative to build cyber forensic labs and train personnel.
Cyber Swachhta Kendra	Provides tools for malware/botnet cleaning and awareness.
National Cyber Crime Reporting Portal	For public to report all types of cybercrimes.
Citizen Financial Cyber Fraud Reporting System	For real-time response to financial frauds.

International Cooperation on Cybercrime

Convention/Forum	Purpose
Budapest Convention on Cybercrime	First global treaty to address internet-related crimes.
Internet Governance Forum (IGF)	UN platform for dialogue on internet governance.
Malabo Convention (AU)	African framework for cyber security and personal data protection.

Conclusion

The inclusion of **I4C under PMLA** is a **strategic step** in India's cybercrime response mechanism. It enhances **information sharing** and **coordinated law enforcement action**, especially vital in tackling **financially motivated cybercrimes** which are often **international in nature**.

3. India's Military Space Doctrine: Preparing for the Final Frontier

1. India is in the final phase of preparing a **Military Space Doctrine**, which will guide the use of space for defence purposes.
2. This step was announced by **Chief of Defence Staff (CDS) General Anil Chauhan**. A **National Military Space Policy** is also being prepared.
3. These are important developments as many countries are now using space for military activities, and India needs to be ready.

Why India Needs a Military Space Doctrine

Global Space Weaponisation

1. In **April 2024**, **Russia blocked** a UN resolution meant to stop an arms race in space. The resolution was brought by the **US and Japan**.
2. Russia and China opposed this, even though the **UN wants a global agreement** to keep space peaceful.
3. There are concerns that **Russia is developing nuclear anti-satellite (ASAT) weapons**.
4. Military use of space has existed since **1957**, when the first satellite, **Sputnik**, was launched.

Increasing Use of Space for Military Purposes

1. In **2019**, **NATO** declared **space the fifth area of military operations**, after land, sea, air, and cyber.
2. Countries like the **US, Russia, and China** have created separate military space units and made formal plans (doctrines) to protect their space interests.
3. A 2023 UN report on peaceful space behaviour failed because major powers do not trust each other.

Regional Tensions for India

1. India faces pressure from **China and Pakistan** in space matters.
2. China is expanding its space programme through projects like the **Space Silk Road** and has reorganised its military to include **aerospace and cyber forces**.
3. These changes pose a direct risk to India's space-based systems.

Threats to India's Space Systems

1. Types of threats:
   a. **Orbital attacks** (e.g., hitting satellites)
   b. **Electronic warfare** (jamming or hacking signals)
   c. **Cyber attacks** (hacking into satellite control systems)
2. India needs strong systems to protect its satellites and other space infrastructure.

India's Progress in Space Security :

A. International Space Agreements

India supports peaceful use of space and is a member of many global space treaties:

1. Outer Space Treaty (1967)
2. Rescue Agreement (1968)
3. Liability Convention (1972)
4. Registration Convention (1974)
5. **Moon Agreement (1979)** – India is a signatory.
6. Member of the **Inter-Agency Space Debris Coordination Committee (IADC)**
7. Follows the **2008 UN guidelines** on reducing space debris.

B. Institutional Steps

1. **2010 – Integrated Space Cell**: Created to improve coordination between the **Department of Space** and the **Armed Forces**.
2. **2018 – Defence Space Agency (DSA)**:
   a. Set up to manage space-related military threats.
   b. Leading the work on India's military space doctrine.

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c. Building a **satellite communication grid** and identifying threats from enemy states or terrorist groups.

C. Military Space Capabilities

1. **2019 – Mission Shakti (ASAT Test)**:
   a. India tested a missile to destroy one of its own satellites in space.
   b. With this, India joined the **US, Russia, and China** as the only countries with ASAT capability.
2. **52-Satellite Constellation for Defence**:
   a. Government approved a plan to launch **52 satellites** for intelligence**, surveillance, and reconnaissance (ISR)**.
   b. 31 of these satellites will be made by **private companies**, working with **ISRO**.
   c. The goal is to improve monitoring and deal with space-related threats.

D. Using Space for Diplomacy

1. **GSAT-9 – South Asia Satellite (2017)**:
   a. Used to support neighbouring countries and improve India's position in the region.
   b. Pakistan did not participate
2. **International Cooperation**:
   a. India is working with partners like **France** and members of the **QUAD** to improve space safety and share information.

Challenges India Faces

1. No clear command structure to manage space defence activities.
2. Need for better coordination between **ISRO**, **Defence Forces**, and **private companies**.
3. High costs and some dependence on foreign technology.
4. No strong global law to prevent space from becoming a war zone.
5. Risk of **cyber attacks** and **data theft** from satellites.

Conclusion

India's upcoming **Military Space Doctrine** and other defence reforms show that the country is taking space security seriously. With increasing threats from other nations and technologies, India is working to: Protect its space assets, Improve coordination between civil, military, and private sectors, Build partnerships with other countries, Be prepared for any future conflict in space. This approach will help India become self-reliant in space defence and strengthen its position globally.

4. Rafale-M Jets: India's Naval Aviation Boost

1. Recently, The **Cabinet Committee on Security (CCS)** has **approved the purchase of 26 Rafale-M (Marine) fighter jets** from **France**.
2. This decision improves India's naval strike capability, especially in the **Indo-Pacific region**, where tensions are rising due to China's military activities.

What is Rafale-M?

1. **Rafale-M** is the **naval version** of the French **Rafale fighter jet**, made by **Dassault Aviation**.
2. It is a **4.5-generation, multirole fighter** designed to take off and land on **aircraft carriers**.
3. It is used by the **French Navy** and is now being adapted for **India's Navy**.

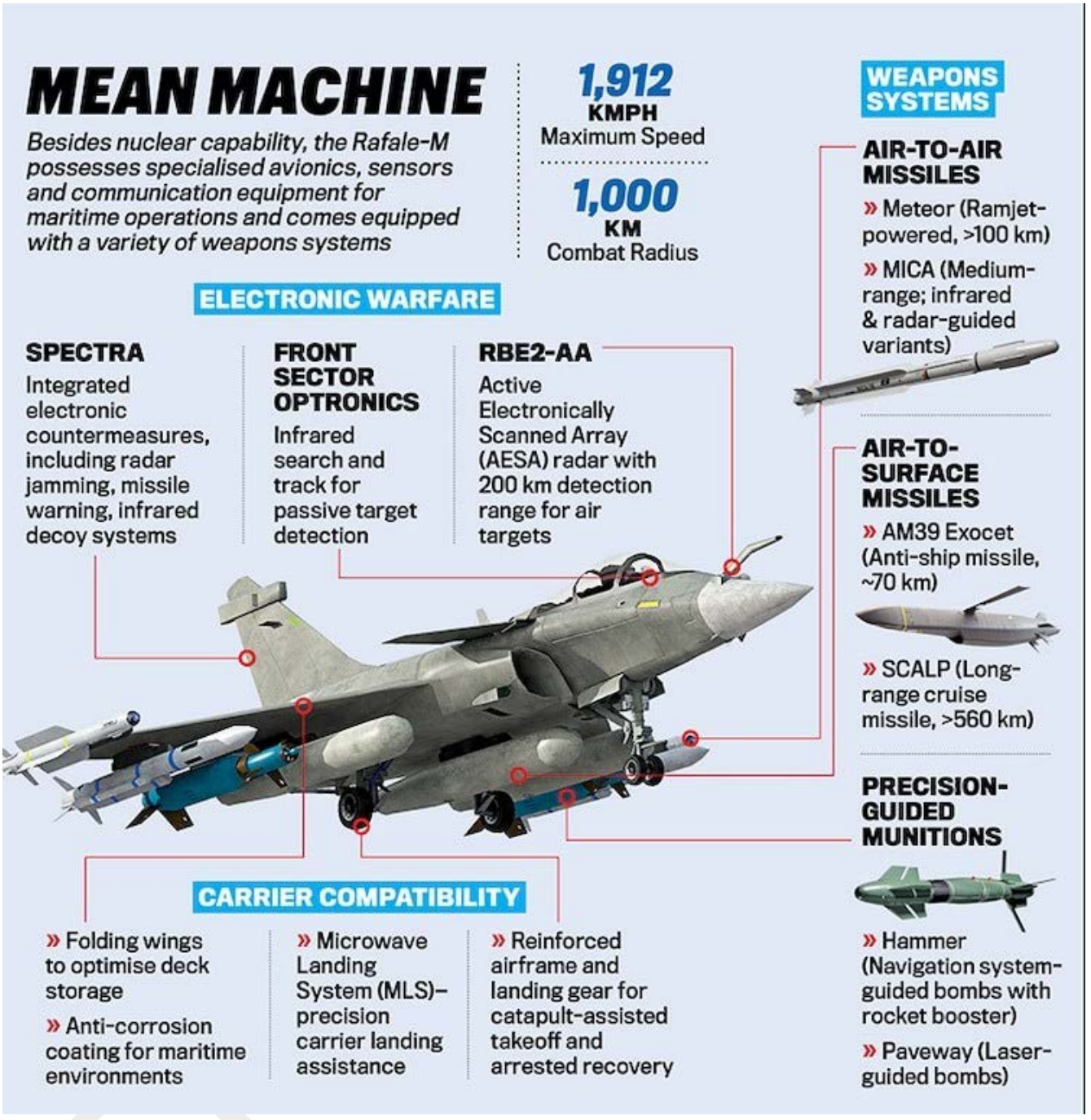
Deal Between India and France

1. **Total cost**: ₹63,000 crore (government-to-government deal)
2. **Number of jets**:
   a. 22 **single-seater** fighter jets
   b. 4 **twin-seater** trainer jets
3. **Includes**: Weapons, simulators, training of pilots, and logistics support for 5 years.
4. **Delivery timeline**:
   a. Starts in **2029**
   b. Expected to complete by **2031**
5. **Deployment**: Will operate from **INS Vikrant**, India's first indigenous aircraft carrier.

Key Features of Rafale-M :

Weapons:

1. **Meteor**: Long-range air-to-air missile
2. **SCALP**: Cruise missile with **560 km range**, for deep strike missions.
3. **Exocet**: Anti-ship missile for targeting enemy warships.



Sensors and Systems:

1. **RBE2-AA AESA radar**: Detects targets at long range.
2. **Front Sector Optronics (FSO)**: Tracks targets visually without using radar.
3. **SPECTRA suite**: Protects the jet from enemy radars and missiles using electronic warfare.

Carrier-Specific Features:

1. **Reinforced airframe** to handle rough landings on carriers.
2. **Corrosion-resistant body** for maritime conditions.
3. **Folding wings** to save space on aircraft carriers.
4. **Stronger landing gear** to handle carrier take-off/landing.

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Other Important Capabilities:

1. Can perform **air-to-air** and **air-to-ground missions** in the same flight.
2. **High altitude operations** — flies up to 50,000 feet.
3. **Data fusion system** — combines inputs from all sensors to give the pilot a full view of the battle area.

Regional Competition :

China:

1. **Shenyang J-15** ("Flying Shark"):
   a. 4.5-generation carrier-based fighter.
   b. Around **59 in service** with the Chinese Navy.
2. **Shenyang J-11**:
   a. 4th-generation air superiority fighter.
   b. Around **50 operational**.

Pakistan:

1. **No aircraft carriers**, so no carrier-based fighters.
2. Uses **JF-17** and **F-16** for air force operations, but these cannot operate from sea-based platforms.

Importance for India

1. Enhances India's ability to secure its interests in the **Indo-Pacific**, especially with growing naval presence of China.
2. Boosts India's **naval air power** by adding a proven and modern fighter to the fleet.
3. Strengthens **defence ties with France**, which is already a key strategic partner.

5. Trends in World Military Expenditure, 2024

1. The **2024 SIPRI report** on global military expenditure shows that **defence spending worldwide has reached a new record high**.
2. This is the **10th year in a row** that military budgets have grown.
3. The report reflects growing global tensions and increasing investments in defence by major powers.

Key Global Findings

1. **Total global military spending in 2024**:
   a. **USD 2,718 billion** (new record)
   b. **9.4% increase** in real terms from the previous year
   c. **2.5% of global GDP** spent on defence
2. **Top 10 spenders**:
   a. Accounted for **73%** of total global military spending
   b. **Combined total**: USD 1,981 billion
3. **Top 5 countries (2024)**:
   a. **United States** – USD 997 billion
   b. **China** – USD 314 billion
   c. **Russia** – USD 149 billion
   d. **Germany**
   e. **India** – USD 86.1 billion
4. These five countries together made up **60% of global defence expenditure**.

Country-Wise Highlights

United States

1. Spent **USD 997 billion**
2. Remains the world's largest military spender

China

1. Spent **USD 314 billion**
2. **7% increase** from 2023
3. China's military budget has grown **continuously for 30 years**
4. In 2024, China's defence spending was more than the **combined spending** of **India, Japan, South Korea, and Australia**

Russia

1. Spent **USD 149 billion**
2. **38% rise** from the previous year
3. Defence spending formed **7.1% of Russia's GDP**

Ukraine

1. Ranked **8th** globally
2. Spent **USD 64.7 billion**, which is **34% of its GDP**
3. Equal to **43% of Russia's defence budget**

Europe (including Russia)

1. Total spending: **USD 693 billion**
2. **17% increase**, the **highest regional contributor** to the global rise

India-Specific Findings

1. Ranked **5th largest military spender** in 2024
2. **Total spending**: USD 86.1 billion
   - **1.6% increase** from 2023
   - **42% increase** from 2015

3. Accounts for **3.2% of global military spending**
4. India's spending was **nine times higher than Pakistan's** (Pakistan: USD 10.2 billion, ranked 29th)

Indigenous Defence Policy

1. India is trying to **reduce dependence on arms imports**
2. **75% of capital outlays**, or **22% of total defence budget**, is reserved for **domestic procurement**
3. This policy has made **steady progress**, encouraging defence manufacturing in India

About SIPRI

1. **Full Name**: Stockholm International Peace Research Institute
2. **Established**: 1966
3. **Headquarters**: Stockholm, Sweden
4. **Focus Areas**:
   - Military expenditure
   - Arms control and disarmament
   - Conflicts and peace studies
5. **Funding**: Primarily from the **Swedish government**, also supported by other public and private sources
6. Known for its **independent and open-source research**

Why It Matters for India

1. Rising military spending reflects **global insecurity**, especially in regions like Europe and the Indo-Pacific.
2. India's position as the **fifth largest spender** shows its strategic importance.
3. Focus on **self-reliance in defence** aligns with national security and economic goals under **'Aatmanirbhar Bharat'**.
4. India must continue to **balance security needs** with economic development and regional diplomacy.

6. Sahastra Shakti – Laser-Directed Energy Weapon System

1. Why in News

a. In April 2025, The **Defence Research and Development Organisation (DRDO)** has successfully tested the **MK-II version of Sahastra Shakti**, a Laser-Directed Energy Weapon (Laser-DEW) system.

b. It can disable or destroy **drones, missiles, and small airborne threats**.

c. With this success, India joins an elite group of nations—**the US, Russia, and China**—with high-power Laser-DEW capabilities.

2. About Sahastra Shakti (MK-II)

a. **Developed by**: DRDO (Defence Research and Development Organisation)

b. **Type**: Laser Directed Energy Weapon system

c. **Power**: 30 kilowatt (kW), created by combining **six 5 kW high-energy laser beams**

d. **Purpose**: To destroy or disable **drones, UAV swarms, helicopters**, surveillance sensors, and antennae

e. **Effective Range**: Up to **5 kilometres**

3. Key Features

a. **Electro-Optical/Infrared Sensor**: Provides **360-degree real-time targeting** of airborne threats.

b. **Instant Response**: Engages targets quickly, with **low per-shot cost**.

c. **Ideal for Low RCS Targets**: Designed for threats with **low Radar Cross Section**, such as small drones and munitions.

d. **Electronic Warfare Capabilities**: Can **jam communications and satellite signals**.

e. **Deployment Flexibility**: Can be used on **ground vehicles or ships**.

4. Working Mechanism

a. Mounted on Two 4×4 Vehicles:

1. First Vehicle:

a. Carries the **Command and Control Unit (C2)**

b. Equipped with **Electro-Optical (EO)** tracking system

c. Performs **360-degree real-time tracking and targeting**

2. Second Vehicle:

a. Carries the **Beam Control Unit**

b. Receives input from C2 and **directs the laser beam** at the target

5. Significance

a. **Low-Cost Defence**: Reduces dependency on expensive missiles and avoids collateral damage.
b. **Strengthens Air Defence**: Enhances India's ability to **counter drones and missile threats**.
c. **Global Alignment**: Matches global trends in **laser-based missile and drone defence**.
d. **Strategic Boost**: Adds to India's capabilities in **modern warfare and electronic combat**.

7. Exercises/ Operations in News

Name	Type	Participants	Brief Description
DUSTLIK-VI	Bilateral Joint Military Exercise	India and Uzbekistan	• Edition: 6th • Dates: April 16–28, 2025 • Location: Foreign Training Node, Aundh, Pune, Maharashtra • Indian Participants: JAT Regiment, Indian Air Force • Uzbek Participants: Uzbekistan Army • Theme: Joint sub-conventional operations in semi-urban scenarios • Key Activities: Terrorist attack simulations, raids, STIE, SHBO ops, counter-UAS, and drone/helicopter integration • Strategic Aim: TTP exchange, joint ops capability, mutual trust.
Tiger Triumph 2025	Bilateral Tri-Service HADR Exercise	India and United States	• Edition: 4th • Dates: April 1–13, 2025 • Location: Eastern Seaboard of India (Visakhapatnam & off Kakinada) • Nature: Tri-service HADR • Indian Assets: INS Jalashwa, INS Gharial, INS Mumbai, INS Shakti, MI-17, C-130, RAMT, Army Brigades • US Assets: USS Comstock, USS Ralph Johnson, US Marines, medical team • Activities: Joint medical camps, C3 exercises, amphibious ops • Strategic Aim: Strengthen rapid crisis coordination & defense diplomacy.
INDRA-2025	Bilateral Naval Exercise	India and Russia	• Edition: 14th • Dates: March 28 – April 2, 2025 • Location: At sea (maritime zone unspecified) • Participants: Indian & Russian Navy • Activities: Coordinated manoeuvres, simulated combat, maritime threat response drills • Focus: Interoperability, doctrine exchange, readiness • Strategic Aim: Reinforce India-Russia naval ties, ensure maritime peace, and counter maritime threats globally.

Desert Flag-10	Multinational Air Combat Exercise	13 countries incl. India, UAE, USA, UK, Australia, Bahrain, France, Germany, Qatar, Saudi Arabia, South Korea, Turkey	• 10th edition Dates: April 21 – May 8, 2025 • Location: Al Dhafra Air Base, UAE • Indian Aircraft: MiG-29, Jaguar • Objectives: Air-to-air and air-to-ground combat, large force ops, CSAR • Strategic Focus: Desert warfare readiness, interoperability, tactical integration across air forces • Significance for India: Expands presence in Middle East, deepens partnerships, enhances aerial warfare skills.
AIKEYME	Multilateral Naval Maritime Engagement	11 countries: India, Tanzania, Comoros, Djibouti, Eritrea, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa	• 1st edition Dates: April 13–18, 2025 • Location: Dar-es-Salaam, Tanzania • Hosted by: India and Tanzania • Indian Assets: INS Chennai, INS Kesari, INS Sunayna • Objectives: Naval interoperability, cooperative maritime ops, joint surveillance • Strategic Context: Aligns with SAGAR & MAHASAGAR initiatives • Regional Aim: Strengthen India-Africa naval ties and promote maritime security in the IOR.
INIOCHOS-25	Multinational Air Exercise	15 countries including India and Greece	• Dates: March 31 – April 11, 2025 • Location: Andravida Air Base, Greece • Indian Participation: Su-30 MKI, IL-78, C-17 • Objectives: Interoperability, joint air ops, tactical refinement under realistic scenarios • Significance: Showcased IAF's rapid mobility and global reach; highlighted shared learning and strategic partnerships.
Aakraman	National Air Combat Drill	Indian Air Force	• Conducted: April 24, 2025, post-Pahalgam terror attack • Aircraft: Rafale (Ambala, West Bengal squadrons), Su-30MKI • Missions: Ground attack, EW, live-fire • Technologies: Meteor, Rampage missiles, S-400 system • Oversight: Top Gun instructors, Air HQ • Strategic Significance: Demonstrated technological edge, deterrent capability, readiness amid heightened tensions with Pakistan (which conducted parallel missile tests).

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D. ECONOMY

1. India BioEconomy Report (IBER) 2025

1. **Bioeconomy means** using biological resources—like plants, animals, and microorganisms—to make useful products.
2. It includes making things like:
   a. Medicines and vaccines **(biopharma)**
   b. Fertilizers and natural pesticides **(bio-agriculture)**
   c. Biofuels like ethanol and biogas **(bioenergy)**
   d. Bioplastics and eco-friendly chemicals **(bio-industrial)**
3. It replaces harmful chemicals and fossil fuels with **eco-friendly, renewable alternatives**.
4. It creates new **jobs**, promotes **clean energy**, and helps fight **climate change**.
5. It supports **sustainable development**, **innovation**, and **rural economy** growth.
6. Globally, bioeconomy is emerging as a **key economic driver** with many countries investing in **biotech innovation**, **green energy**, and **healthcare solutions**.
7. To track growth, guide policy, attract investment, and promote innovation and sustainability, **India releases** the annual **BioEconomy Report**.

Current Context

Recently, Biotechnology Industry Research Assistance Council (BIRAC) released **India BioEconomy Report (IBER) 2025**.

Alongside the report, **BioSarthi** program was launched, aimed at providing **mentorship, resources**, and **networking opportunities** to **biotech startups**.

- This program/initiative will help **Indian biotech startups** expand globally and connect with **leading biotech hubs**.

Major Highlights from the IBER 2025

1. India's bio-economy has grown from just **$10 billion in 2014** to **$165.7 billion in 2024**.
2. This growth is **16 times higher** in just a decade and has **already crossed the 2025 target** of $150 billion.
3. Also, bioeconomy has been growing at a **Compound Annual Growth Rate (CAGR) of 17.9%** in the past four years.
4. This means the sector has been consistently growing at nearly **18% every year**, which is a strong indicator of progress.
5. The bioeconomy now contributes **about 4.25% to India's total Gross Domestic Product (GDP)** which shows how important this sector has become for India's overall economic development.
6. India's biotech start-up sector continues it's rapid ascent, with the last 3 years showcasing exponential growth. Between **2021 and 2024** the cumulative number of biotech start-ups **surged from 5365 to 10075- a 88% increase.**
7. India is emerging as a **Global Biotech Leader** and has made great advances in areas like **biopharmaceuticals (medicines), bio-manufacturing (bio-based industrial products), and agricultural biotechnology (improved crops)**.
8. Furthermore, India aims to achieve a **bioeconomy worth $300 billion by 2030**.
9. The long-term vision is even more ambitious—reaching **$1 trillion by 2047**, when India celebrates 100 years of independence.
10. India is promoting the idea of a **circular bioeconomy**, where waste is recycled into useful products.
11. Programmes like **BioE3** focus on **regenerative bio-manufacturing**, supporting green growth and helping India move closer to its **net-zero carbon emissions goal**.
12. The **National Biopharma Mission**, co-funded by the **Government of India and the World Bank with $250 million**, is playing a key role.
13. It supports **over 100 biotech research projects** and helps **more than 30 small and medium-sized biotech companies (MSMEs)**.

14. India is now one of the **top vaccine-producing countries in the world** and has created the **world's first DNA-based COVID-19 vaccine**, a major scientific achievement.
15. India has made great progress in using **ethanol (a biofuel) mixed with petrol**.
16. Ethanol blending increased from **1.53% in 2014** to **15% in 2024**, and the country aims to reach **20% blending by 2025**. This helps reduce oil imports and supports clean energy goals.

Key Government Initiatives Driving the Bioeconomy

1. **National Biopharma Mission**
   a. Supports the creation of **vaccines, biosimilars, and therapeutics**.
   b. Strengthens India's **global biopharma manufacturing capacity**.
2. **PM JI-VAN (Jaiv Indhan- Vatavaran Anukool fasal awashesh Nivaran) Yojana**
   a. Promotes production of **bioethanol and compressed biogas** from agri-waste.
   b. Adds value to farm waste, supporting **farmers' income** and **clean energy goals**.
3. **SATAT (Sustainable Alternative Towards Affordable Transportation) and the GOBARdhan (Galvanizing Organic Bio-Agro Resources Dhan) scheme**
   a. Encourage **waste-to-energy projects** and **bio-CNG plants**, especially in **rural areas**.
   b. These schemes promote **clean energy**, **livelihoods**, and **rural economic growth**.
4. **BioE3 Policy:** Approved by the Union Cabinet on 24th August 2024
   a. The **BIO-E3 Policy** focuses on **Biotechnology for Economy, Employment**, and **Environment**, promoting **biotech innovations**, **job creation**, and **environmental sustainability**.

Key features include:

   b. Support for **innovation-driven R&D** and **entrepreneurship**.
   c. Establishment of **Biomanufacturing hubs**, **Bio-AI centers**, and **Biofoundries**.
   d. Emphasis on **regenerative bioeconomy** for **green growth**.
   e. Expansion of India's **skilled biotech workforce**.
   f. Alignment with **'Net Zero' and 'Lifestyle for Environment (LiFE)' goals**.
5. **Global Biofuel Alliance (2023)**
   a. A coalition led by India along with the **USA and Brazil**.
   b. Promotes **biofuel trade**, **technology collaboration**, and **energy security**.
6. **Biotech KISAN (Biotech-Krishi Innovation Science Application Network)**
   a. Biotech-KISAN is a **scientist-farmer partnership programme** launched to **empower farmers, especially women** and those **in rural and tribal areas**, through agricultural innovation and scientific interventions.
   b. It follows a **hub-and-spoke model** and is active **across 115 Aspirational Districts** in India.
7. **Intellectual Property (IP) Guidelines (2023)**
   a. Promote **commercialization of publicly funded research**.
   b. Ensure **faster IP approvals** and protect **indigenous biotech innovations**.

10 Principles for a Sustainable Bioeconomy, linked with relevant Sustainable Development Goals (SDGs):

PILLAR	Principle	Linked SDGs
ENVIRONMENT	**Principle 2:** Productive and Regenerative	SDG 14 (Life Below Water), SDG 15 (Life on Land)
	Principle 5: Efficient and Circular	SDG 6 (Clean Water), SDG 13 (Climate Action)
ECONOMY	**Principle 3:** Competitive and Inclusive	SDG 5 (Gender Equality), SDG 7 (Clean Energy), SDG 8 (Decent Work & Economic Growth)
	Principle 7: Innovative	SDG 4 (Quality Education), SDG 9 (Industry, Innovation & Infrastructure)

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SOCIETY	**Principle 1:** Food and Nutrition Secure	SDG 2 (Zero Hunger), SDG 3 (Good Health & Well-being)
	Principle 4: Resilient and Fair	SDG 1 (No Poverty), SDG 11 (Sustainable Cities & Communities)
	Principle 8: Equitable	SDG 10 (Reduced Inequalities)
	Principle 9: Responsible	SDG 12 (Responsible Consumption & Production)
GOVERNANCE	**Principle 6:** Well-Governed and Transparent	SDG 16 (Peace, Justice & Strong Institutions)
	Principle 10: Collaborative	SDG 17 (Partnerships for the Goals)

Boosting Biotech Innovation Through BIRAC Initiatives

With **95 bio incubation centres set up nationwide**, BIRAC supports startups through funding, infrastructure, and mentorship.

Key schemes include:

1. **Biotechnology Ignition Grant (BIG)**: Up to **₹50 lakh for 18 months** to support early-stage startups; nearly 1,000 innovators supported.
2. **SEED Fund**: **₹30 lakh equity support** for **proof-of-concept stage start-ups.**
3. **LEAP Fund**: **₹100 lakh equity support** for **commercialisation-ready innovations** .
4. **CARE – Amrit Grand Challenge**: Supported **89 digital health tech innovations** in AI, ML, telemedicine, and blockchain, with a **focus on tier-II, tier-III cities and rural areas.**

Significance of Bioeconomy

1. **Food & Agriculture Security**: GM crops improve yields by 21%, biofertilizers boost soil health, and innovations like **Golden Rice help tackle micronutrient deficiencies**.
2. **Healthcare & Affordable Access**: India leads in vaccine and drug production, with initiatives like **CERVAVAC (HPV vaccine)** and gene therapies, **supplying 25% of WHO's vaccines**.
3. **Economic Growth & Employment**: The bioeconomy is projected to **generate $1 trillion by 2047**, with a 90% rise in companies and major contributions from biofuels and bioplastics.
4. **Environmental Sustainability**: Promotes a **circular economy, reduces fossil fuel use** via biogas and ethanol, and **supports eco-restoration** through innovations like TERI's Oilzapper.
5. **Energy Security through Bioenergy**: The ethanol blending rate rose from 1.53% in 2014 to 15% in 2024, with a **target of 20% by 2025**, cutting crude oil imports by 173 lakh metric tons, saving `99,014 crores in forex, and **reducing 519 lakh metric tons of CO2 emissions**.
6. **Climate Action**: Bio-based solutions help reduce emissions and **support India's Net-Zero 2070 target** by replacing carbon- intensive alternatives.

Challenges to India's Bioeconomy

1. **Fragmented Regulation**: Overlapping roles of agencies like Department of Biotechnology, Genetic Engineering Appraisal committee, FSSAI lead to delays in biotech approvals and policy execution.
2. **Low Private Investment**: High risks and delayed returns deter venture capital in biotech startups, affecting scalability and innovation.
3. **Weak IP Enforcement & Bio-piracy**: Poor protection and enforcement of IPRs result in the loss of indigenous knowledge and deter innovation.
4. **Industry-Academia Gaps**: Limited collaboration between universities and industry restricts commercialization of research.
5. **Dependence on Imports**: Critical biotech equipment and reagents are largely imported, limiting self-reliance in high-end manufacturing.
6. **Skilled Manpower Shortage**: Shortage of professionals in genomics, bioinformatics, molecular biology, etc., hampers sector growth.
7. **Public Skepticism** : Concerns over Genetically Modified Organisms, lab-grown food, and synthetic biology persist due to lack of awareness and clear regulations.

8. **Ecological Risks**: Overuse of biological resources may threaten biodiversity, land use patterns, and long-term ecological balance.

WAY FORWARD

1. **Effective Policy Implementation**: Ensure **national rollout of BioE3** with a **central National Bioeconomy Mission** and encourage states to align policies (like Assam).
2. **Increase Investment & PPP Models**: Launch **dedicated bioeconomy funds**, offer **tax incentives**, and scale **public-private partnerships in R&D and skill development.**
3. **Regulatory Reforms**: Introduce a **single-window biotech clearance system**, and harmonize frameworks across Department of Biotechnology (DBT), Food Safety and Standards Authority of India (FSSAI), Genetic Engineering Appraisal Committee (GEAC) and Ministry of Environment, Forest and Climate Change (MoEFCC)
4. **Strengthen IP & Research Ecosystem**: **Fast-track biotech patents**, create **specialized IP courts**, and promote applied research in synthetic biology, bioinformatics, gene therapy, etc.
5. **Expand Biotech Infrastructure**: Establish **Bio-AI hubs, incubation centers, and biofoundries** in **Tier 2 and Tier 3 cities** with shared labs and pilot-scale facilities.
6. **Empower Startups & Grassroots Innovator**: **Scale up BioSaarthi**, **strengthen BIRAC support**, and promote **women-led and rural biotech enterprises.**

2. Global Trade Outlook and Statistics – 2025

1. In April 2025, The **World Trade Organization (WTO)** released its **Global Trade Outlook and Statistics 2025**, projecting a **decline in global merchandise trade by 0.2%** in 2025.
2. This comes amid heightened **tariff tensions**, especially between the **United States and China**, and increasing **global trade policy uncertainty**.

Key Highlights of the Global Trade Outlook 2025–26:

A. Merchandise Trade Projections:

1. **Projected decline**: Global merchandise trade is expected to **contract by 0.2%** in 2025.
2. In a **worsening scenario**, with tariff escalation, trade may decline by **up to 1.5%**.
3. Compared to **2.9% growth in 2024**, this signals a significant slowdown.

B. Tariff Impacts on Trade:

1. **US reciprocal tariffs** could reduce global trade growth by **0.6 percentage points**.
2. **Ongoing US-China tariff tensions** may reduce trade by **another 0.8 percentage points**.
3. Rising protectionism is a central driver of trade contraction.

C. Services Trade Outlook:

1. **Global services trade** is projected to grow by **4.0%** in 2025.
2. However, this growth is **below expectations** due to indirect effects of merchandise trade disruptions.
3. **Transport, travel, and investment-related services** are adversely impacted by reduced goods trade and economic uncertainty.

D. Regional Impact:

Region	Trade Impact
North America	Exports are expected to decline by **12.6%** – steepest among all regions.
Asia	Modest export growth projected at **1.6%**.
Europe	Exports are projected to grow at **1.0%**.

E. Impact on Least-Developed Countries (LDCs):

1. **LDCs** are highly vulnerable due to **dependence on limited export sectors**.
2. Any decline in global demand or tariff redirection affects them disproportionately.

F. Trade Diversions Due to US-China Tensions:

1. Chinese exports to regions **outside North America** may grow by **4%–9%**.
2. **United States imports from China are expected to fall**, opening opportunities for alternative suppliers, including LDCs.

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Risk of Economic Recession:

1. The **United Nations Conference on Trade and Development (UNCTAD)** forecasts **global growth to slow to 2.3% in 2025**.
2. Highlights risks of:
   a. Geo-economic fragmentation
   b. Protectionist policies
   c. Uncoordinated recovery efforts
3. UNCTAD calls for **enhanced multilateral cooperation** and **regional economic resilience**.

India's Position in Global Trade (2024):

Merchandise Trade:

1. **Exports**:
   a. India's rank dropped to **14th** (excluding intra-European Union trade).
   b. Global share remained steady at **2.2%**.
2. **Imports**:
   a. Rank dropped to **7th**.
   b. Share unchanged at **3.4%**.

Commercial Services Trade:

1. **Exports**:
   a. Rank declined to **6th**.
   b. Share fell slightly from **5.4% to 5.3%**.
2. **Imports**:
   a. Rank remained **6th**.
   b. Share declined marginally from **4.2% to 4.1%**.

About the World Trade Organization (WTO):

Aspect	Details
Establishment	Formed in **1995** under the **Marrakesh Agreement**.
Predecessor	**General Agreement on Tariffs and Trade (GATT)**, operational since 1948.
Headquarters	Geneva, Switzerland.
Members	**166** countries, representing **98% of global trade**.
India's Status	Founding member of GATT and member of WTO since **1995**.

Key WTO Agreements:

1. **TRIMS (Trade-Related Investment Measures)** – Prohibits policies that favour domestic goods over imports.
2. **TRIPS (Trade-Related Aspects of Intellectual Property Rights)** – Governs protection and enforcement of intellectual property rights.
3. **AoA (Agreement on Agriculture)** – Regulates domestic support, export subsidies, and market access in agriculture.

Important WTO Reports:

1. World Trade Report
2. Global Trade Outlook and Statistics
3. Aid for Trade in Action

Conclusion:

The WTO's outlook highlights deepening global trade challenges arising from **tariff wars**, **supply chain fragmentation**, and **geopolitical instability**. India's **relative stability in global trade share** amid declining rankings signals the need for **enhanced competitiveness**, **diversified export markets**, and **robust trade diplomacy**. With the rise of protectionism and deglobalisation, **regional cooperation**, **multilateral engagement**, and **trade reforms** will be critical to ensuring long-term trade resilience and inclusive growth.

3. India Volatility Index (India VIX)

1. On 9 April 2025, the **India Volatility Index (India VIX)** recorded its **highest single-day spike ever**.
2. It is signalling a sharp rise in investor uncertainty in the Indian stock market.

What is India VIX?

1. The **India Volatility Index (India VIX)** is a financial benchmark that:
   a. Measures **expected short-term volatility** in the Indian stock market.
   b. Reflects market participants' **expectations of volatility over the next 30 calendar days**.
   c. Acts as a **barometer of investor sentiment and risk perception**.

Key Details:

Feature	Description
Compiled by	National Stock Exchange (NSE)
Based on	Implied volatility of **NIFTY Index Options**

Time Horizon	Forecasts volatility for the **next 30 calendar days**
Model Used	**Black-Scholes Model** (a mathematical options pricing formula)
Input Variables	Strike price, market price of NIFTY options, time to expiry, risk-free interest rate, and volatility

Interpretation of India VIX:

1. **High VIX Value**: Indicates high expected market volatility, increased uncertainty, and possible large price swings.
2. **Low VIX Value**: Suggests market stability and lower levels of perceived risk.
3. Often referred to as the **"Fear Gauge"** of the market.

Significance of India VIX:

1. **Investor Sentiment**: Serves as a real-time indicator of market fear or confidence.
2. **Risk Management**: Helps institutional and retail investors adjust portfolios according to predicted volatility.
3. **Trading Strategies**: Used by derivative traders to hedge positions or speculate based on volatility.
4. **Market Forecasting**: Guides policymakers and financial institutions in assessing systemic risk.

Comparison: India VIX vs NIFTY Index

Aspect	NIFTY Index	India VIX
Definition	A stock market index representing the top 50 companies listed on the NSE.	A volatility index that estimates expected market fluctuations over the next 30 days.
Purpose	Measures market **performance and price trends**.	Measures **market risk and investor sentiment**.
Calculation Basis	Weighted average of market capitalisation of 50 large-cap stocks.	Derived from the implied volatility of NIFTY option prices.
Nature	Reflects **direction and magnitude** of market movements.	Reflects **uncertainty and potential fluctuation** in prices.
Interpretation	Rising NIFTY indicates bullish sentiment; falling NIFTY suggests bearish outlook.	Rising VIX indicates increased fear/ uncertainty; falling VIX suggests market calm.

Recent Developments and Relevance:

1. The recent record spike in India VIX indicates heightened market anxiety, possibly due to:
   a. Domestic political developments
   b. Global economic uncertainty
   c. Sudden policy announcements or geopolitical tensions
2. Important for **Prelims** under "Indian Economy and Financial Markets" and **GS Paper III** under **"Investment Models"** and **"Issues Relating to Growth and Development of Financial Markets"**.

Conclusion:

The **India Volatility Index (India VIX)** is an essential tool for understanding market sentiment and managing investment risk. Its sharp rise signals uncertainty, guiding investors and regulators in adapting to potential market turbulence. Given its predictive value, India VIX plays a crucial role in strategic decision-making across financial institutions, policy frameworks, and investment portfolios.

4. India's Remittance Trends – 2024

1. According to the **6th Round of India's Remittances Survey (2023–24)** released by the **Reserve Bank of India (RBI)**.
2. According to the **6th Round Survey, Advanced economies (AEs)** such as the **United States** and **United Kingdom** have overtaken **Gulf Cooperation Council (GCC)** nations as the top contributors to India's remittance inflows.

Key Findings of the RBI Survey (2023–24):

Shift in Remittance Sources:

1. **India's total remittances** doubled from **USD 55.6 billion (2010–11)** to **USD 118.7 billion (2023–24)**.

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2. **Top sources in 2023–24**:
   a. **United States** – 27.7% in 2023-24 , 22.9% in 2016-17
   b. **United Arab Emirates (UAE)** – 19.2% in 2023-24, 26.9% in 2016-17
   c. **United Kingdom**, **Singapore**, **Canada**, **Australia** – Together over 50% in 2023-24
3. **United Kingdom's share** increased from 3.4% (2016–17) to 10.8%. In 2023-24
4. **Australia's share** reached 2.3%.
5. **Gulf Cooperation Council share** declined from **47% (2016–17)** to **38% (2023–24)**.
   a. **Saudi Arabia:** 11.6% → 6.7%
   b. **Kuwait:** 6.5% → 3.9%

State-wise Remittance Distribution:

1. **Top recipient states**:
   a. **Maharashtra** – 20.5%
   b. **Kerala** – 19.7%
   c. **Tamil Nadu** – 10.4%
   d. **Telangana** – 8.1%
   e. **Karnataka** – 7.7%
2. Emerging states: **Punjab**, **Haryana**

Mode of Remittance Transfers:

1. **Rupee Drawing Arrangement (RDA)** – Dominant channel
2. Other modes: **Direct Vostro transfers**, **Fintech platforms**
3. **Digital remittances** accounted for **73.5% of transactions** in 2023–24

Reasons for Shift in Remittance Sources:

Stronger Job Markets in Advanced Economies:

1. **High-paying jobs** in **United States**, **Canada**, **United Kingdom**, and **Australia** for **skilled Indian migrants**.
2. **US** economic recovery post-pandemic led to increased remittances from professionals.
3. **UK-India Migration and Mobility Partnership** eased visa access—Indian migration to UK tripled (76,000 in 2020 to 250,000 in 2023).
4. **Canada's Express Entry** and **Australia's immigration system** favour skilled Indian professionals.

Decline in Opportunities in the Gulf:

1. **Return migration** post-COVID-19 and shift to AEs.
2. **Economic diversification and automation** in GCC nations have reduced demand for **low-skilled Indian labour**.
3. **Nationalisation policies** such as:
   a. **Nitaqat** in Saudi Arabia
   b. **Emiratization** in UAE – reserved jobs for locals

Changing Internal Migration Patterns:

1. **Southern states** (Kerala, Tamil Nadu, Andhra Pradesh, Telangana) now prefer migration to AEs.
2. **Northern states** (Uttar Pradesh, Bihar, Rajasthan) continue migration to GCC, due to lower educational attainment.

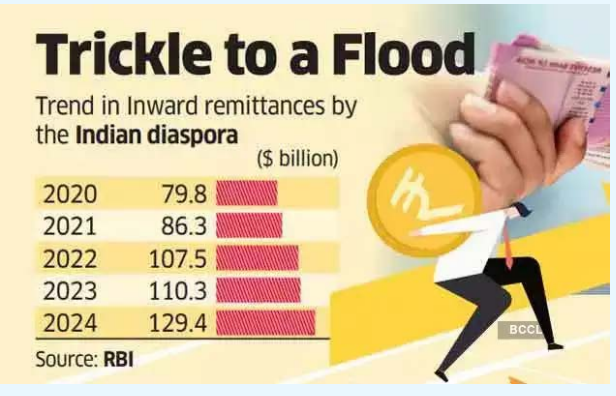
Rise in Education-Driven Remittances:

1. Growth in **Indian students studying in AEs**:
   a. **Canada** – 32%
   b. **United States** – 25.3%
   c. **United Kingdom** – 13.9%
   d. **Australia** – 9.2%
2. Many students stay post-education for employment and send remittances.

What is Remittances:

1. Remittances are funds transferred by overseas workers to support their families in India.
2. **Economic Role**: They contribute significantly to **household income** and India's **foreign exchange reserves**.

India's Record in 2024:



1. **USD 129.1 billion** in remittances – highest globally.
2. India accounted for **14.3% of global remittances**.
3. Followed by **Mexico** and **China**.

Regulatory Framework:

Regulation	Details
Foreign Exchange Management Act (FEMA), 1999	Governs all foreign exchange transactions in India.
Liberalized Remittance Scheme (LRS)	Allows Indian residents to remit up to **USD 250,000 per year** for permitted purposes.
Prohibited Activities under LRS	Gambling, speculative trading, terrorist financing.
Balance of Payments (BoP)	Remittances recorded under **current account** as **unilateral transfers** (no liability creation).

Significance of Remittances to India:

1. Support **domestic consumption** and **investment**.
2. Help in **managing current account deficit**.
3. Boost **foreign exchange reserves**.
4. Provide **financial security to households**, especially in rural areas.
5. Support **economic stability** during global crises.

Conclusion:

India's evolving remittance patterns reflect **changing global job markets**, **migration trends**, and **increased digitalization**. The rise of **advanced economies** as top remittance contributors signals a shift in **India's global labour profile**, from **low-skilled workers in the Gulf** to **high-skilled professionals and students in the West**. This transformation requires a **reorientation of India's migration policies**, **education system**, and **foreign labour engagement strategy**, in line with long-term development goals and foreign exchange management.

5. Khadi and Village Industries Commission (KVIC): Record Performance (2024–25)

1. On **21 April 2025**, **Chairman Shri Manoj Kumar** released the provisional performance data of KVIC for the financial year 2024–25.
2. Under the leadership of the **Prime Minister of India** and the **Ministry of Micro, Small and Medium Enterprises (MSME)**, KVIC has achieved historic growth in **production**, **sales**, and **employment generation**.

Key Highlights:

Historic Turnover Milestone:

1. For the **first time in independent India**, the **turnover of Khadi and Village Industries crossed ₹1.70 lakh crore**.
2. FY 2024–25 Turnover: ₹1,70,551.37 crore : (Sales jump of **447%** compared to ₹31,154.19 crore in FY 2013–14)

Production Growth:

1. FY 2024–25 Production: ₹1,16,599.75 crore : (Production increased by **347%** from ₹26,109.07 crore in FY 2013–14)

Employment Generation:

1. Total employment generated: **1.94 crore people** (as of FY 2024–25)
2. Employment growth: **49.23%** increase from 1.30 crore (FY 2013–14)

Performance in Khadi Sector (Clothing):

Metric	FY 2013–14	FY 2024–25	% Growth
Khadi Production	₹811.08 crore	₹3,783.36 crore	366%
Khadi Sales	₹1,081.04 crore	₹7,145.61 crore	561%

Record Sales at Khadi Gramodyog Bhawan (New Delhi):

1. FY 2024–25 Sales: ₹110.01 crore
2. Nearly **2x increase** from ₹51.02 crore in FY 2013–14 (**115% growth**)

Flagship Scheme Contributions:

Pradhan Mantri Employment Generation Programme (PMEGP):

1. **Units Established**: 10,18,185
2. **Loan Disbursed**: ₹73,348.39 crore
3. **Margin Money Subsidy Provided**: ₹27,166.07 crore
4. **Jobs Created**: Over **90 lakh** employment opportunities

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Gramodyog Vikas Yojana:

1. Budget increased from ₹25.65 crore (FY 2021–22) to ₹60 crore (FY 2025–26) – a **134% increase**
2. Distributed:
   a. **39,244** electric pottery wheels
   b. **2,27,049** bee boxes and honey colonies
   c. **2,344** incense stick machines
   d. **7,735** footwear toolkits
   e. **964** paper plate machines
   f. **3,494** skill-based toolkits (sewing, electrician, plumber, etc.)
   g. **2,367** agro-processing machines (palm jaggery, oil ghani, tamarind, etc.)
3. **Total Machines/Toolkits Distributed** (as of FY 2024–25): **2,87,752**

Year	Machines Distributed
FY 2022–23	22,284
FY 2023–24	29,854
FY 2024–25	37,218 (highest so far)

Women Empowerment:

1. **Training Centers**: 18 departmental + 17 non-departmental
2. **Trainees (last 10 years)**: **7,43,904**
   a. **Women Trainees**: 4,27,394 (**57.45%**)
3. **Khadi Artisans**: 5 lakh, of which **80% are women**
4. **Wages Increased**:
   a. **275%** increase over 11 years
   b. **100%** increase in the last 3 years

Significance:

1. Strengthens **self-reliance (Aatmanirbharta)** in rural India
2. Symbolic value of Khadi evolved: from fabric to a symbol of **"Ek Bharat, Shreshtha Bharat"**
3. Contributes to **"Viksit Bharat 2047"** vision
4. Empowers rural artisans and promotes **inclusive, grassroots economic development**

About KVIC (for Prelims):

Aspect	Details
Established	Under the **Khadi and Village Industries Commission Act, 1956**
Nodal Ministry	**Ministry of Micro, Small and Medium Enterprises (MSME)**
Headquarters	**Mumbai, Maharashtra**
Mandate	Planning, promotion, and implementation of programs for the development of Khadi and Village Industries in rural areas

Conclusion:

KVIC's record-breaking performance is not just a statistical success, but a **socio-economic transformation**. By integrating **traditional industries with modern marketing**, it bridges **rural employment**, **women empowerment**, and **cultural legacy**, aligning strongly with national priorities like **Make in India**, **Startup India**, and **Vocal for Local**.

6. NITI NCAER States Economic Forum Portal

1. On 5 April 2025, the Union Finance Minister launched the **"NITI NCAER States Economic Forum" portal**, a digital platform jointly developed by **NITI Aayog** and the **National Council of Applied Economic Research (NCAER)**.
2. The portal serves as a comprehensive, interactive repository of state-level economic and fiscal data aimed at facilitating data-driven policy formulation and academic research.

Background and Purpose

1. The portal is designed to consolidate **30 years of data** (from 1990–91 to 2022–23) across all Indian states. It offers insights into critical development and fiscal parameters such as:
   a. Demography
   b. Economic structure
   c. Fiscal indicators
   d. Health and education
   e. Research on state finances and public policy
2. The platform aims to bridge information gaps and strengthen evidence-based governance at the state level.

4 Key Components of the Portal

1. **State Reports**
   a. Provides summarised assessments of the **macroeconomic and fiscal profiles** of all 28 states.

b. Includes indicators related to:
   i. Population trends
   ii. Sectoral economic composition
   iii. Socio-economic outcomes
   iv. Budgetary and revenue patterns

2. **Data Repository**
   a. Offers **direct access to raw and structured datasets**.
   b. Organised under five thematic verticals:
      i. Demography
      ii. Economic Structure
      iii. Fiscal Indicators
      iv. Health
      v. Education
3. **State Fiscal and Economic Dashboard**
   a. A **visual tool** displaying charts, graphs, and tables.
   b. Enables quick tracking of fiscal and economic indicators.
   c. Facilitates comparison between states and with national averages.
   d. Research and Commentary
   e. Provides **in-depth analyses and expert insights** on:
      i. State-level fiscal policies
      ii. Revenue and expenditure trends
      iii. Inter-governmental finance
      iv. Public financial management

Significance of the Portal

1. **It is User-Friendly and Comparative. it** acts as a **benchmarking tool**, allowing users to compare:
   a. States with each other
   b. States with national aggregates
2. **It Supports Evidence-Based Policymaking which** enables policymakers to:
   a. Observe **historical trends**
   b. Conduct **real-time analytics**
   c. Frame targeted development strategies
3. **It is Centralised Research Hub and** a one-stop platform for:
   a. Academicians
   b. Policymakers
   c. Economists and researchers
4. It enhances **data accessibility and transparency** in governance

Conclusion :

The **NITI NCAER States Economic Forum Portal** marks a significant step in promoting **data-driven governance** and **cooperative federalism**. By consolidating 30 years of data on key developmental indicators, it empowers state and central agencies to make informed decisions. The portal enhances **transparency, policy effectiveness, and public accountability**, serving as a critical tool in the drive toward **inclusive and sustainable economic growth** in India.

7. RBI Proposes New Guidelines to Regulate Gold Loans Amid Rising NPAs and Loan Disbursals

1. **In** April, 2025**,** The **Reserve Bank of India (RBI)** issued **draft guidelines** to regulate the fast-expanding **gold loan sector**.
2. This step comes in response to a significant increase in both the volume of gold loans and associated non-performing assets (NPAs).
3. The RBI aims to tighten operational norms, reduce systemic risk, and bring more transparency into gold-backed lending practices.

Surge in NPAs and Loan Disbursals

1. **Rise in NPAs**
   a. As of December 2024, total **gold loan NPAs** rose to **₹6,824 crore**, compared to **₹5,307 crore** in December 2023.
   b. This marks a **year-on-year increase of 28.58%**.
   c. **Commercial banks** reported NPAs of **₹2,040 crore**, up from **₹1,404 crore** in the previous year.
   d. **NBFCs** reported NPAs of **₹4,784 crore**, compared to **₹3,904 crore** a year earlier.
2. **Rise in Loan Disbursals**
   a. The total **gold loan outstanding** across banks and NBFCs was **₹11,11,398 crore** as of December 2024.
   b. This figure increased from **₹8,73,701 crore** in December 2023, reflecting a **27.26% growth**.
   c. Out of the total outstanding, **commercial banks** accounted for **₹9,23,636 crore**.

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RBI's Observations: Irregular Practices in Gold Loans

The RBI identified several deficiencies in how lenders manage gold loans. These include:

1. Use of **third parties** for gold sourcing and appraisal without adequate oversight.
2. **Gold valuation** being carried out **without the borrower's presence**.
3. **Insufficient due diligence** on borrowers' creditworthiness.
4. Poor monitoring of the **Loan-to-Value (LTV) ratio**.
5. Lack of proper **end-use verification** of the borrowed funds.
6. **Non-transparent auction processes** in cases of loan default.
7. **Incorrect application of risk weights**, affecting the capital adequacy of institutions.

RBI Directives to Lenders

The RBI has instructed all regulated entities (REs), including banks and NBFCs, to:

1. Conduct an internal **review of existing gold loan policies**.
2. Identify and address policy gaps in a **time-bound manner**.
3. Strengthen monitoring mechanisms over **outsourced services** and **third-party agents**.
4. Enhance **internal risk controls** and ensure compliance with regulatory standards.

Measures to Curb Evergreening of Loans

1. Previously, borrowers were allowed to **repledge gold jewellery** by simply paying the accrued interest.
2. This allowed loans to be extended indefinitely without repaying the principal.
3. Following the RBI's intervention in **September 2023**, **repledging is now only allowed after full repayment of both principal and interest**.
4. This regulatory change has made it costlier and harder to extend loans indefinitely, thereby reducing the practice of **evergreening**.

Draft Guidelines Released on April 9, 2025

The RBI issued a detailed draft framework for gold loans, which includes the following proposals:

1. Lenders are **barred** from granting loans against the following:
2. **Primary gold or silver** in physical form.
3. **Financial instruments** backed by gold or silver, such as Exchange-Traded Funds (ETFs) and mutual funds.
4. For **consumption-based gold loans**, the **Loan-to-Value (LTV) Ratio Cap** must not exceed **75%** of the gold's assessed value.
5. Gold that has been pledged for **income-generating loans** cannot be used as collateral for **consumption loans** at the same time.
6. Lenders must **verify the ownership** of the gold pledged as collateral.
7. Loans must not be disbursed if the **ownership of gold is uncertain or unverifiable**.
8. Gold loans that require **bullet repayment** (where both principal and interest are paid at the end) are to be limited to a **maximum tenure of 12 months**, if the loan is for consumption purposes.

Operational Guidelines for Lenders

All lenders must comply with the following operational norms:

1. Align their **gold loan policies** with the institution's overall **credit and risk management frameworks**.
2. Define **borrower-specific** and **sector-specific** exposure limits.
3. Conduct due diligence that properly assesses the **repayment capacity** of borrowers.
4. Monitor the **end-use** of funds and maintain accurate records.
5. Exercise **full control over outsourced activities** and maintain accountability for third-party agents involved in appraisal or collection.

Why Gold Loans Have Become Attractive

1. Gold loans are widely preferred due to **easy processing**, **minimal documentation**, and **instant disbursal**.
2. Public Sector Banks and NBFCs offer **flexible repayment options**, making gold loans popular in rural and semi-urban areas.
3. The recent increase in gold prices has allowed borrowers to avail of **higher loan amounts** against the same quantity of gold.

4. In India, gold is often considered a **family asset**, passed down through generations.
5. During financial emergencies such as **hospitalisation**, **education expenses**, or **family events**, gold is frequently pledged for instant liquidity.
6. The **growth of fintech platforms and apps** has expanded the reach of gold loans to **remote and rural regions**.
7. Digital verification, doorstep services, and online repayment options have made the process more convenient.

Gold Price Trends and Market Dynamics

1. In early 2025, **domestic gold prices** crossed **₹1 lakh per 10 grams** for the **first time**.
2. International gold prices reached **$3,400 per ounce**, recording a **59% increase since March 2024**.
3. Renewed uncertainty over **US monetary policy**, following criticism of the Federal Reserve by the US President.
4. A sharply **weakened US dollar**, which has fallen to its **lowest since 2022**, making gold more attractive to foreign investors.
5. Rising **geopolitical risks**, especially related to global trade tensions.
6. Persistent concerns over **inflation** and **slow economic recovery** in the US.
7. Ongoing **buying by central banks**, particularly China, and institutional investors has further supported gold prices.

India's Role in the Global Gold Market

1. India is the **second-largest gold consumer** globally, after China.
2. In 2024, India's **gold demand** stood at **802.8 tonnes**, compared to **China's 985 tonnes**.
3. The **value of gold demand** in India rose to **₹5.15 lakh crore** in 2024, from **₹3.92 lakh crore** in 2023.
4. This reflects a **year-on-year increase of 31%**.
5. Gold continues to hold significant **cultural and financial importance** in Indian households, especially as a fallback asset during uncertain times.

Conclusion

The RBI's proposed guidelines on gold loans are a comprehensive attempt to restore discipline and transparency in a sector witnessing rapid expansion. By imposing stricter controls on loan practices, ownership verification, and LTV norms, the RBI aims to protect both **borrowers and lenders**. This initiative strengthens **systemic stability**, curbs **loan mismanagement**, and ensures that the gold loan market remains a **secure and viable credit tool**, especially for low-income and rural households.

8. RBI's Revised LCR Norms – Digital Deposits Liquidity Buffer

1. The **Reserve Bank of India (RBI)** has released **final guidelines** on the **Liquidity Coverage Ratio (LCR)**.
2. A key change is the introduction of a **2.5% additional run-off factor** on **internet and mobile banking (IMB)** retail deposits, revised down from a previously proposed 5%.

What is Liquidity Coverage Ratio (LCR)?

1. LCR ensures that banks **maintain sufficient High-Quality Liquid Assets (HQLAs)** to survive a **30-day liquidity stress scenario**.
2. **LCR Formula:**
   a. LCR = High-Quality Liquid Assets / Total Net Cash Outflows (over 30 days)

Origin:

1. Introduced by **Basel Committee on Banking Supervision (BCBS)** after the **2008 financial crisis**.
2. Implemented globally from **2015–2019**, with India adopting a **100% LCR requirement** in 2019.

High-Quality Liquid Assets (HQLA) Include:

1. **Cash and balances with RBI**
2. **Government securities**
3. Other assets easily convertible to cash with minimal loss.

Objective:

1. Prevent bank failures by ensuring short-term liquidity.
2. Acts as a **financial stress test** for banks.

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RBI's Key Changes (April 2025)

Component	Previous Proposal	Final Norm (April 2025)
Additional Run-off for IMB Deposits	5%	2.5%
Run-off for IMB-enabled Stable Deposits	5%	7.5% (total)
Run-off for IMB-enabled Less-Stable Deposits	10%	12.5% (total)

Definitions:

1. **IMB Deposits**: Deposits accessible via **Internet Banking, Mobile Banking, and UPI**.
2. **Run-off Factor**: Percentage of deposit outflows a bank expects during a liquidity crisis.

Implementation Timeline

1. **Effective Date**: April 1, 2026.
2. **Applicable To**: All commercial banks.
3. **Exemptions**: Payments banks, regional rural banks (RRBs), and local area banks (LABs).

Impact on Banking Sector

Liquidity and Credit Growth:

1. Estimated **Rs 2.7–3 lakh crore** may be released for **lending**.
2. Could support **credit growth of 1.4–1.5%**, enhancing economic activity.
3. **System-wide LCR expected to rise by 6%** as of Dec 31, 2024.

Industry Feedback:

1. Banks had requested a **deferment** citing lack of preparedness.
2. RBI's final norms reflect a **balanced regulatory approach**, reducing the buffer from 5% to 2.5%.

Significance of Revised LCR Norms:

1. **Promotes Digital Banking**: A lower buffer for digital deposits encourages digital penetration without overburdening banks.
2. **Supports Lending Capacity**: Relaxation frees up capital for credit, supporting economic recovery and growth.
3. **Risk Management**: Addresses withdrawal risk from IMB accounts, without stifling innovation in banking.

Challenges:

1. **Reduced Lending from Over-regulation**: Excessive liquidity requirements can restrict credit availability.
2. **Effectiveness Yet to be Tested**: Actual resilience of LCR during a financial crisis remains untested in Indian context.

Conclusion

The RBI's calibrated revision of the LCR norms reflects a careful balance between **financial stability** and **credit expansion**. While digital banking enhances customer access and inclusion, it also brings new liquidity risks. The revised guidelines aim to **strengthen the banking sector's resilience** without **hampering its lending capabilities**, thereby aligning with the broader goal of **sustainable economic growth**.

9. Vibrant Villages Programme Phase 2 (VVP-II)

1. On 7 April 2025, the Union Cabinet approved **Phase 2 of the Vibrant Villages Programme (VVP-II)** as a Central Sector Scheme.
2. The programme aims at the **comprehensive development of villages located along international land borders** to enhance national security and ensure inclusive growth in strategically sensitive regions.

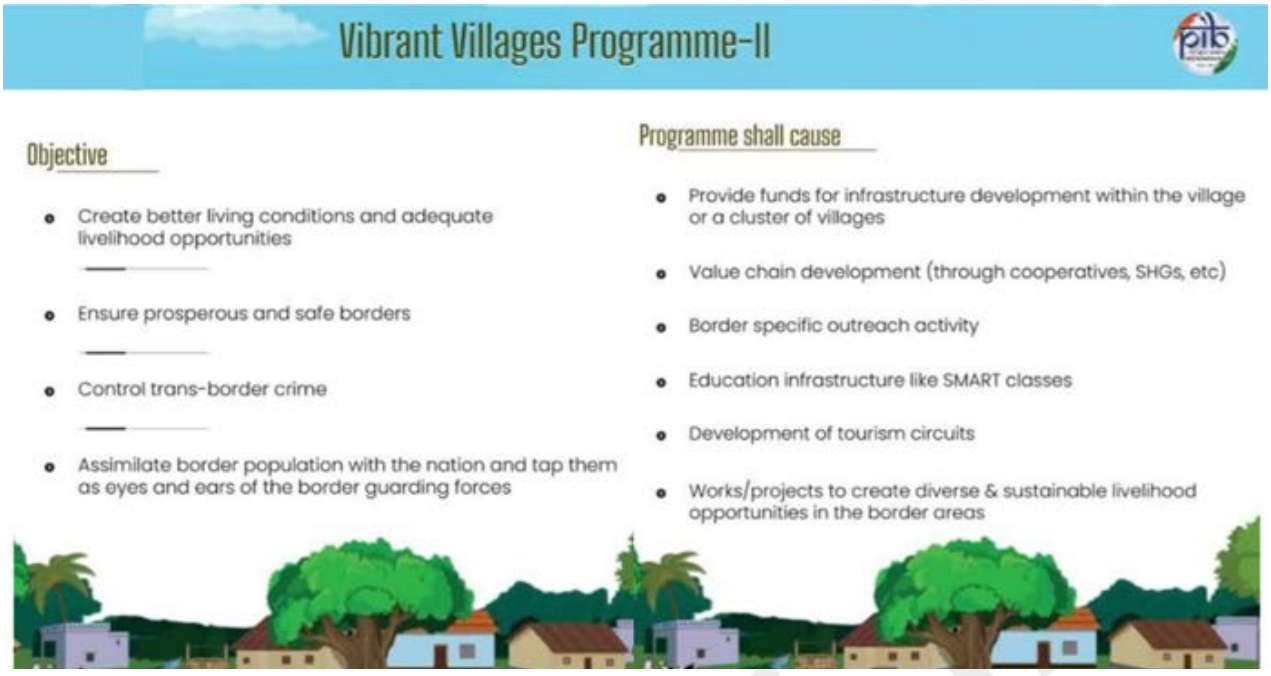
Background: About the Vibrant Villages Programme (VVP) – Phase 1

Launch:

1. **Year**: 2023
2. **Type**: Centrally Sponsored Scheme
3. **Coverage**: Select villages across **46 blocks in 19 districts** of northern border states and Union Territories:
   a. Arunachal Pradesh
   b. Himachal Pradesh
   c. Sikkim
   d. Uttarakhand
   e. Union Territory of Ladakh

Objectives:

1. Improve **quality of life** in identified remote border villages.
2. **Reverse outmigration** by generating local livelihood opportunities.



3. Enhance **border security** through active civilian presence.

Key Focus Areas of VVP (Phase 1)

Livelihood Generation

1. Skill development and support for local entrepreneurship.
2. Promotion of agriculture, horticulture, and cultivation of medicinal plants and herbs.
3. Establishment of cooperative societies to manage agricultural and allied sectors.

Tourism and Cultural Development

1. Infrastructure support for **community-run homestays**.
2. Encouragement of **local festivals, traditional crafts**, and **regional cuisine**.
3. Development of **eco-tourism, spiritual tourism, wellness, and adventure circuits**.

Infrastructure and Connectivity

1. Road networks, housing, and basic village infrastructure.
2. Access to **renewable energy**, **television**, and **telecommunication** services.

Outcome-Oriented Monitoring

1. Defined **performance indicators** at the **village**, **household**, and **individual** levels for measurable impact.

Vibrant Villages Programme Phase 2 (VVP-II)

1. **Type: Central Sector Scheme** (100 percent funding by the central government)
2. **Outlay: : Total allocation** of ₹6,839 crore up to the **Financial Year 2028–29**
3. **Geographical Coverage :** Villages abutting **international land borders**, excluding those already covered in VVP-I. States and Union Territories covered under VVP-II include:
   a. Arunachal Pradesh
   b. Assam
   c. Bihar
   d. Gujarat
   e. Jammu and Kashmir (Union Territory)
   f. Ladakh (Union Territory)
   g. Manipur
   h. Meghalaya
   i. Mizoram
   j. Nagaland
   k. Punjab
   l. Rajasthan
   m. Sikkim
   n. Tripura
   o. Uttarakhand
   p. Uttar Pradesh
   q. West Bengal

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Objectives of VVP Phase 2

1. Create **better living conditions** and ensure **adequate livelihood opportunities**.
2. Enhance **border security** by reducing outmigration and involving residents as stakeholders in vigilance.
3. **Control trans-border crime** through stronger community integration.
4. Strengthen the **connection between border populations and the nation**, positioning them as the **"eyes and ears" of border guarding forces**.

Key Focus Areas under VVP-II

1. Development of **infrastructure** within individual villages or clusters.
2. Creation of **value chains** through cooperatives and Self-Help Groups (SHGs).
3. **Border-specific outreach activities** to promote awareness and participation.
4. Investment in **educational infrastructure**, including SMART classrooms.
5. Promotion of **sustainable tourism circuits** based on local ecology and culture.
6. Diversification of **livelihood options** tailored to the specific needs of border communities.

Implementation Mechanism

1. Planning through **Village Action Plans**, collaboratively designed with local stakeholders.
2. Emphasis on **state-specific and village-specific interventions** for optimal impact.
3. **All-weather road connectivity** under the **Pradhan Mantri Gram Sadak Yojana–IV (PMGSY-IV)**, implemented by the **Ministry of Rural Development**.

Significance of VVP-I and VVP-II

1. Represents a **transformational initiative** for India's border management and rural development.
2. Aligns with national visions such as:
   - **"Last Mile Delivery"** of government schemes
   - **"Viksit Bharat by 2047"**
3. Encourages **self-reliance, local engagement, and decentralised development** in challenging terrains.

Conclusion

The **Vibrant Villages Programme Phase 2** is a strategic effort to secure India's international borders by empowering and integrating border populations. Through infrastructure, livelihoods, education, and tourism development, the scheme promotes **inclusive growth and national integration**. It strengthens border security not only through physical development but also by instilling a **sense of participation and purpose** among residents in India's frontier regions.

10. GST E-Invoicing: Process, Benefits & New Rules from April 1, 2025

1. In April 2025, the Government of India implemented new rules under the Goods and Services Tax (GST) e-invoicing framework to expand compliance, enhance tax transparency, and reduce evasion.
2. This is part of the ongoing reform to digitize India's indirect tax system and strengthen tax governance, especially for Business-to-Business (B2B) and export transactions.

Background: Gradual Implementation of E-Invoicing under GST

1. The GST e-invoicing system was approved during the 37th GST Council Meeting held on 20 September 2019.
2. The objective was to create a standardized method for invoice reporting across all businesses dealing in B2B and export supplies.

Phased Rollout Timeline:

1. **October 1, 2020**: Mandatory for businesses with Annual Aggregate Turnover (AATO) greater than ₹500 crore
2. **January 1, 2021**: Extended to AATO between ₹100 crore and ₹500 crore
3. **April 1, 2025**: Further lowered to businesses with AATO equal to or above ₹10 crore

Definition and Working of GST E-Invoicing

1. E-invoicing is a system wherein B2B and export invoices are electronically authenticated by the government through the Invoice Registration Portal (IRP).

2. The IRP assigns a unique Invoice Reference Number (IRN) and generates a Quick Response (QR) code.
3. Invoices are created by the taxpayers in their own Enterprise Resource Planning (ERP) or billing software.
4. Only authenticated invoices with valid IRNs are considered legally valid under GST law.

Documents Covered:

1. GST Invoices
2. Credit Notes
3. Debit Notes (for B2B and exports only)

Exempted Sectors:

1. Special Economic Zone (SEZ) Units
2. Insurance, banking, and Non-Banking Financial Companies (NBFCs)
3. Multiplex cinema services
4. Road transport and passenger transport services

Step-by-Step Process of E-Invoicing

1. **Invoice Generation**: Taxpayers create invoice using their own ERP or accounting software.
2. **Uploading to IRP**: The invoice is uploaded electronically to the IRP using an Application Programming Interface (API).
3. **Validation by IRP**: The IRP validates the invoice, generates an IRN and a digitally signed QR code.
4. **Final Invoice**: A valid GST invoice must carry the IRN and QR code for it to be legally accepted.

Advantages of GST E-Invoicing

1. Invoice details are auto-populated in GST returns (such as GSTR-1) and e-way bills.
2. Minimizes manual intervention and errors, improving turnaround time in compliance and payments.
3. Based on international standards such as Universal Business Language (UBL) and Pan-European Public Procurement Online (PEPPOL).
4. Ensures machine-readability and compatibility across systems, enabling smooth switching of platforms or service providers.
5. Provides real-time invoice data access to tax authorities.
6. Helps prevent fraudulent transactions, fake invoice generation, and ineligible Input Tax Credit (ITC) claims.
7. Reduces the need for audits and litigation by maintaining tamper-proof records.

New E-Invoicing Rules from April 1, 2025

1. **Mandatory 30-Day Reporting Timeline**
   a. All businesses with AATO equal to or exceeding ₹10 crore must upload invoices to the IRP **within 30 days** of issuance.
   b. Previously, this requirement applied only to businesses with AATO greater than ₹100 crore.
   c. Delayed uploads will be **blocked** by the IRP system, leading to rejection of such invoices.
2. **Impact of Non-Compliance**
   a. Delay in invoice reporting may result in:
      i. Rejection of invoices by the portal
      ii. Mismatch of Input Tax Credit (ITC) for recipients
      iii. Financial penalties under GST law
      iv. Disruption in working capital due to ineligibility for credit
3. **Compulsory Two-Factor Authentication (2FA)**
   a. Effective from April 1, 2025, Two-Factor Authentication is mandatory for **all taxpayers**, irrespective of turnover.
   b. Applies to both **e-invoice** and **e-way bill** generation.
   c. Aims to improve system security and reduce unauthorised access.
4. **Rationale Behind the New Rules**
   a. Authorities observed delays in invoice uploads, causing mismatches in returns and fraudulent ITC claims.
   b. Invoices without IRNs were being misused to claim input credits before actual validation.
   c. The government intends to improve discipline, enhance traceability, and maintain data integrity in the GST ecosystem.
5. **Technical and Legal Significance**
   a. A GST invoice without a valid IRN is **not considered a legal document**.
   b. The QR code contains encrypted invoice data for quick verification by field officers.
   c. All invoices must be digitally signed by the IRP to ensure authenticity.

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Wider Impact on Businesses and Administration

1. **On Medium Enterprises**
   a. Businesses with turnover ≥ ₹10 crore are now brought under mandatory e-invoicing, pushing mid-sized firms towards digitization.
   b. Improves internal record-keeping and facilitates automated GST return preparation.
2. **On Tax Administration**
   a. Enhances monitoring by providing real-time invoice data.
   b. Strengthens audit trails and makes revenue collection more predictable.
   c. Reduces dependence on physical audits and manual reconciliation.

Conclusion

The new GST e-invoicing framework effective from April 1, 2025, represents a major reform in India's indirect tax regime. By expanding the compliance threshold to cover smaller businesses and enforcing strict timelines for invoice uploads, the government is prioritising transparency, accountability, and digital transformation. Mandatory Two-Factor Authentication and real-time validation via IRP will prevent misuse, ensure timely reporting, and streamline the GST credit chain, ultimately fostering greater trust and efficiency in India's tax system.

11. India Skills Accelerator (ISA)

1. In a major step toward strengthening India's skilling ecosystem, the **Ministry of Skill Development and Entrepreneurship (MSDE)**, in collaboration with the **World Economic Forum (WEF)**, launched the **India Skills Accelerator (ISA)** initiative.
2. The platform seeks to address structural skill gaps and create a future-ready workforce through cross-sectoral collaboration and institutional reform.

What is the India Skills Accelerator (ISA)?

1. A **national-level public-private collaboration platform**.
2. Designed to catalyse **cross-sectoral, multi-stakeholder solutions** for India's skilling challenges.
3. Functions as a **strategic accelerator** to enable **system-wide transformation** of the skill development ecosystem.

Core Objectives of ISA:

The initiative aims to drive progress at **three critical levels**:

1. **Mindset and Awareness Shift**
   a. Promote awareness about the changing nature of work and the need for **future-oriented skills**.
   b. Encourage early education and public engagement on skill relevance.
2. **Collaboration and Knowledge Sharing**
   a. Facilitate cooperation between **government, industry, academia, and civil society**.
   b. Create shared learning platforms and enable best practice dissemination.
3. **Institutional and Policy Innovation**
   a. Reform institutional structures and update policy frameworks.
   b. Build a **flexible, adaptive, and responsive skilling ecosystem** to meet emerging demands.

Rationale Behind ISA:

1. India is undergoing **rapid technological and economic change**.
2. **65 percent of organisations** cite **skill gaps** as a major barrier to growth and productivity.
3. The current skilling ecosystem often lacks **agility, alignment with industry needs, and scalability**.

Key Focus Areas of ISA :

1. **Inclusive Upskilling and Reskilling**
   a. Ensure access to training for **diverse demographic groups** across sectors and regions.
   b. Prioritise underrepresented communities and promote **gender parity**.
2. **Lifelong Learning Investment**
   a. Encourage **private and public sector investment** in continuous learning.
   b. Promote adaptable training programmes that evolve with technological advancements.
3. **Government-Industry Collaboration**
   a. Bridge the gap between **education systems and labour market needs**.
   b. Co-create curricula, certification standards, and scalable learning models.

4. **Future-Ready Career Development**
    a. Enable **agile career transitions** through counselling, skill mapping, and flexible pathways.
    b. Emphasis on high-growth areas such as:
        - Artificial Intelligence
        - Robotics
        - Renewable energy
        - Digital infrastructure
        - Advanced manufacturing

Significance of ISA:

1. **Addresses structural inefficiencies** in India's skill development frameworks.
2. Builds alignment across all stakeholders to reduce fragmentation.
3. Strengthens India's position as a **digital and innovation-driven economy**.
4. Supports the **vision of Viksit Bharat by 2047** through employment generation and inclusive growth.

Conclusion:

The **India Skills Accelerator** is a transformative platform designed to build a **future-ready, inclusive workforce**. By aligning stakeholders, bridging skill gaps, and mobilising investments in continuous learning, ISA advances India's ambition of becoming a global hub for talent and innovation. The initiative is crucial for enhancing productivity, promoting economic mobility, and ensuring that India's demographic dividend is fully realised.

12. Niveshak Didi – Women-led Financial Literacy Initiative

1. On 12 April 2025, a **Memorandum of Agreement (MoA)** was signed to launch **Phase 2 of the Niveshak Didi** programme.
2. It is an initiative aimed at empowering rural women through financial literacy and community outreach.

What is Niveshak Didi?

1. A **women-centric financial literacy initiative**.
2. Trains **women postal workers and local community leaders** to become **financial educators** within their own regions.
3. Designed to foster **grassroots financial empowerment**, especially in **rural, semi-urban, and underserved** areas.
4. **Launched By :**
    - Investor Education and Protection Fund Authority (IEPFA)
    - India Post Payments Bank (IPPB)
5. **Nodal Ministry:**
    - Ministry of Corporate Affairs (MoCA)

Objectives:

1. Promote **financial awareness and literacy** among rural women.
2. Build **confidence and capability** in making informed financial decisions.
3. Educate women on topics such as:
    a. Responsible investing
    b. Fraud awareness
    c. Savings habits
    d. Digital financial tools and **banking systems**

Highlights of Phase 1 (Launched in 2022):

1. Over **55,000 women beneficiaries** trained through IPPB financial literacy camps.
2. Around **60 percent** were **female participants**, mainly from the **youth and economically active** segments.
3. Nearly **40,000 women postal workers** trained as **Niveshak Didis** to act as trusted educators and facilitators in their communities.

Phase 2 Highlights (2025 Onward):

1. Launch of **over 4,000 new financial literacy camps** across India.
2. Expansion of outreach to **new rural and underserved regions**.
3. Strengthening the role of **trained women leaders** in promoting financial inclusion at the grassroots level.

Significance of the Initiative:

1. **Women Empowerment**: Empowers rural women to take charge of personal and household financial decisions.
2. **Trust and Accessibility**: Leverages the **trust placed in postal workers** for effective community engagement.

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3. **Inclusive Development**: Helps bring **financial knowledge and digital literacy** to previously unbanked and underbanked populations.
4. **Community-Driven Model**: Enhances **local leadership and self-reliance** through participatory education.

Associated Institutions

1. Investor Education and Protection Fund Authority (IEPFA)

Aspect	Details
Established	2016
Under	Ministry of Corporate Affairs
Nature	Statutory body
Vision	To build a financially aware and confident India
Key Functions	Investor education, protection of investors' interests, awareness campaigns on rights and responsibilities

2. India Post Payments Bank (IPPB)

Aspect	Details
Established	2018
Under	Ministry of Communications
Vision	To be the most accessible, affordable, and trusted bank for the common people in India
Objective	To bridge the gap for **unbanked and underbanked populations** using the extensive **postal network**
Key Features	Focus on **paperless**, **cashless**, and **presence-less banking** through doorstep delivery of services

Conclusion:

The **Niveshak Didi** initiative represents a **pioneering approach** to financial empowerment led by women at the grassroots. By combining the **reach of India Post**, the **capacity of trained women leaders**, and the **vision of investor education**, the programme contributes significantly to building a **financially inclusive, informed, and resilient India**—aligned with the broader goals of **Digital India** and **women-led development** under **Viksit Bharat by 2047**.

13. World Bank's Poverty and Equity Brief – Spring 2025

1. In April 2025, World Bank released the Spring 2025 Poverty and Equity Brief (PEB) acknowledging India's fight.
2. **World Bank's 2025 Poverty and Equity Brief** (PEB) reported that **India lifted 171 million people out of extreme poverty** between **2011–12 and 2022–23**.
3. Extreme poverty in India fell from **16.2% to 2.3%**, reflecting the success of welfare schemes and improved access to basic services.

About the Poverty and Equity Brief (PEB)

1. Published biannually (Spring and Annual Meetings of the World Bank & IMF).
2. Covers poverty and inequality in over 100 developing countries.
3. Poverty Lines Used:
   a. **USD 2.15/day** – extreme poverty
   b. **USD 3.65/day** – lower-middle income poverty
   c. **USD 6.85/day** – upper-middle income poverty
4. Key Indicators: National and international poverty rates, Gini index (inequality), Multidimensional Poverty Index (MPI), shared prosperity trends.

India-Specific Methodology

1. Based on the **2011–12 Consumption Expenditure Survey (CES)** and **2022–23 Household Consumption Expenditure Survey**.

Key Highlights of the Report

Poverty Reduction

Category	2011–12	2022–23
Extreme Poverty (Overall)	16.2%	2.3%
Rural Poverty	18.4%	2.8%
Urban Poverty	10.7%	1.1%

Five states (Uttar Pradesh, Maharashtra, Bihar, West Bengal, Madhya Pradesh) accounted for 65% of poor in 2011–12 and contributed two-thirds to the poverty

reduction.

Multidimensional Poverty (MPI)

MPI Estimate	Percentage
2005–06 (NFHS-3)	53.8%
2019–21 (NFHS-5)	16.4%
2022–23 (World Bank)	15.5%

Inequality (Gini Index)

1. Improved from **28.8 (2011–12)** to **25.5 (2022–23)**, showing reduced income inequality.

Lower-Middle-Income Poverty (USD 3.65/day)

1. Poverty reduced from **61.8% to 28.1%**.
2. 378 million people moved out of poverty, indicating economic gains reached broader population groups.

Employment and Gender Trends

Employment Trends

1. Rise in employment, particularly among women.
2. Urban unemployment at lowest since 2017–18.
3. Only 23% of non-farm paid jobs are formal.

Gender Disparities

1. Female employment rate: 31%.
2. 234 million more men in paid employment.
3. India ranked **129th** in Global Gender Gap Report 2024.

Associated Social Issues Related to Poverty (GS Paper 1 & 2)

1. **Marginalization of Vulnerable Communities :** SCs and STs face systemic barriers in education, healthcare, and employment.
2. **Health Disparities and Malnutrition :** Widespread malnutrition and inadequate healthcare despite schemes like POSHAN Abhiyaan.
3. **Water Scarcity :** 49.8% of rural households lack piped water (NFHS-5), impacting health and hygiene.
4. **Energy Poverty :** Access to clean cooking fuels remains limited. Many left out of Ujjwala Yojana due to data gaps.
5. **Mental Health Challenges :** Chronic poverty leads to stress, anxiety, and depression. Lack of mental health infrastructure deepens the crisis.
6. **Gender Inequality :** Early marriage, domestic violence, and limited access to education/workforce participation limit women's empowerment.
7. **Environmental Degradation :** Poor communities rely on unsustainable practices, increasing vulnerability to climate shocks.

Way Forward: Tackling the Root Causes of Poverty

1. **Strengthen Welfare and Inclusion**
   a. Expand financial inclusion through PMJDY.
   b. Promote job-ready skilling via DDU-GKY.
2. **Bridge the Gender Gap**
   a. Promote Beti Bachao Beti Padhao, Sukanya Samriddhi Yojana.
   b. Enforce equal pay, improve access to credit, and create gender-sensitive workspaces.
3. **Improve Energy Access**
   a. Scale PM Surya Ghar: Muft Bijli Yojana.
   b. Promote solar microgrids in tribal and remote areas.
4. **Ensure Water Access**
   a. Strengthen Jal Jeevan Mission.
   b. Prioritize rainwater harvesting, watershed development, groundwater recharge.
5. **Scale Mental Health Support**
   a. Enhance National Mental Health Programme outreach.
   b. Train ASHA workers for early intervention and conduct stigma-reducing awareness.
6. **Use Technology for Transparency**
   a. Link welfare schemes with Aadhaar.
   b. Use e-KYC and DBT to reduce leakages and exclude fake beneficiaries.

Conclusion

India's success in reducing extreme poverty is a testament to its focused development strategy. However, poverty remains a multidimensional issue, linked to inequality, marginalization, and poor access to basic services. Combating poverty demands a holistic, inclusive approach that tackles its social, economic, and psychological dimensions. Through robust policy reforms, empowerment of vulnerable communities, and improved governance, India can sustain its progress and fulfill the vision of a Viksit Bharat by 2047.

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E. Science & Technology

1. Biomass Mission – Spotting Forests from Space

1. The **European Space Agency (ESA)** is preparing to launch its newest **space satellite**, **Biomass**, at the end of April 2025.
2. The **Biomass mission** will provide detailed **3D maps of the world's dense and remote tropical forests**.
3. The satellite will be able to measure **woody trunks, branches, and stems of trees**, which are crucial for understanding the amount of carbon stored in forests.
4. The data gathered will help scientists better understand the state of forests and how they are changing over time.

What is the Biomass Satellite?

1. **Biomass** is the **first space satellite** to carry a **P-band radar**.
2. **P-band radar** has a long wavelength, enabling the satellite to scan deep through the **forest canopy**.
3. This allows the satellite to collect detailed information about **tree trunks, branches, and stems** — key areas where most of the **carbon is stored**.
4. The satellite will provide experts with new information about **forest height** and **above-ground biomass**, which is difficult to measure from the ground.

Phases of the Biomass Mission

The mission will be carried out in **two phases**:

1. **Phase 1**: The satellite will provide **detailed 3D maps** of Earth's forests, especially those in dense tropical regions.
2. **Phase 2**: The satellite will produce **five global maps**, enabling the estimation of **forest height** and **above-ground biomass** on a global scale.

Why is the Biomass Mission Important?

1. **Forests** are essential for life on Earth. They absorb **carbon dioxide** and release **oxygen**, which animals, including humans, need to survive.
2. Forests are often called **"Earth's green lungs"** as they absorb around **eight billion tonnes of carbon dioxide** from the atmosphere every year.
3. Trees help in **pollution reduction**, **air quality improvement**, and **slowing down climate change**.
4. Understanding how forests are changing, and their role in the **global carbon cycle**, is crucial for tackling **climate change**.
5. The **Biomass mission** will help scientists **quantify** and **track** the **carbon stored in forests**, which is essential for understanding how forest health impacts the environment and climate.

When Will the Biomass Satellite Launch?

1. The **Biomass satellite** is scheduled to launch on **April 29, 2025**, aboard a **Vega-C rocket**.
2. The rocket will launch from **Europe's Spaceport in French Guiana**.
3. The satellite arrived in **French Guiana** in March 2025, where it is undergoing final inspections after its long journey from Europe.

Expected Impact of Biomass Mission

1. Biomass will provide **global forest data** that can help in monitoring **climate change**.
2. The mission will assist in improving **carbon accounting** methods and contribute to **global climate policies**.
3. Scientists will gain a better understanding of how forests influence the **global carbon cycle** and how forest health changes over time.

2. Discovery of K2-18b: Signs of Life Beyond Earth

1. In April 2025, **NASA's James Webb Space Telescope (JWST)** found carbon-based gases on the **exoplanet K2-18b.**
2. These gases included **Dimethyl Sulfide (DMS)** and **Dimethyl Disulfide (DMDS)**, both linked to life on Earth.

3. The detection of **carbon-bearing molecules like DMS on K2-18b** may indicate the potential presence of life.

Importance of this discovery-

1. Scientists have long searched for exoplanets—planets beyond our solar system—that could support life.
2. Discovering exoplanets with Earth-like conditions, especially within the habitable zone of their stars, is key to this search.
3. The habitable zone is the region around a star where temperatures could allow liquid water to exist, which is essential for life.

What is K2-18b?

1. The planet's name is K2-18b, meaning it is the first planet in the 18th planetary system found by the extended, K2.
   - Astronomers assign the "b" label to the first planet in the system, not "a," to avoid possible confusion with the star.
2. K2-18b is an exoplanet orbiting a **cool dwarf star** named **K2-18.**
3. It was **discovered in 2015 by NASA's Kepler Space Telescope** during the K2 mission.
4. K2-18b is **located in the habitable zone** of its parent star, where liquid water might exist.
5. It is a **"Sub-Neptune"** exoplanet, with about **8.6 times Earth's mass** and 2.6 times Earth's radius.
6. K2-18b is located approximately **120 light-years** away in the constellation Leo.
7. It is classified as a **"Hycean planet,"** meaning it may have a hydrogen-rich atmosphere and a possible ocean-covered surface.

What is a Sub-Neptune?

1. A Sub-Neptune is **an exoplanet larger than Earth but smaller than Neptune**, with a radius between 1.5 to 4 times that of Earth.
2. These planets often have thick **atmospheres of hydrogen and helium.**
3. They may have liquid water or ices beneath the surface.
4. Sub-Neptunes **may or may not have a solid surface** and vary in composition.
5. They can have rocky cores with gas envelopes or be **water-rich or icy bodies**.
6. Sub-Neptunes are the most common type of exoplanet in our galaxy, although our solar system has none.
7. K2-18b is a well-known Sub-Neptune believed to possibly host a liquid water ocean under a **hydrogen-rich atmosphere.**

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Detection of DMS and DMDS on K2-18b

Dimethyl Sulfide (DMS)	Dimethyl Disulfide (DMDS)
1. DMS has the chemical formula $(CH_3)_2S$.	1. DMDS has the chemical formula (CH_3SSCH_3).
2. On Earth, DMS is mainly produced by phytoplankton—microscopic sea organisms.	2. DMDS is also associated with biological and microbial activity.
3. DMS plays a significant role in cloud formation and climate regulation on Earth.	3. It is typically found in decaying organic matter.
4. Its presence elsewhere may suggest biological processes similar to Earth's	4. DMS is more linked to active biological processes, while DMDS is more related to post-decomposition stages.

Significance of DMS and DMDS Detection

1. Both **DMS and DMDS** are considered potential biosignatures, meaning chemical signs of life.
2. On Earth, these molecules are primarily produced by living organisms.
3. However, scientists stress the need for caution in interpretation, as non-biological sources must be ruled out.
4. The detection has about a 3-sigma statistical confidence—roughly a 99.7% chance that the signal is real.
5. However, it falls short of the 5-sigma threshold typically required for a definitive discovery.

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3. ChaSTE – Chandrayaan-3's Probe Measures Moon's Temperature

1. ISRO's Chandrayaan-3 mission successfully measured temperature under the moon's surface using a tool called **ChaSTE**.
2. ChaSTE became the **1st instrument to measure temperature in situ (on site)** near the moon's south pole.
3. t also became the **1st thermal probe to be successfully deployed** into the soil of a celestial body.
4. Earlier attempts by Europe and the U.S. had failed to collect similar data.
5. Scientists reported that **water ice is more common** in the moon's south pole region than expected.

What is ChaSTE

1. ChaSTE stands for **Chandra's Surface Thermophysical Experiment**.
2. It is a temperature-sensing device developed by **ISRO**.
3. It was carried on board the **Vikram lander** of the Chandrayaan-3 mission.
4. The main aim was to study how the moon's surface and subsurface respond to heat.

How ChaSTE Works

1. ChaSTE has a **probe with 10 temperature sensors**, each spaced 1 cm apart.
2. These sensors are located near the tip of the probe.
3. The probe uses a **rotation-based mechanism** to push itself into the soil.
4. When the tip touches the ground, it records the surface temperature.
5. As the probe moves deeper, it faces more resistance.
6. The motor increases force to go further down, helping scientists know how deep it has gone.
7. The final depth reached was **10 cm**.
8. ChaSTE took temperature readings from **August 23 to September 2, 2023**.

Comparison with Previous Missions

1. In 2014, **ESA's Philae lander** tried to measure temperature on a comet.
2. It carried a tool called **MUPUS** to dig into the surface.
3. But Philae bounced during landing and got stuck in an awkward position.
4. As a result, MUPUS could not be used.
5. In 2018, NASA's InSight lander went to Mars with a tool called HP3, also known as The Mole.
6. It was designed to dig 5 meters underground using a hammering system.
7. But the probe could not go deep due to low friction with the soil.
8. Though it finally went down, it could not send useful temperature data.
9. The temperature sensors were placed on a cable that failed to follow the probe underground.

What Made ChaSTE Successful

1. Previous missions used **hammering devices** to insert their probes.
2. ChaSTE used a **rotating motor** to push the probe into the soil.
3. This method was more reliable on the moon's surface.
4. According to the lead scientist Durga Prasad K., this rotation-based system was the key to success.

Significance of ChaSTE's Achievement

1. It is the **first time a thermal probe has worked successfully** on another planetary body.
2. The temperature readings help scientists study the **presence of water ice** under the lunar surface.
3. This is important for planning **future human missions and lunar bases**.
4. The data helps to understand the **moon's thermal behavior**, which affects landing, construction, and long-term stay.

India's Growing Role in Space Science

1. With Chandrayaan-3, India became the **first country to land near the moon's south pole**.
2. ISRO has shown its ability to design and operate complex experiments like ChaSTE.
3. It strengthens India's position in **planetary exploration** and **space research**.
4. This success also encourages future missions like **Gaganyaan** and **Lunar sample return missions**.

4. World's First 'Black Hole Bomb' Created in a Lab

1. Recently, Scientists at the **University of Southampton (UK)** have, for the **first time**, recreated a **"black hole bomb"** in a laboratory.
2. This experiment **proved a 50-year-old theory** that waves can grow stronger by **stealing energy from a spinning object**, just like near a black hole.
3. The experiment used a **spinning aluminium cylinder**, **magnetic fields**, and **reflected electromagnetic waves**.

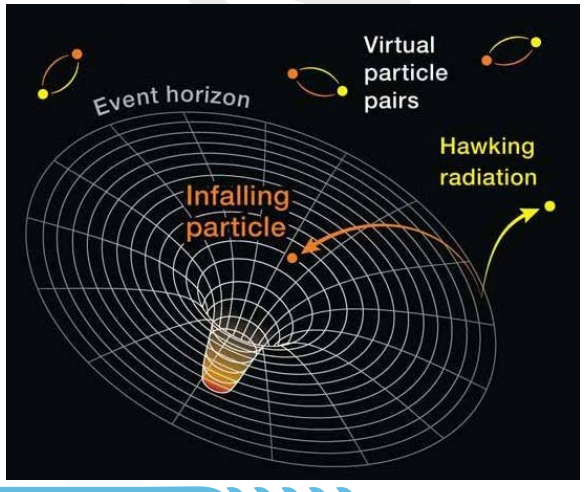
What is a 'Black Hole Bomb'?

1. It's a **theoretical idea** that says waves (like light or sound) can get stronger and stronger when bouncing around a fast-spinning object.
2. These waves steal energy from the spinning object, making it slow down.
3. The effect was **first proposed in 1971** by physicist **Yakov Zel'dovich**.

Background – Where Did the Idea Come From?

Penrose Process (1969)

1. Proposed by physicist **Roger Penrose**.
2. He said that energy can be **taken out of a rotating black hole**, in a region called the **ergosphere** (a zone around a black hole where space-time is stretched).
   a. **Black hole means :** an area in space that nothing, not even light, can escape from, because the force that pulls objects in space towards each other (gravity) is so strong there
3. In this zone, a particle can split into two:

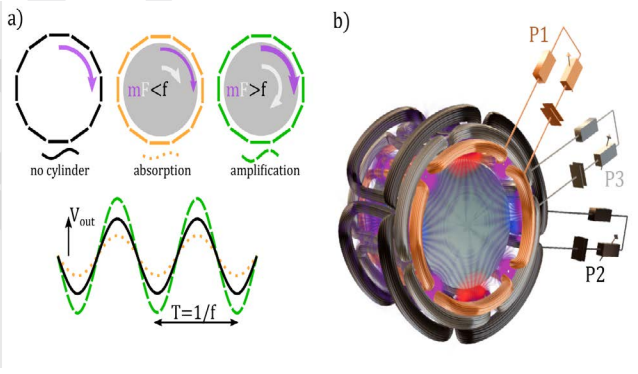


   a. One part falls into the black hole with **negative energy**.
   b. The other escapes with **more energy** than it had before.

Zel'dovich Effect (1971)

1. Physicist **Yakov Zel'dovich** asked: Can this process happen **without a black hole**?
2. He suggested:
   a. A **fast-spinning metal cylinder** could do the same.
   b. If **waves** (like sound or light) hit it, they could **gain energy**.
   c. If **mirrors** reflected the waves back and forth, they would grow stronger each time.
3. This energy boost process was later called a **"black hole bomb."**

Key Concept – What Is the Zel'dovich Effect?



1. If a spinning object moves **faster than the incoming waves**, it can **shift the wave's frequency**.
2. Waves turn into **negative frequencies**
3. This allows the wave to **take energy from the spinning object**—causing **amplification**.
4. Similar to the **Doppler effect** (like when a car honking its horn sounds different when it approaches or moves away), but with **rotation** instead of motion.

The Lab Experiment – How It Was Done

1. Led by **Hendrik Ulbricht** and **Marion Cromb**.
2. The setup included:
   a. A **spinning aluminium cylinder**.
   b. A **three-phase magnetic field**.
   c. A **resonant circuit** that acted like **mirrors**, bouncing electromagnetic waves back.

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3. **What happened**:
   a. At first: only **background noise**.
   b. Then: waves started **amplifying** with each bounce.
   c. Result: waves stole energy from the **spinning motion**, just like the theory said.

Why Is This Important?

1. This experiment provides **real proof** that waves can grow stronger by taking energy from a rotating object.
2. It shows that we can study **cosmic physics** (physics related to space, stars, and black holes) right here on Earth.
3. It also proves some predictions made by **Einstein's theory of relativity** (a theory about gravity and space-time).
4. This finding could help scientists understand how **black holes** lose energy.
5. It could help detect **dark matter** (mysterious stuff in space that we can't see but know is there because of its gravity) and how it behaves near black holes.

Future Possibilities

1. Scientists want to try using even **smaller energy changes** in space (called **quantum vacuum fluctuations**, which are tiny fluctuations in energy that happen in empty space) to start the wave amplification process.
2. This will require **new technology**, but it's now considered **possible**.

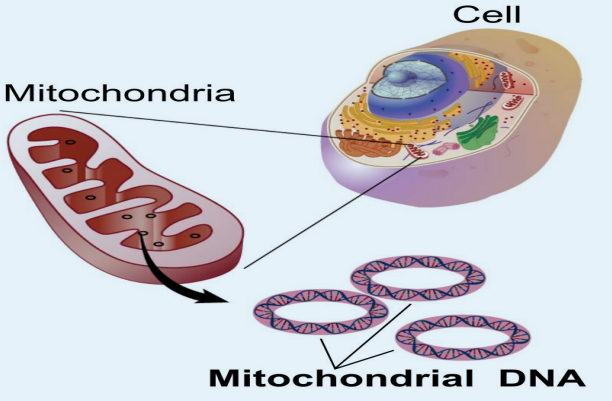
5. Discovery of Molecule That May Treat Rare Mitochondrial Diseases (2025)

1. Recently, Scientists have found a **molecule** (a small chemical compound) that could help treat **POLG-related diseases**.
   - These are **rare genetic diseases** that harm the **mitochondria** (the "powerhouses" of our cells) and make it hard for cells to get enough energy.
2. This molecule appears to **reverse the damage caused by mutations** (changes in DNA) that affect the **POLG gene** (a gene responsible for a key protein in mitochondria).

What Are POLG-Related Diseases?

1. **POLG-related diseases** are rare and caused by problems with the **POLG gene**.
2. The diseases lead to **mitochondrial DNA** being damaged and not being able to repair itself properly.
3. This affects the body's ability to create and use energy.
4. The diseases are very **variable** (different people have different symptoms, and it can affect people at different ages).
   a. **Alpers-Huttenlocher syndrome** (a severe form) starts between ages **2-4** and can lead to liver failure, seizures, and death within 4 years.
   b. Other forms of POLG diseases may show symptoms between **12 and 40** years old, but symptoms are less severe for people who develop them later in life.

What is Mitochondrial DNA ?



1. Mitochondrial DNA (mtDNA) is the **circular, double-stranded DNA** found within the mitochondria, the cell's energy-producing organelles.
2. Mitochondria have their own **DNA**, which is separate from the DNA found in the **nucleus** of the cell.
3. This mitochondrial DNA is passed down only through the **mother**, which is why it's sometimes called the "maternal inheritance."
4. The health of mitochondrial DNA is crucial for the proper functioning of mitochondria.
5. If there are mutations (changes) in the mitochondrial DNA, it can lead to diseases that affect energy production in the body.

How Does This New Molecule Work?

1. The researchers wanted to find a molecule that could **enhance the activity** of the **POLG protein** (the protein made by the POLG gene).
2. They screened **270,000 compounds** to find one that could help the **healthy POLG protein** and even **mutant versions** of it.
3. They found one promising molecule, called **PZL-A**, and made it more powerful by tweaking it.
4. **PZL-A** helps stabilize the **POLG protein**, so it can **repair DNA** and work properly, even with mutations.
5. This helps cells to recover from damage.

What Makes This Molecule Special?

1. **PZL-A** works by **binding** to a specific part of the POLG protein that is **not affected by the most common disease-causing mutations** (the mutations that cause these diseases).
2. The molecule **stabilizes the POLG protein**, allowing it to continue its work in **repairing and replicating mitochondrial DNA**.
3. In experiments, **cells with POLG mutations** treated with **PZL-A** were able to **recover their mitochondrial DNA** much faster than untreated cells.

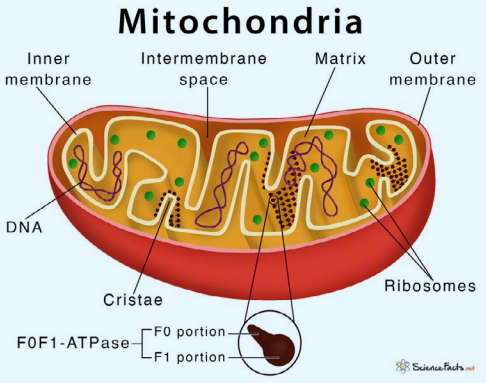
What's Next for This Discovery?

1. The team has started testing a molecule similar to **PZL-A** in humans.
2. They're currently testing its **safety** in healthy people.
3. If **PZL-A** works well and has **no harmful side effects**, it could become a treatment for people with POLG diseases, which currently have **no cure**—only treatments for symptoms.
4. The researchers are also looking into whether this molecule could help with **other diseases**, like those related to aging or **neurodegenerative conditions** (diseases like Alzheimer's that involve the breakdown of the brain).

Why Is This Important?

1. This is the **first drug** aimed specifically at **treating POLG mutations** and **improving mitochondrial function**.
2. If successful, this could **change the lives** of people with these **devastating diseases**.
3. The research could also help in understanding **aging diseases**, since **mitochondrial DNA depletion** is linked to many age-related illnesses.

What Are Mitochondria?



1. **Mitochondria** are tiny, **bean-shaped structures** found inside most of your cells.
2. They have their own **DNA** (genetic material) and are the only parts of your body (other than your nucleus) that contain DNA.
3. Mitochondria are surrounded by 2 membranes: one smooth outer membrane and a folded inner membrane that increases surface area for energy production.

What Do Mitochondria Do?

1. **Produce Energy (ATP)**:
   a. Mitochondria generate **ATP** (adenosine triphosphate), the molecule that powers nearly all the activities in your cells.
   b. They do this by using nutrients from the food you eat (like sugars and fats) and turning them into usable energy.
2. **Control Cell Growth & Death**:
   a. Mitochondria play a role in **cell division** and **growth**.
   b. They can also trigger **cell death** (apoptosis), which is important for getting rid of damaged cells.
3. **Regulate Metabolism**:
   a. They help control how the body processes food, **converts it into energy**, and regulates things like **body temperature** and **metabolism**.

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Why Are Mitochondria Important?

1. Every cell in your body (except red blood cells) has **mitochondria**.
2. **Muscle cells** and **nerve cells** have a lot of mitochondria because they need a lot of energy to function.
3. Since they make energy for the entire body, problems with mitochondria can lead to serious diseases, often affecting organs that need the most energy, like the **heart, muscles**, and **brain**.

6. Q-Shield Platform – World's 1st Unified Platform Quantum-Safe Cryptography System

In April 2025, **QNu Labs**, a quantum-tech startup under India's **National Quantum Mission (NQM)**, has launched **Q-Shield**, the **world's first unified platform** for **quantum-safe cryptography management**.

This platform aims to secure critical digital infrastructure from future threats posed by **quantum computers**.

About Q-Shield Platform

1. **What is Q-Shield?**
   a. Q-Shield is a **comprehensive cryptography management platform** that offers **quantum-resilient cybersecurity** tools for enterprises.
   b. It protects sensitive data across **cloud, on-premise, and hybrid systems**.
2. **Developed By**:
   a. **QNu Labs**, incubated at **IIT Madras Research Park** (2016).
   b. Supported by the **Department of Science and Technology (DST)** under the **National Quantum Mission**.
3. **Objective**:
   a. To help organisations adopt **quantum-safe cybersecurity** before quantum computers become capable of breaking today's encryption.

Key Features of Q-Shield

Quantum-Safe Security Tools

1. **Armos**: Sends unbreakable encryption keys using **quantum key distribution (QKD)**.
2. **Tropos**: Generates **true random numbers** for ultra-secure encryption.
3. **QHSM (Quantum Hardware Security Module)**: A secure storage system for sensitive digital keys.
4. **PQC Standards**: Follows **Post-Quantum Cryptography (PQC)** norms, resistant to attacks by future quantum machines.

Built-in Services (Like Security Apps)

1. **Qosmos**: Helps create secure digital identities and keys.
2. **QConnect**: Ensures safe communication over networks.
3. **QVerse**: Enables **collaborative work** in a secure digital environment.
4. **QSFS**: A **quantum-secure file storage system**.
5. **QVault**: Safely stores and manages encryption keys.

Deployment Flexibility

1. Works across **cloud**, **on-premise**, or **hybrid infrastructures**.
2. Compatible with existing enterprise systems and apps.

Significance of Q-Shield

1. **World's First Unified Platform** for quantum-safe cryptography.
2. Enhances **India's digital sovereignty** by securing national cyber infrastructure.
3. Positions India among leading nations like **USA and China** in the **quantum cybersecurity race**.
4. Contributes to the success of the **National Quantum Mission**.

What is National Quantum Mission (NQM): India's Quantum Leap

1. The **National Quantum Mission (NQM)**, launched in **2023**, aims to place India among the **top global players in quantum technology**.
2. With a **budget of ₹6,003.65 crore** (2023–24 to 2030–31), it is a flagship science initiative under the **Prime Minister's Science, Technology and Innovation Advisory Council (PM-STIAC)**.

Objectives of NQM

Area	Objective
Quantum Computing	Build quantum computers with **20–1000 qubits** over 8 years
Satellite Quantum Communication	Establish **2000 km** long secure quantum link between ground stations
Quantum Key Distribution (QKD)	Use **trusted nodes + WDM** over fibre for secure communication
Multi-Node Quantum Networks	Deploy **2–3 node networks** with entanglement and quantum repeaters
Quantum Sensing & Clocks	Develop **high-sensitivity sensors** and **atomic clocks (10^{-19} instability)**
Quantum Materials	Create next-gen materials: superconductors, topological insulators, etc.

Implementation Strategy: T-Hubs

Thematic Hubs (T-Hubs):

Four national hubs established for focused R&D and innovation:

T-Hub Location	Focus Area
IISc Bengaluru	Quantum Materials & Devices
IIT Madras + C-DOT	Quantum Communication
IIT Bombay	Quantum Sensing & Metrology
IIT Delhi	Quantum Computing

b. **Model Used**: **Hub-Spoke-Spike Model**

1. **Hubs**: Lead research coordination
2. **Spokes**: Collaborating institutions
3. **Spikes**: Individual research projects

4. Key Initiatives Under NQM

Organisation/Agency	Initiative
DRDO	Quantum-safe symmetric and asymmetric key schemes
SETS (PSA Office)	Post-Quantum Cryptography for FIDO and IoT
C-DoT (DoT)	Developed **QKD**, **PQC**, **Quantum Secure Video Phones**
DST + QNu Labs	**Q-Shield** platform for enterprise-grade quantum cryptography

5. State-wise Participation

1. NQM covers **17 States** and **2 Union Territories**
2. Involves **152 researchers** across **43 institutions**
3. Focus areas: **Tech Dev, Human Resources, Startups, Industry & Global Partnerships**
4. Special emphasis on **women scientists** and equitable participation.

6. Societal Impact & Strategic Importance

a. **Global Leadership**: Elevates India's status in quantum R&D alongside the US and China.

b. **Cross-sector Applications**: Drug discovery, climate modeling, secure banking, energy systems, defense.

c. **National Missions Supported**:

1. Digital India
2. Make in India
3. Skill India
4. Start-up India
5. Self-Reliant India (Atmanirbhar Bharat)
6. Sustainable Development Goals (SDGs)

7. BatEchoMon – India's First Automated Bat Monitoring and Detection System

1. India has developed its **first automated bat monitoring and detection system** called **BatEchoMon**.
2. It can detect and analyse **bat echolocation calls in real-time**, revolutionising bat research in the country.
3. Developed by **Long-Term Urban Ecological Observatory** at the **Indian Institute for Human Settlements (IIHS), Bengaluru**.

What is BatEchoMon

1. **BatEchoMon** stands for **Bat Echolocation Monitoring**.
2. It is an **autonomous system** that records, stores, processes, and analyses **bat calls** automatically.

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3. It is capable of identifying **bat species**, analysing **activity patterns**, and generating **spectrograms and statistics**.
4. The system uses an **Audiomoth** ultrasonic microphone and a **Raspberry Pi** microprocessor.
5. It is programmed to activate at **sunset** and monitor bat activity through the night.

Key Features

1. **Real-Time Analysis**: Detects and classifies bat calls instantly using a **convolutional neural network (CNN)**.
2. **Low-Cost and Portable**: Core system is cheaper than existing global alternatives and can be installed in diverse settings.
3. **Automatic Operation**: Begins recording at sunset without manual intervention.
4. **Modular Design**: Components like **battery, solar panel, and WiFi unit** can be customised.
5. **Efficient Output**: Provides spectrograms, audio files of calls, and species-wise activity statistics.

Working Mechanism

1. The **Audiomoth** detects ultrasonic bat calls and sends the data to the **Raspberry Pi**.
2. The system filters out other sounds like **insect or human-made noises**.
3. The software identifies the **peak frequency and structure** of each bat call and matches it with pre-trained models.
4. Output includes **visual and audio data** along with statistical summaries of species activity.

8. Global Pandemic Treaty: A Critical Step Towards Future Preparedness

1. In April 2025, After over 3 years of negotiations, **WHO Member States**, excluding the U.S., have finalized a **Global Pandemic Treaty** aimed at strengthening global pandemic prevention, preparedness, and response.
2. This treaty, set to be ratified at the **World Health Assembly in May 2025**, reflects the lessons learned from COVID-19 and aims to establish a legally binding framework for future global health crises.

What is the Global Pandemic Treaty?

A **legally binding international treaty** that enhances global cooperation in managing pandemics, ensuring preparedness, equity, and effective response mechanisms for future outbreaks.

1. Drafted by the **Intergovernmental Negotiating Body (INB)**, formed in 2021 under the World Health Organization (WHO).
2. Involves **194 WHO Member States**, including **India**.
3. **2nd legally binding agreement** in WHO's history, following the **2003 tobacco control treaty**.

Need for the Treaty

1. The COVID-19 pandemic revealed severe shortcomings in global health response, including **unequal vaccine distribution** and **systemic failures** in preparedness.
2. The treaty emerged from a need to correct these inequities and prevent future crises.
   a. **Unequal Vaccine Distribution**: Wealthy nations hoarded vaccines, leaving poorer countries with limited access, exacerbating the pandemic's global impact.
   b. **Preventable Loss of Lives**: A **2022 study** found that **over one million lives** could have been saved with more equitable vaccine distribution.
   c. **Global Response Failures**: Lack of coordination, systemic inequality, and delayed responses contributed to the humanitarian disaster of the pandemic.

Key Provisions of the Treaty

The treaty includes several key provisions aimed at enhancing global preparedness and ensuring equitable access to health resources in the event of a pandemic:

1. **Pathogen Access and Benefit Sharing (PABS)**: Ensures fair access to pathogen data (e.g., virus samples) and equitable sharing of resulting vaccines, drugs, and diagnostics.
2. **One Health Approach**: Focuses on the interconnection between human, animal, and environmental health, aiming to prevent future outbreaks.
3. **Global Research & Development Capacity**: Proposes a distributed global research network to enable faster, localized responses to pandemics.

4. **Technology & Knowledge Transfer**: Encourages the sharing of vaccine manufacturing know-how and medical technologies, especially to support developing nations.
5. **Workforce Readiness**: Plans for a global, trained health emergency workforce that can be mobilized quickly during crises.
6. **Supply Chain & Financial Mechanisms**: Establishes a global logistics and financing system to ensure timely responses during pandemics.
7. **Health System Resilience**: Calls on nations to build stronger healthcare systems that can withstand public health emergencies.

India's Role and Pandemic Institutions

India's existing institutional mechanisms for pandemic management will play a crucial role in the implementation of the treaty:

1. **National Centre for Disease Control (NCDC)**: Coordinates responses to disease outbreaks and provides guidance during health emergencies.
2. **Ministry of Health and Family Welfare (MoHFW)**: Leads the national health response, policy creation, and logistics during pandemics.
3. **National Disaster Management Authority (NDMA)**: Coordinates multi-sectoral emergency responses under the **Disaster Management Act, 2005**.

India's expertise in managing large-scale health crises will contribute significantly to the success of the treaty.

Criticism of the Treaty

While the treaty is a landmark achievement, several criticisms remain, particularly regarding its implementation and enforcement:

1. **Limited WHO Authority**: The treaty does **not** grant WHO the power to impose national laws or actions (e.g., lockdowns, vaccine mandates). Member states maintain sovereignty over their own policies.
2. **No Enforcement Mechanism**: WHO cannot enforce compliance, making it possible for nations to prioritize national interests (such as vaccine hoarding) over global cooperation during future pandemics.
3. **Pharmaceutical Industry Concerns**: Unclear guidelines on intellectual property and benefit-sharing may discourage investment in high-risk pandemic research, hindering innovation.
4. **Absence of U.S. Participation**: The **U.S.**, a major vaccine producer, withdrew from the negotiations, weakening the treaty's global impact and limiting its effectiveness in future health emergencies.

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9. Ironwood – Google's 7th Generation Tensor Processing Unit

1. In April 2025, Google has launched a new **7th generation AI chip** named **Ironwood**.
2. It is a **Tensor Processing Unit (TPU)** specially designed for running **AI models**, including Large Language Models (LLMs).
3. It is a key component of Google Cloud's **Hypercomputer architecture**.

Key Features of Ironwood TPU

1. **AI-Optimised Design**:
   a. Built specifically for "thinking models" like **LLMs** and **Mixture of Experts (MoEs)**.
   b. Enables proactive AI that generates **insights** rather than just processing data.
2. **High Performance**:
   a. Supports up to **9,216 chips per pod**.
   b. Delivers **42.5 Exaflops** of compute power – over **24 times faster** than the current world's largest supercomputer, El Capitan.
3. **Energy Efficiency**:
   a. Delivers **double the performance per watt** compared to previous TPU versions.
   b. Uses **advanced liquid cooling** to improve efficiency.
4. **Scalability**:
   a. Enables the **training and deployment** of large generative AI models.
   b. Integrated into **Google Cloud** infrastructure to meet **enterprise-level AI demands**.

What are Processing Units?

1. Processing units are hardware components that perform **computational tasks**, similar to how the brain processes information.
2. Types of processing units include:
   a. CPU: Central Processing Unit
   b. GPU: Graphics Processing Unit
   c. TPU: Tensor Processing Unit

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What is a Tensor Processing Unit (TPU)?

1. TPUs are **Application Specific Integrated Circuits (ASICs)**.
2. Developed by Google to **accelerate machine learning and deep learning workloads**.
3. More specialised than CPUs and GPUs – designed for **neural network training**.
4. Power Google's core services like **Search**, **YouTube**, and **DeepMind** applications.

Comparison: CPU vs GPU vs TPU

Feature	CPU	GPU	TPU
Function	General-purpose computing	Graphics & parallel processing	AI model acceleration
Processing Type	Sequential (with some parallelism)	Massively parallel	Massively parallel for AI
No. of Cores	1–16 (or more)	Thousands	Specialised tensor cores
AI Performance	Not optimised	Good for AI tasks	Best suited for deep learning
Efficiency	Less efficient for AI	Efficient for parallel tasks	Extremely efficient for neural nets
Real-World Use	Laptops, software development	Self-driving cars, video processing	Healthcare AI, speech/image recognition

10. Miniature Laser Grown on Silicon Chip

1. Recently, Scientists from the US and Europe have successfully grown miniature lasers **directly on silicon wafers**.
2. This marks a **major progress in silicon photonics**, a technology that uses **light (photons)** instead of **electricity (electrons)** to transmit information on chips.

What is Silicon Photonics?

1. Silicon photonics uses **photons** to carry data, replacing electrons used in traditional chips.
   a. This is about using light instead of electricity inside computer chips.
   b. Traditional chips work by moving electrons through circuits.
   c. The new method uses photons, or light particles, to carry information — this is called silicon photonics.
2. **Advantages of photons over electrons**:
   a. Travel faster
   b. Provide higher data bandwidth
   c. Cause lower energy losses
3. **Applications**:
   a. Already used in **data centres** and **optical sensors**
   b. Has potential in **quantum computing** and **high-speed data transmission**

The Main Challenge in Photonic Chips

1. A **laser** is required as a light source on the chip.
2. Traditionally, lasers are manufactured **separately** and then **attached** to the chip.
3. This method causes:
   a. Slower performance
   b. Manufacturing mismatches
   c. Higher cost
4. Integrating the laser **directly on the chip** has been a long-standing technological problem.

The Progress

1. Researchers **grew lasers directly on a silicon chip** using a scalable, cost-effective method.
2. The process was conducted in a standard **CMOS (Complementary Metal-Oxide-Semiconductor)** facility.
   - CMOS is widely used in current semiconductor manufacturing.
3. This makes the technique compatible with existing manufacturing processes.

Components of a Photonic Chip

A typical photonic silicon chip consists of four main components:

1. **Laser (light source)** – generates photons.
2. **Waveguides** – guide photons, like wires guide electrons.
3. **Modulators** – encode or decode data by altering light properties like intensity, phase, or wavelength.
4. **Photodetectors** – convert light signals into electrical signals.

How Lasers Work (Stimulated Emission)

1. Laser stands for **Light Amplification by Stimulated Emission of Radiation**.
2. In this process:
   a. A photon causes an excited electron to release energy and drop to a lower level.
   b. This releases **another identical photon**.
   c. The chain reaction creates a **coherent light beam** – the laser.

Why Silicon Alone Doesn't Work

1. Silicon has an **indirect bandgap**, so it is not efficient at emitting light.
2. Materials like **Gallium Arsenide (GaAs)** have a **direct bandgap** and can emit light efficiently.
3. Problem: GaAs and silicon have **different crystal structures**, causing defects when grown together.
   - These defects make the laser less efficient by turning light energy into heat.

The Solution – 'Trench Design'

1. Inspired by a 2007 AmberWave Systems study.
2. Researchers:
   a. Created **deep trenches** in the silicon wafer.
   b. Filled trenches with **silicon dioxide** (an insulator).
   c. Deposited **GaAs at the trench bottom** so defects remained trapped and didn't affect the laser.
   d. Grew **defect-free GaAs** above the trench.
3. Added **three thin layers of Indium Gallium Arsenide (InGaAs)** to act as the laser.
   a. InGaAs is GaAs with 20% gallium replaced with indium for better light emission.
4. Covered with **Indium Gallium Phosphide** for protection.
5. Electrical contacts were added to power the laser.

Key Data and Results

1. **300 functional lasers** were grown on a single **300-mm silicon wafer**.
   a. 300 mm is the **industry-standard wafer size**.
2. Laser emitted light at a wavelength of **1,020 nm**.
   a. Suitable for **short-distance communication between chips**.
3. **Threshold current** to power the laser: **5 mA** (same as an LED in a computer mouse).
4. **Laser output**: approximately **1 milliwatt (mW)**.
5. Continuous operation:
   a. Worked for **500 hours at room temperature (25°C)**.
   b. Efficiency dropped at **55°C**.
   c. Other optical chips have worked up to **120°C**, so further stability improvements are needed.

Significance of the Breakthrough

1. First **monolithic laser diode** successfully grown on a **300-mm silicon wafer**.
2. This approach:
   a. Solves the long-standing issue of integrating lasers with chips.
   b. Can lead to **faster computing**, **lower energy consumption**, and **reduced costs**.
3. Especially beneficial for **data centres**, **AI systems**, and **green computing**.
4. The process is **scalable**, **efficient**, and can be used with **existing chip-making facilities**.

11. Perovskite Solar Cells and India's Solar Energy Growth

1. Recent developments in solar energy technologies, particularly **Perovskite Solar Cells (PSCs)**, have brought new hope for enhancing the efficiency of solar energy systems.
2. A **Nature study** has introduced a sustainable, **water-based recycling method** for PSCs, which promises to improve energy efficiency and aligns with **India's push for greener energy solutions**.

What are Perovskite Solar Cells (PSCs)?

1. Perovskite Solar Cells are a type of thin-film solar cell that utilize **perovskite materials** to absorb sunlight and generate electricity.

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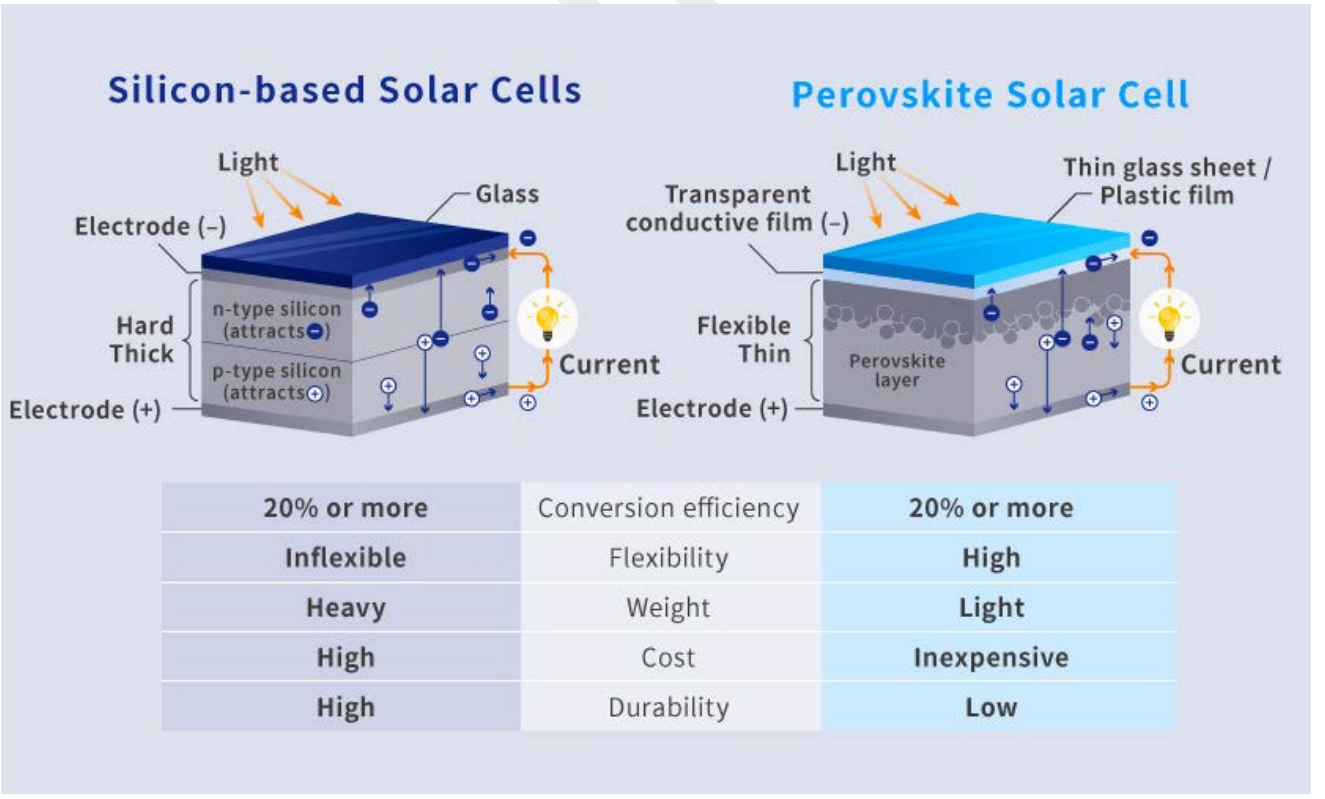
2. These materials offer high efficiency and low production costs, making them an attractive option for photovoltaic applications.
3. In solar technology, perovskite refers to **metal-halide perovskites**, which are hybrid organic-inorganic materials.
4. They are made of a **metal cation** (e.g., lead), a **halide anion** (e.g., iodide), and an **organic molecule** (e.g., methylammonium).
5. These materials have exceptional light absorption and charge transport properties, which make them ideal for solar energy applications.
6. **Key Concerns**: One of the main concerns with PSCs is their content of **toxic lead**, which poses environmental risks during recycling.
7. Traditional recycling methods often use **harmful organic solvents**, such as **dimethylformamide**, adding to the hazardous nature of the process.

Green Recycling of Perovskite Solar Cells (Nature Study)

A **Nature study** has introduced a **green, water-based method** to recycle PSCs, which eliminates the need for toxic solvents. Key aspects of this new method include:

1. **Lead Extraction**: The process uses **sodium acetate** to safely extract lead from the perovskite material.
2. **Material Regeneration**: **Sodium iodide** and **hypophosphorous acid** help regenerate perovskite crystals, ensuring the sustainability of the material.
3. **Efficient Recovery**: Other layers of the PSCs are recovered using **ethanol** and **ethyl acetate**, with the process achieving **99% material recovery**.
4. **Sustainability**: This method maintains the **efficiency of PSCs** over five recycling cycles, promoting a **circular economy** and significantly reducing environmental impact.



20% or more	Conversion efficiency	20% or more
Inflexible	Flexibility	High
Heavy	Weight	Light
High	Cost	Inexpensive
High	Durability	Low

India's Current Solar Capacity

1. As of **April 2025**, India's total installed solar capacity stands at **105.65 GW**, with contributions from various sectors:
   a. **81.01 GW** from **ground-mounted installations**
   b. **17.02 GW** from **rooftop solar**.
   c. **2.87 GW** from **solar components** in hybrid projects.
   d. **4.74 GW** from **off-grid systems**.
2. Solar energy now accounts for **47%** of India's total installed renewable energy capacity, marking significant progress in the country's transition to cleaner energy.

India's Key Solar Initiatives

India has launched various **government initiatives** to accelerate solar energy adoption:

1. **Rooftop Solar Programme**: Initiatives like **SUPRABHA** (Sustainable Partnership for RTS Acceleration in Bharat) and **SRISTI** (Sustainable Rooftop Implementation for Solar Transfiguration of India) aim to promote rooftop solar installations, which saw a **53% increase** in 2024.
2. **PM Surya Ghar Muft Bijli Yojana (PMSGMBY)**: India's **largest domestic rooftop solar scheme** has achieved a milestone of installing solar panels in **10 lakh homes** by 2025.
3. The initiative offers **free electricity** to households through subsidized rooftop solar panels.
4. **Model Solar Village Initiative**: Part of PMSGMBY, this program seeks to create **one solar-powered village per district**, promoting **energy self-reliance**.
5. **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan**: This scheme supports farmers by providing subsidies for **solar pumps** and grid-connected plants.
6. By 2024, **6.1 lakh pumps** were installed, benefitting over **4 lakh farmers**.

Major Challenges Facing the Solar Industry in India

While India's solar sector has grown rapidly, there are several challenges impeding further progress:

1. **Land Acquisition Conflicts**: Large-scale solar plants require vast tracts of land (around **5 acres per MW**), which leads to conflicts with agricultural interests, causing displacement and protests.
2. Additionally, rooftop solar installations face difficulties due to lack of **shadow-free space** in urban areas.
3. **Infrastructure Deficit**: India's existing **grid infrastructure**, designed for centralized thermal power, is not suitable for handling decentralized solar energy.
4. **Transmission losses** and infrastructure constraints pose significant hurdles to integration.
5. **Investment Constraints**: High **upfront installation costs** for rooftop solar systems (ranging from **Rs 2.2 lakh to Rs 3.5 lakh**) remain a barrier despite **government subsidies**.
6. Solar projects also require substantial capital investment, which is challenging for small players.
7. **Domestic Manufacturing Gaps**: India remains heavily dependent on **imported solar modules** and components, particularly from **China**, which leaves the country vulnerable to supply chain disruptions.
8. **Environmental and Social Impacts**: Large solar parks, such as those in **Bhadla (Rajasthan)**, can threaten local **biodiversity**.
9. Additionally, India is projected to generate **34,600 tonnes of solar waste** by 2030, but lacks a proper **recycling policy**.
10. **Limited Battery Storage Capacity**: India's **battery storage capacity** is underdeveloped, making it difficult to ensure **24x7 solar energy availability**.
11. India has only **20 MWh** of storage capacity compared to the **74 GW** required by 2032.

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How Can India Sustain and Accelerate Its Solar Energy Growth?

To overcome challenges and sustain its solar growth, India can implement the following strategies:

1. **Optimizing Land Use**: Integrating **solar installations with agriculture** (agrivoltaics) can help optimize land use, ensuring food security while generating clean energy.
2. Additionally, deploying solar panels on **water bodies**, as seen in Kerala's **Kayamkulam floating solar project**, can mitigate land acquisition challenges.
3. **Grid Modernization and Energy Storage**: India should focus on **scalable, cost-effective storage solutions** and integrate **AI-enabled grid systems** to improve load management.
4. The **National Programme on Advanced Chemistry Cell (ACC) Battery Storage** is crucial in addressing solar intermittency.
5. **DISCOM Reforms**: Strengthening the **financial health of Distribution Companies (DISCOMs)** will ensure timely payments to solar power producers, fostering investor confidence.
6. **Circular Economy for Solar Waste**: India should implement a **national solar panel recycling policy**, in line with the **E-waste Management Rules of 2022**, to reduce environmental hazards and promote a circular economy for solar components.
7. **Enhancing Domestic Manufacturing**: While the **PLI schemes** have bolstered module production, India needs to focus on **upstream segments**, such as **polysilicon, ingots**, and **wafers**, to strengthen its solar supply chain.
8. **International Collaboration**: Platforms like the **International Solar Alliance (ISA)** can facilitate **technology transfer**, **capacity building**, and **access to international funding**, driving India's solar energy ambitions forward.

12. Comprehensive Remote Sensing Observation on Crop Progress

1. The **CROP means Comprehensive Remote Sensing Observation on Crop Progress** framework.
2. It is a semi-automated, scalable system designed to monitor the sowing and harvesting of crops during the **Rabi season** in India.
3. This framework primarily focuses on **Wheat** cultivation, utilizing remote sensing data to provide near real-time monitoring of crop progress across the country.
4. It is developed by **National Remote Sensing Centre (NRSC), a part of the Indian Space Research Organisation (ISRO) in April 2025.**

Framework Overview

1. The **CROP framework** uses **Optical** and **Synthetic Aperture Radar (SAR)** datasets from satellites like
   a. **EOS-04 (RISAT-1A)**,
   b. **EOS-06 (Oceansat-3)**, and
   c. **Resourcesat-2A**
2. To monitor the wheat crop's condition, sowing, and harvesting in the **2024-25 Rabi season**.
3. The framework's goal is to improve **agricultural planning**, **yield forecasting**, and **food security** through enhanced monitoring at a national level.

Wheat Crop Monitoring in India

1. During the **2024-25 Rabi season**, wheat crop conditions were systematically assessed in the **8 major wheat-growing states**:
   a. **Uttar Pradesh**, **Madhya Pradesh**, **Rajasthan**, **Punjab**, **Haryana**, **Bihar**, **Gujarat**, and **Maharashtra**.
2. As of **March 31, 2025**, the wheat-sown area was estimated to be **330.8 lakh hectares**.
3. It aligns closely with the Ministry of Agriculture & Farmers Welfare's data of **324.38 lakh hectares** from **February 4, 2025**.

Vegetation Health and Crop Conditions

The **Vegetation Health Index (VHI)** was used to monitor the **crop condition**, **drought stress**, and overall **vegetative health** of the wheat crop. The monitoring showed:

1. **January**: The crop condition was stable, with timely sowing and good vegetative growth, particularly in **Punjab**, **Haryana**, and **Uttar Pradesh**.
2. **February**: Rising temperatures and rainfall deficits raised concerns about potential **heat-induced stress** during the grain filling stages.
3. **March**: Favorable weather conditions in late February and March led to significant recovery and maturity of the crop, resulting in **optimistic projections** for wheat yield.

Wheat Production Estimation

1. The framework incorporated satellite-derived data into a **crop growth simulation model** at a **5 km × 5 km spatial resolution** to estimate national wheat production.
2. As of **March 31, 2025**, the estimated **wheat production** from the eight major wheat-growing states was **122.724 million tonnes**.
3. This simulation provides insights into the **spatial distribution** of wheat yields across India, allowing for a better understanding of regional variations in crop productivity.

Significance of the Framework

The **CROP framework** is a **proof-of-concept** for **near real-time agricultural monitoring**, offering several advantages:

1. **Real-Time Monitoring**: Continuous tracking of sowing, crop health, and harvest provides timely data for decision-making.
2. **Data Integration**: The combination of satellite-derived crop area, sowing dates, and in-season crop health enhances the accuracy of production estimations.
3. **Scalability**: The framework's scalability suggests it can be extended to other crops and regions in the future, fostering automated agricultural monitoring nationwide.
4. **Decision Support**: The data generated by the framework can assist policymakers in making informed decisions about agricultural planning, market management, and food security.

Future Enhancements

1. While the framework has shown promising results, further **refinement and automation** will be necessary to enhance its **accuracy**, **timeliness**, and **operational scalability**.
2. As the system evolves, it will provide better support for **agricultural decision-making** and contribute to **improved food security** in India.

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F. GEOGRAPHY & ENVIRONMENT

1. Okjökull Glacier – First Glacier Declared Dead Due to Climate Change

1. The **Okjökull glacier in Iceland** was the first glacier in the world to be officially declared **dead due to climate change**.
2. It is highlighting the global impacts of rising temperatures on glacier mass and sustainability.

About Okjökull Glacier

1. **Location**: Situated on the summit of **Ok shield volcano**, northwest of **Reykjavík**, Iceland's capital.
2. **Declared Dead**: In **2014**, it lost its glacial status after thinning so much that it could **no longer move under its own weight**, a key characteristic of active glaciers.
3. **Geography**: Once a dome-shaped glacier occupying the volcano's crater.

Other Notable Disappearing Glaciers (Global)

1. **USA**: Anderson Glacier, Clark Glacier, Glisan Glacier
2. **New Zealand**: Baumann Glacier
3. **Italy**: Calderone Glacier
4. **Argentina**: Martial Sur Glacier
5. **Venezuela**: Pico Humboldt Glacier
6. **Switzerland**: Pizol Glacier
7. **France**: Sarenne Glacier
8. **Germany**: Schneeferner Glacier

Glaciers: Definition and Characteristics

1. A **glacier** is a **large, perennial mass of ice and snow** that flows slowly over land due to its own weight and gravity.
2. Formed in regions with:
   - **Near-freezing average annual temperatures**
   - High snowfall during winter months

Importance of Glaciers

1. **Freshwater Storage**: Glaciers store about **75% of Earth's freshwater**.
2. **Agriculture and Food Systems**: Glacial melt supports **irrigation** and sustains **glacial-fed rivers** crucial for farming.
3. **Ecosystem Support**: Glacial runoff delivers nutrients that fuel **phytoplankton blooms**, forming the base of aquatic food chains.

Impact of Glacier Melting Due to Climate Change

1. **Disrupted Water Cycles**: Threatens drinking water supply, agriculture, and aquatic ecosystems.
2. **Increased Natural Disasters**: Higher risk of **Glacial Lake Outburst Floods (GLOFs)** and **avalanches**.
3. **Rising Sea Levels**: Leads to **coastal erosion**, **habitat loss**, and displacement.
4. **Climate Feedback Loop**: Loss of glacier ice reduces Earth's **albedo (reflectivity)**, **amplifying global warming**.

Initiatives to Protect Glaciers

Global Initiatives

1. **UN Designation**: 2025 declared as the **International Year of Glaciers' Preservation**.
2. **UNESCO's Intergovernmental Hydrological Programme** – supports glacier monitoring and preservation.

Indian Initiatives

1. **Network Programme on Himalayan Cryosphere**
2. **Centre for Cryosphere and Climate Change Studies**
3. **HIMANSH**: India's high-altitude research station in the Himalayas.

2. IUCN Green List And Asiatic Lion Conservation Efforts

1. The **IUCN Green List**, launched by the **International Union for Conservation of Nature (IUCN)**, promotes effective and equitable management of protected and conserved areas globally.
2. It uses the **Green List Sustainability Standard**, a global benchmark for evaluating conservation success, supported by partners such as **UNEP-WCMC**, **WWF**, and national authorities.

3. In 2025, the Green List welcomed **4 new sites** and **renewed 3 existing ones**, marking progress in global area-based conservation.
4. The **newly added sites** in 2025 include:
   a. **Sharaan Nature Reserve (Saudi Arabia)** – AlUla County's first fully protected area, rich in desert biodiversity and cultural heritage.
   b. **King Abdulaziz Royal Nature Reserve (Saudi Arabia)** – Known for reintroduction of **Sand gazelle** and **Arabian oryx**, supported by top government levels.
   c. **Aqaba Marine Reserve (Jordan)** – The 90th Green Listed site, with resilient coral reefs and high conservation importance.
   d. **Sir Bu Nair Protected Area (UAE)** – Ecological, geological, and cultural hotspot, home to turtles and migratory birds, linked to traditional pearl diving.
5. The **renewed sites** in 2025 include:
   a. **Champ du Feu Reserve (France)** – A tourist hotspot sustained by traditional farming methods.
   b. **Hochfeld Reserve (France)** – A small, high-altitude area rich in biodiversity.
   c. **Al Shouf Cedars Nature Reserve (Lebanon)** – One of West Asia's first Green List sites, known for Lebanese cedar and strong community involvement.
6. **France** leads with **15 Green Listed sites** since 2013, including **Cerbere-Banyuls Nature Reserve** and **Blue Coast Marine Park**; **Spain** and **Italy** have reinitiated activities and trained assessment teams.
7. A **Green Listed Site** meets IUCN standards of community respect, effective planning, strong management, successful outcomes, and global relevance.
8. The Green List complements the **IUCN Red List**, which assesses species extinction risk, while the Green List celebrates conservation success in protected areas.
9. In parallel, the **IUCN Green Status of Species**, launched to measure **species recovery and conservation impact**, applies to all species except microorganisms.
10. This framework has **eight recovery categories** ranging from "Extinct in the Wild" to "Fully Recovered", helping identify conservation needs and progress.
11. A species is considered **Fully Recovered** if it is viable, present across its historical range, and performs full ecological functions.
12. Over **100 species** have undergone Green Status assessment; the **lion** was recently assessed and categorized as **"Largely Depleted"**, due to the inability to fulfill its full ecological role caused by human pressures.
13. Lions are now extinct in **North Africa and Southwest Asia**, emphasizing the urgency of enhanced conservation.
14. In response, the Indian government approved additional funding for **Project Lion**, launched in **2020** to ensure the long-term survival of the **Asiatic lion** through landscape-based and scientific conservation.
15. A key move under this initiative is the establishment of a **National Referral Centre for Wildlife (NRC-W)** in **Junagadh district, Gujarat**, to monitor zoonotic wildlife diseases such as **Babesiosis**, which caused the death of **23 lions** in 2020.
16. The **Central Zoo Authority** will serve as the **nodal agency** for NRC-W, supporting India's goal to become a global hub for big cat healthcare.
17. Project Lion's **10-year vision** includes:
    a. Landscape ecology-based conservation.
    b. Habitat restoration and identification of new lion territories.
    c. Community engagement for livelihood support.
    d. Strengthening disease management and monitoring.
18. The **Asiatic lion**, a subspecies of the **Northern lion (Panthera leo leo)**, currently survives only in and around **Gir National Park**, Gujarat, though historically it ranged from **Iran to eastern India**.
19. **Barda Wildlife Sanctuary** is emerging as a potential second home for lions to ease pressure on the **Gir landscape**.

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20. Lions are **apex predators** and **keystone species**, essential for regulating herbivore populations and maintaining healthy forest-grassland ecosystems.
21. As of **2020**, the lion population in India rose to **674**, up from **523 in 2015**, reflecting successful conservation efforts.
22. **Asiatic lions** are listed as:
    a. **Vulnerable** on the **IUCN Red List**.
    b. **Schedule I and IV** under the **Wildlife Protection Act, 1972**.
    c. **Appendix I** under **CITES**.
    d. Included in the **Species Recovery Programme**.
23. Additional lion conservation initiatives include:
    a. **Asiatic Lion Conservation Project** by the Ministry of Environment, Forest and Climate Change.
    b. **International Big Cats Alliance (IBCA)** launched in **2023** for global big cat conservation.
    c. **Greater Gir Concept** expanding lion ranges to protected areas like **Girnar**, **Pania**, and **Mitiyala**.
    d. Strengthened protection through a **Wildlife Crime Cell** and **Task Force for Greater Gir Region (GGR)**.
    e. Support under **Centrally Sponsored Scheme – Development of Wildlife Habitat (CSS-DWH)**.
    f. **Habitat improvement** via water points and management interventions.
24. The **Gir Forest landscape** is the largest dry deciduous forest stretch in western India, featuring rugged topography, rivers like **Hiran**, **Machhundri**, and traditional **Maldhari communities** living in settlements called **"nesses"**.
25. The **Maldharis** have a symbiotic relationship with lions, showcasing a model of co-existence and community-based conservation.
26. The combined efforts of **IUCN Green List**, **Green Status of Species**, and initiatives like **Project Lion** reflect an integrated approach to conserving both protected areas and iconic species, reinforcing global biodiversity targets such as **Aichi Target 11** and **SDG 15 – Life on Land**.

3. Tackling Heatwaves in India: A Comprehensive Strategy for Land and Sea

1. Recently, India recorded its first severe heatwave of the year, **20 days earlier than in 2024**, reflecting a worsening pattern of earlier and more intense heat events.
2. This trend is aligned with **2024 being the warmest year on record globally**, registering **+1.55°C above pre-industrial levels**, as per the **World Meteorological Organization (WMO)**.
3. India also experienced its **hottest December in 2022** since 1901, with the **last two decades** showing a sharp rise in the frequency and severity of heatwaves.
4. A **heatwave** is defined in India as a period when temperatures exceed **40°C in plains** and **30°C in hilly areas**, often intensified by **humidity, wind speed, and urban heat islands**.
5. **Heat stress** occurs when ambient temperature approaches body temperature (~**37°C**), overwhelming the body's cooling mechanisms and affecting organs like the **kidney, liver, and brain**.
6. Key contributors to heat stress include **humidity**, **poor ventilation**, and **wind conditions**, particularly in **urban slums and informal settlements**.
7. Heatwaves severely affect **agriculture** by reducing productivity and causing **livestock deaths**, and in 2023 alone, about **6% of work hours were lost** due to heat stress.
8. With **75% of India's workforce (~380 million people)** exposed to outdoor heat, the estimated **economic loss ranges between 3–5% of GDP** in India and similar developing nations.
9. **Vulnerable groups** like **migrant workers, women, the elderly, and urban poor** face disproportionate risks, exacerbated by **gender roles**, **poor housing**, and **unequal access to cooling solutions**.
10. Urban areas create **heat islands**, a phenomenon observed since the 19th century but only formally addressed in heat-health plans from **2003–2008**, mainly in non-tropical regions.

11. India's first **Heat Action Plan (HAP)** was launched in **Ahmedabad in 2013**, and now **23+ states and around 140 cities** have adopted similar frameworks.
12. HAPs, supported by **NDMA** and the **National Programme on Climate Change and Human Health (NPCCHH)**, include early warning systems, community outreach, urban greening, and rooftop cooling.
13. A strong HAP includes **data-driven planning**, vulnerability mapping, health system readiness, and **localized advisories**, especially for dense, low-income areas.
14. Recommendations include **activating HAPs by early March**, defining **clear stakeholder roles**, and improving **data systems** to track heat-related mortality and regional risk patterns.
15. **Heat Health Alert (HHA) systems**, like in the **UK**, can help India implement **temperature-humidity-based alerts**, identify safe work hours, and avoid night-time exposure.
16. Infrastructure upgrades such as **cool roofs**, **green parks**, and **climate-resilient materials** are crucial to long-term urban cooling.
17. Summer shelters, access to **ORS**, **drinking water**, **staggered work hours**, and **insurance for wage loss** can protect outdoor workers from extreme heat.
18. Globally, **heat mitigation investments** are cost-effective, reducing **mortality, hospitalizations**, and **economic losses**.
19. While India battles extreme land temperatures, the **oceans are also heating up**, with **marine heatwaves (MHWs)** showing a **240% increase in summer days between 2023–2024**, as reported in *Nature Climate Change*.
20. In **2023–2024**, over **8.8% of global oceans** recorded their **hottest sea surface temperatures ever**, nearly **4x the historical annual average**.
21. **Marine heatwaves** are periods when sea surface temperature rises **3–4°C above average for at least five consecutive days**, with frequency **doubling since 1982**.
22. Unlike land heatwaves, marine heatwaves vary by **region and season**, and occur when temperatures **exceed 90% of historical records**.
23. Major MHWs occurred in the **North Atlantic**, **Southwest Pacific**, **Eastern Pacific**, and **Western Indian Ocean**, affecting biodiversity and weather systems.
24. **Primary causes** include atmospheric high-pressure zones, **El Niño**, **surface heat flux**, warm ocean currents, and **human-induced global warming**, which has contributed **~0.9°C** to sea temperature rise.
25. MHWs impact marine life through **coral bleaching**, **seagrass and kelp forest decline**, and alter **entire food webs**, as seen in the **2020 Gulf of Mannar coral bleaching event** (85% bleached).
26. They also disrupt **climate systems**, intensify **storms and rainfall**, such as **Hurricane Beryl (2024)**, the earliest Category 5 hurricane ever recorded.
27. In **June 2023**, a marine heatwave in the **northern Bay of Bengal** triggered flooding in **arid northwest India**, showing the inland implications of ocean warming.
28. MHWs also create **low oxygen zones** in shallow seas (e.g., **Baltic Sea**) and worsen **ocean acidification**, increasing hydrogen ion concentration, which harms marine species.
29. **Economic sectors** like **fisheries**, **aquaculture**, and **coastal tourism** face major losses; for instance, **Chile** lost **$800 million** in salmon exports due to harmful algal blooms triggered by MHWs.
30. Additionally, **thermal expansion from ocean warming** contributes to over **50% of sea-level rise** in the Indian Ocean region, threatening coastal communities.
31. Strategies to address MHWs include:
    a. **Proactive interventions** like relocating corals to deeper waters (e.g., Florida).
    b. **Reactive interventions** like modifying fishing timelines and targeting different species.
    c. **Ex-situ conservation**, as in **Tasmania**, where endangered fish were kept in aquariums.
    d. **Geoengineering efforts**, including marine cloud brightening and oxygenation of harbors.
    e. **Strict climate action**, adherence to the **Paris Agreement**, and shifts to **renewable energy**.
    f. **Forecasting systems**, such as **Australia's marine heatwave briefings and response plans**.

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32. India's comprehensive response to both **terrestrial and marine heatwaves** demands **integrated planning**, scientific monitoring, early warning systems, and **climate-resilient infrastructure**.

4. Narwhals Studied for Tusking Behaviour for the First Time

1. Narwhals have recently been studied for their **tusking behaviour**, which was previously not well-documented.
2. The findings offer new insights into their biology and ecological adaptation in Arctic marine environments.

About Narwhals

1. **Common Name**: Narwhal
2. **Scientific Name**: *Monodon monoceros* (Latin for "one-toothed, one-horned" whale)
3. **Key Feature**: Known for their **long, spiral tusk**, which is actually an **elongated tooth**.

Tusking Behaviour

1. **Tusks primarily occur in males**, though exceptions exist:
   a. Some **females may develop small tusks**
   b. Some males may lack tusks
   c. Rarely, a narwhal may have **two tusks**
2. **Functions of the tusk**:
   a. Sensory organ: Detects **salinity** and **temperature** changes in the water
   b. May aid in **hunting** or **navigating environmental conditions**
   c. Possibly used in **social interactions** or **dominance displays**

Habitat and Distribution

1. Found in **Arctic waters**:
   a. Canada
   b. Greenland
   c. Norway
   d. Russia

Biological Characteristics

1. **Lifespan**:
   a. Females: up to **100 years**
   b. Males: up to **84 years**
2. **Reproduction**:
   a. Gestation period: **~13 to 16 months**
   b. Give birth to a single calf

Conservation Status

1. **IUCN Red List**: **Least Concern**
   a. However, they are **vulnerable to climate change**, noise pollution, and changes in sea ice patterns
   b. Indigenous communities also hunt narwhals, adding cultural and ecological dimensions to conservation

5. Emissions Intensity Targets (GEI Target Rules, 2025)

1. Released by the **Ministry of Environment, Forest and Climate Change**.
2. Sets **emission reduction targets** for "obligated entities" in **energy-intensive sectors**.
3. Establishes a **compliance mechanism** under the **Carbon Credit Trading Scheme (CCTS), 2023**.
4. Aims to reduce emissions and support India's **climate goals under the 2015 Paris Agreement**.

Greenhouse Gases Emissions Intensity (GEI)

1. **GEI** refers to the **amount of GHGs emitted per unit of product output**.
   - Example: Emissions per tonne of **cement, aluminium, or paper** produced.
2. **GEI Definition** (as per Draft GEI Target Rules, 2025):
   - "Greenhouse gases emission intensity in **tCO_2e/ equivalent output or product**."
3. **tCO_2e Meaning**:
   - **Tonnes of carbon dioxide equivalent**, a standard unit to measure the warming impact of all GHGs.

Summary of Draft GEI Target Rules

1. **Baseline Emissions & Reduction Targets**
   a. **2023–24** established as the **baseline year** for emissions.
   b. **Gradual GHG reduction targets** set for **2025–26** and **2026–27**.
   c. Integrated into **India's Carbon Credit Trading Scheme (CCTS), 2023**.

2. **Industries & Entities Covered**
   a. Applies to a total of **282 industrial units**.
   b. Targets **energy-intensive industries**, including:
      - **Aluminium**
      - **Cement**
      - **Pulp & Paper**
      - **Chlor-Alkali**
3. **Compliance & Penalties: Penalties are prescribed** for non-compliance with the emission reduction targets.

How Draft GEI Rules Tie into Carbon Credit Trading Scheme (CCTS), 2023

1. **Framework of CCTS**
   a. CCTS establishes a system for:
      - **Generating** carbon credit certificates.
      - **Trading** carbon credit certificates.
      - **Utilizing** carbon credit certificates.
   b. Inspired by **Article 17 of the Kyoto Protocol**, which allows trading of unused emission units among countries.
2. **Role of GEI Targets in Carbon Credit Generation**
   a. GEI targets provide **clear emission intensity goals** for industries.
   b. **Industries must prepare action plans** to meet these targets.
   c. **Carbon credits are awarded** to industries that reduce emissions intensity.
3. **Trading and Compliance Mechanism**
   a. Trading primarily focuses on **carbon dioxide**, the **principal GHG**.
   b. **Carbon credits traded** on the **Indian Carbon Market platform**.
   c. **Oversight authorities**:
      - **Bureau of Energy Efficiency (BEE)**
      - **Union Ministry of Power**
   d. **Industries falling short** must either:
      - **Buy credits** to cover the gap, or
      - **Face penalties** from the **Central Pollution Control Board (CPCB)**.
4. **Global Context:** Similar carbon credit markets exist in:
   a. **Europe** (operational since **2005**)
   b. **China** (operational since **2021**)

Carbon Credit Trading Scheme (CCTS), 2023 – Importance & Evolution

1. **Foundation: PAT (Perform, Achieve, Trade) Scheme, 2012**
   a. Launched in **2012** to improve **energy efficiency** in selected industries.
   b. Set **energy consumption reduction targets** for energy-intensive sectors.
   c. Overachievers earned **Energy Saving Certificates (ESCerts)**.
   d. **ESCerts** could be **traded** with underperforming companies.

2. Evolution: From PAT to CCTS, 2023

   a. CCTS **builds upon the PAT scheme**, expanding focus to **GHG emissions reduction**.
   b. Introduces **industry-specific GEI reduction targets**.
   c. Example:
      - **Cement plants** can reduce emissions by:
      - Using **biomass instead of coal**, or
      - Installing **energy-efficient kilns**.

Alignment with International Commitments

1. Supports India's **Paris Agreement pledge** to:
   - **Reduce emissions intensity of GDP by 45% by 2030** (compared to **2005 levels**).
2. Encourages adoption of **sustainable** and **advanced technologies** in high-emission sectors.

6. Energy Statistics India 2025

1. Released by the **National Statistics Office (NSO)** under the **Ministry of Statistics and Programme Implementation (MoSPI)**.
2. It is an **annual publication** providing key data on:
   a. **Reserves, capacity, production, consumption, import/export** of various energy commodities.
   b. Commodities covered include **Coal, Lignite, Petroleum, Natural Gas, Renewable Energy**, etc.

Key Highlights of the Report

1. **Energy Recovery & National Vision**
   a. Data reflects India's **strong energy recovery post-COVID**.

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b. Supports the country's broader developmental goals under **Viksit Bharat 2047 vision**.

2. **Renewable Energy Generation Potential: More than 50%** of India's **renewable energy potential** is concentrated in four states:
   a. **Rajasthan**: 20.3%
   b. **Maharashtra**: 11.8%
   c. **Gujarat**: 10.5%
   d. **Karnataka**: 9.8%
3. **Coal Reserves Concentration: Odisha, Jharkhand, and Chhattisgarh** together account for approximately **70% of India's total coal reserves**.
4. **Crude Oil Reserves Distribution**
   a. **Western Offshore region** holds **32%** of India's **crude oil reserves** (highest share).
   b. **Assam region** holds the second-largest share, with **22%** of the country's total crude oil reserves.
5. **Renewable Energy Potential:** Total estimated **renewable energy potential**: **21 lakh MW**.
   a. **Wind power**: 55% share
   b. **Solar energy**: 36% share
   c. **Large hydropower**: 6% share
6. **Primary Energy Generation Dependency: Coal remains the dominant source** for primary energy generation in India.
7. **Electricity Consumption by Sector (FY 2023-24)**
   a. **Industrial sector**: 42% (largest consumer)
   b. **Domestic sector**: 24%
   c. **Agriculture**: 17%
   d. **Commercial sector**: 8%
8. **Transmission and Distribution (T&D) Losses**
   a. **T&D losses** were around **23% in FY 2014–15**.
   b. Reduced to around **17% in FY 2023–24**.

7. Global Wind Report 2025

Published by: Global Wind Energy Council (GWEC)
Nature of Report: Annual assessment of the global wind energy sector

Key Global Findings

1. **Record Global Growth:**
   a. Global wind power capacity reached **1,136 GW** in **2024**.
   b. **117 GW** of new wind installations added in 2024, up from **116.6 GW** in 2023.
2. **Offshore Wind Surge:**
   a. **56.3 GW** of offshore wind capacity awarded globally (a new record).
   b. Leading contributors:
      - **Europe** – 23.2 GW
      - **China** – 17.4 GW
3. **Shortfall Warning:**
   a. At the current pace, the wind sector will deliver only **77% of the installed capacity** needed by **2030**.
   b. This shortfall **jeopardizes efforts** to maintain a **1.5°C limit** on global temperature rise (Paris Agreement target).
4. **India's Contribution – Kutch Wind Park (Gujarat):**
   a. One of the world's **largest wind parks**, with a capacity of **1.2 GW**.
   b. Reduces **2 million tonnes of CO_2 emissions annually**.
5. **India's Global Role:**
   a. Ranked as the **4th-largest wind market** globally.
   b. Collaborates with:
      - **International Renewable Energy Agency (IRENA)**
      - **Global Wind Energy Council (GWEC)**
   c. Shares best practices globally and **strengthens leadership** in the **International Solar Alliance (ISA)**.

Wind Energy in India (as of March 31, 2025)

1. **Total Installed Wind Power Capacity:**
   a. India has achieved **50.04 GW** of cumulative wind power capacity.
2. **Annual Capacity Addition:**
   a. **2024–25:** Added **4.15 GW**
   b. **2023–24:** Added **3.25 GW**
3. **Global Rank:**
   a. India ranks **4th** in total installed wind capacity, behind:
      - **China**
      - **United States**
      - **Germany**
4. **Top Wind Energy Producing States in India:**
   a. Gujarat
   b. Karnataka
   c. Tamil Nadu

8. AIM4NatuRe Initiative

Launched by: Food and Agriculture Organization (FAO) of the United Nations

Occasion: Earth Day – **April 22, 2025**

Key Details of AIM4NatuRe

1. **Full Name:** Accelerating Innovative Monitoring for Nature Restoration (AIM4NatuRe)
2. **Purpose:**
   a. Strengthens countries' capacities to **track and report restoration efforts**.
   b. Covers **diverse ecosystems**:
      - Forests
      - Wetlands
      - Grasslands
      - Marine ecosystems
3. **Background:** Builds on the success of the **AIM4Forests** program.
4. **Funding & Duration:**
   a. US$ 9 million programme.
   b. Funded by the **United Kingdom**.
   c. Scheduled to run from **2025 to 2028**.

Alignment with Global Commitments

1. Supports the **Kunming-Montreal Global Biodiversity Framework (GBF)**.
   - Particularly aligned with **Target 2**: Restore **30% of degraded ecosystems by 2030**.
2. Contributes to the goals of the **UN Decade on Ecosystem Restoration (2021–2030)**.

Data-Driven Approach

1. Uses the **Framework for Ecosystem Restoration Monitoring (FERM)**.
2. FERM helps **standardize data collection** and enables countries to **track restoration outcomes effectively**.

Relevance to India

1. AIM4NatuRe can support **monitoring of the Green India Mission**.
2. Green India Mission aims to **restore 26 million hectares of degraded land**.
3. Uses **satellite data** to monitor and track afforestation progress.

9. India's First Himalayan High Altitude Atmospheric and Climate Research Centre

Location: Nathatop, Udhampur district, Jammu & Kashmir

Inauguration: India's **first-ever high-altitude climate research station** in the north-western Himalayas

Key Features of the Research Centre

1. A **state-of-the-art facility** situated at one of the **highest altitudes** in the region.
2. Expected to serve as a **crucial gateway for advanced climate research** in the north-western Himalayas.
3. **Affiliated with the World Meteorological Organization's Global Atmospheric Watch (GAW) Programme**.
4. Aims to conduct **continuous atmospheric monitoring** and integrate findings into **global climate models**.

Regional & Scientific Significance

1. **Supports research** on climate patterns unique to the Himalayan region.
2. **Predictive impact:** Helps forecast **changes in river flows** due to **glacial melt**, aiding **water security** and **agriculture**.
3. The **Himalayas' role in climate**:
   a. Act as a **barrier to monsoon winds**, causing **heavy rainfall in northern India**.
   b. Shield the Indian subcontinent from **cold Central Asian winds**.
4. The Himalayas are the **origin of major rivers** like the **Ganges, Indus, and Brahmaputra**, supporting **over 800 million people**.

Linkage to Other High-Altitude Scientific Facilities

Chandra Telescope in Ladakh is another example of India using **Himalayan conditions** for advanced scientific research.

Project "ICE-CRUNCH"

1. **Full Name:** Ice nucleating particles and Cloud condensation nuclei properties in the North-Western Himalayas
2. A **joint Indo-Swiss research project**, launched alongside the Centre's inauguration.

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3. Collaboration between Indian scientists and **ETH Zürich, Switzerland**.
4. Focuses on studying:
   - **Ice Nucleating Particles (INPs)**
   - **Cloud Condensation Nuclei (CCN)** in the north-western Himalayas.

National Relevance

1. The Centre's research will support conservation under **India's National Mission for Sustaining the Himalayan Ecosystem (NMSHE)**.
2. Contributes to understanding and mitigating the **impact of climate change** in ecologically sensitive regions.

10. Baku to Belem Roadmap

1. **Baku to Belem Roadmap**:
   a. Proposed by India at the 11th BRICS Environment Ministers' meeting in Brasilia, Brazil.
   b. Aims to secure **$1.3 trillion** in climate finance to support Nationally Determined Contributions (NDCs) of developing countries.
2. **COP29 (Baku, Azerbaijan)**: Expected to commit only **$300 billion** by 2035, which is far below the **$1.3 trillion** demanded by developing nations.
3. **COP30 (Belém, Brazil)**:
   a. To be hosted in **Brazil** in **2025** and is crucial for global adaptation and resilience efforts.
   b. Will focus on the **Global Ethical Stocktake (GST)** to limit global temperature rise to **1.5°C**.
   c. India and other developing countries aim to push for more climate funding to cover the financial gap left by COP29's commitments.
4. **Energy Security**:
   a. India reaffirmed commitments made in the **BRICS New Delhi Declaration (2021)**.
   b. Supports a **diversified energy mix** including fossil fuels, hydrogen, nuclear, and renewable energy.
5. **Green Grids Initiative**:
   a. India highlighted the **One Sun, One World, One Grid** project launched under the **International Solar Alliance**.
   b. The initiative is aimed at **global renewable energy integration**.

11. Blue Category and Essential Environmental Services (EES)

The **Central Pollution Control Board (CPCB)** has recently introduced the **Blue Category** as part of the framework of **Essential Environmental Services (EES)**.

Context and Purpose

1. The **Blue Category** aims to **promote industries that offer environmental benefits**, such as:
   a. Waste management
   b. Renewable energy
   c. Pollution control technologies
2. This initiative supports **India's international commitments**, including:
   a. The **Paris Agreement**
   b. The **Sustainable Development Goals (SDGs)**

Previous CPCB Industrial Classification System

CPCB earlier classified industries based on their pollution levels:

1. **Red Category**: Highly polluting industries
   a. Examples: Thermal power plants, cement manufacturing
2. **Orange Category**: Moderately polluting industries
   a. Examples: Food processing, pharmaceuticals
3. **Green Category**: Low pollution industries
   a. Example: Solar panel assembly
4. **White Category** (introduced in 2016): Non-polluting industries
   a. Example: IT services

Introduction of the Blue Category

1. The **Blue Category** represents a **proactive approach** by CPCB.
2. It **recognizes and incentivizes** industries that actively **mitigate environmental harm** and provide **essential environmental services**.

Industries Covered under Blue Category

The category includes sectors that are critical for **environmental sustainability**:

1. **Recycling units**
2. **Waste-to-energy plants**

3. **Green technology manufacturing**, such as:
    a. Air purifiers
    b. Water treatment systems
4. **Carbon Capture and Storage (CCS) facilities**

Examples and Impact

1. **Thermax**, an Indian company, has developed **biomass boilers** that:
    a. Are compliant with the Blue Category
    b. Reduce emissions by 30% compared to traditional coal-based systems
    c. Adopted in various industries across **Maharashtra**
2. **E-waste recycling units** under this category:
    a. Help **reduce hazardous waste in landfills**
    b. Support **SDG 12**: Responsible Consumption and Production

Must Know

- The **Blue Category** is **not the same as 'Blue Washing'**.
- **Blue Washing** refers to misleading practices where **polluting industries are falsely portrayed as environmentally friendly** by categorizing them under cleaner labels.

12. Species In News

Species	Details
Long-snouted Vine Snake	- Rediscovered in **Dudhwa Tiger Reserve, Uttar Pradesh** (first sighting in the state, second in India) - **Features:** Elongated snout, slender green body for camouflage - **Vision:** Binocular vision (rare among snakes) for accurate distance judgment - **Habits:** Arboreal, diurnal, ovoviviparous (hatches eggs inside body)
Yak	- **Nepal** observed the **first-ever National Yak Day** on **April 20, 2025** - Adapted to **cold, high-altitude ecosystems** (>3,000 m) - **Ecological Role:** Grazing supports alpine meadow regeneration - **Habitat Range:** Himalayas, Tibetan Plateau, Mongolia, Russia - **In India:** Arunachal Pradesh, Sikkim, Ladakh, Himachal Pradesh, Uttarakhand
Labeo uru	- Newly discovered **freshwater fish** species - **Endemic to:** Chandragiri River, Western Ghats (UNESCO World Heritage Site) - **Feature:** Elongated, sail-like fins for maneuverability in fast-flowing water
Labeo chekida	- Also a new **freshwater fish** species - **Endemic to:** Chalakudy River, Western Ghats - Known locally as **"kaka chekida" (crow-like)** - **Appearance:** Compact, dark body, unique scale pattern
Theobaldius konkanensis	- Newly discovered **land snail species** in **Konkan region, Maharashtra** - **Habitat:** Tropical evergreen/ semi-evergreen forests (80–240 m altitude) - Found in leaf litter and damp branches - **Activity:** Active June–September (monsoon); both diurnal and nocturnal
Woolly Flying Squirrel	- First-ever **photographic evidence** recorded by **Himachal Pradesh Forest Department** in **Miyar Valley, Lahaul and Spiti** - **Size:** One of the **largest and rarest** flying squirrels; **longest and heaviest gliding mammal** - **Appearance:** Dense, silky blue-gray fur (dorsal); lighter underside - **Diet:** Herbivorous – mosses, lichens, buds, cones - **Habitat:** High-altitude coniferous forests (2,400–3,600 m), cliffs, gorges - **Range:** Endemic to NW Himalayas (Pakistan, India – J&K, Ladakh) - **IUCN Red List Status: Endangered**

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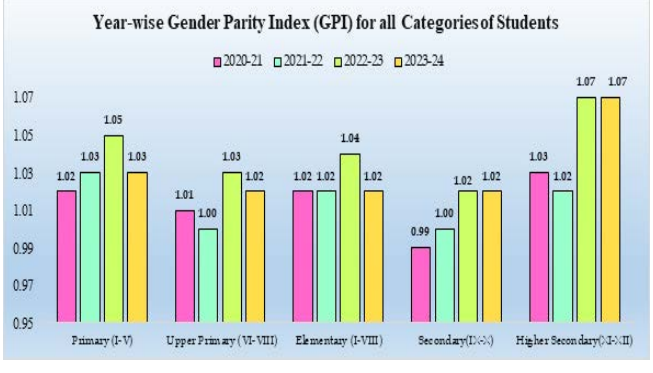
G. Society And Culture

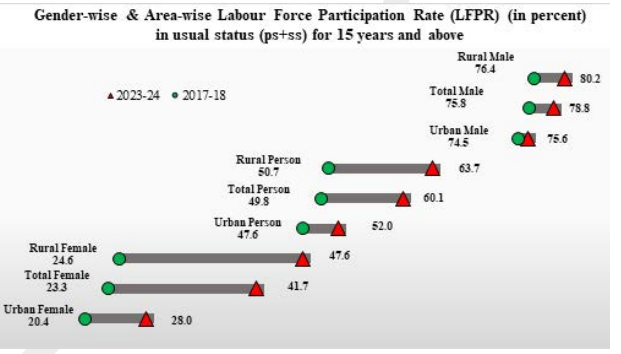
1. MoSPI releases 26th edition of Women and Men in India 2024

1. **In April, 2025,** The **26th edition** ***"Women and Men in India 2024:*** *Selected Indicators and Data"* was released by Ministry of Statistics and Programme Implementation (**MoSPI**), Government of India
2. It provides a detailed analysis of gender-disaggregated data across various socio-economic sectors in India.
3. By analyzing socio-economic trends, the publication highlights:
   a. **Progress in gender equality**
   b. **Persistent disparities**
   c. **Opportunities and challenges** faced by women and men in India
4. It aims to guide policymakers, researchers, and other stakeholders in developing gender-sensitive policies that promote sustainable, inclusive development.
5. It also presents key indicators on **population, education, health, economic participation**, & **decision-making**, based on data from multiple government ministries, departments, and organizations.

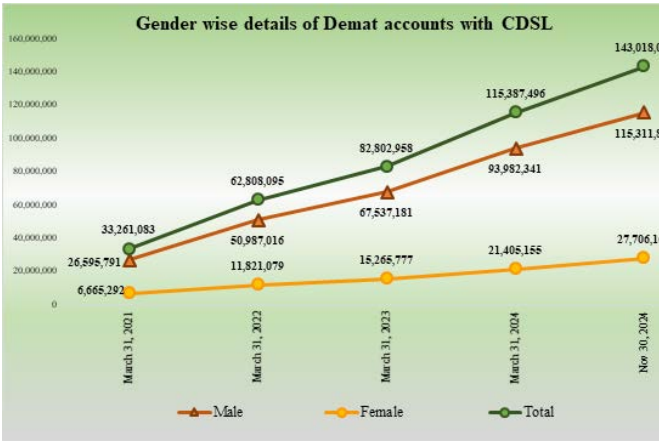
Key Data and Facts from the Publication :



1. **Gender Parity in Education**
   a. **Primary and Higher Secondary Education**: Consistently high **Gender Parity Index (GPI)** across primary and higher secondary education, indicating strong female enrollment.
   b. **Upper Primary and Elementary Education**: GPI fluctuated but remained close to gender parity, reflecting a positive trend in female participation at these levels.
2. **Labour Force Participation Rate (LFPR)**



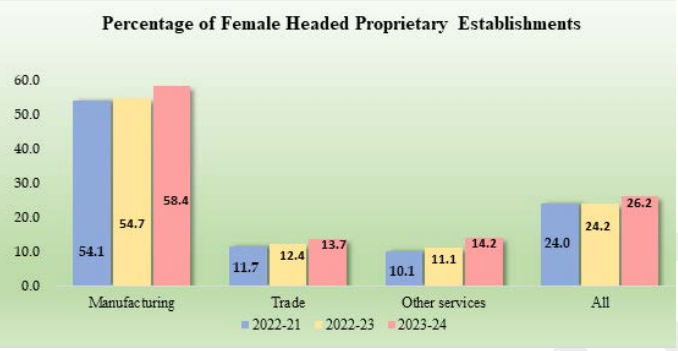
   a. **Usual Status LFPR** for persons aged 15 years and above has improved:
      - **2017-18**: 49.8%
      - **2023-24**: 60.1%
   b. This indicates a **significant improvement** in female labor force participation over the years.
3. **Financial Inclusion and Bank Accounts**
   a. **Women's Ownership of Bank Accounts**:
      - Women own 39.2% of all bank accounts.
      - They contribute to **39.7%** of the total bank deposits in India.
   b. **Rural Participation**: Women account for **42.2%** of bank account holders in rural areas, showcasing the positive impact of financial inclusion initiatives.
4. **Stock Market Participation**



a. **Growth in DEMAT Accounts**:
   - **Total DEMAT Accounts**:
   - March 31, 2021: **33.26 million**
   - November 30, 2024: **143.02 million** (more than a fourfold increase)

b. **Gender Breakdown of DEMAT Accounts**:
   - **Male Account Holders**:
   - Increased from **26.59 million** in 2021 to **115.31 million** in 2024.
   - **Female Account Holders**:
   - Increased from **6.67 million** in 2021 to **27.71 million** in 2024, reflecting growing female participation in the stock market.

5. **Female Entrepreneurship**



a. **Women-Headed Proprietary Establishments**:
   - A rising trend in female-headed proprietary establishments across sectors like **manufacturing, trade,** and **services** between 2021 and 2024.
   - This reflects **increased female participation** in business and entrepreneurship.

6. **Electoral Data and Voter Participation**

a. **Growth in Total Electors**:
   - From **173.2 million** electors in **1952** to **978 million** electors in **2024**.

b. **Female Voter Registration**: Notable rise in female voter registration over the years.

c. **Voter Turnout**:
   - **Female Voter Turnout**:
   - **2019**: **67.2%**
   - **2024**: **65.8%** (a slight decline from 2019).
   - **Male Voter Turnout**:
   - Female voter turnout surpassed male turnout in **2024**, marking a narrowing gender gap in voting.

7. **Startups and Female Directors**

a. **Startups with Female Directors**:
   - There has been an increase in the number of startups recognized by **DPIIT (Department for Promotion of Industry and Internal Trade)** with at least one female director.
   - **2017**: **1,943 startups** with at least one woman director.
   - **2024**: **17,405 startups** with at least one woman director, showcasing a positive trend in **female entrepreneurship** in India.

Conclusion

The *"Women and Men in India 2024: Selected Indicators and Data"* publication offers a thorough overview of key gender-related data across diverse sectors, highlighting the progress made in gender equality over the years, Persistent challenges, particularly in labor force participation and financial inclusion and Growing trends in female entrepreneurship and increased female participation in electoral processes and the stock market.

2. India saw 52 maternal deaths each day in 2023, 2nd highest after Nigeria—UN report

1. In **2023**, India faced **19,000 maternal deaths**, meaning **52 women died every day** due to complications related to pregnancy or childbirth.
2. This was **2nd highest globally**, tied with the **Democratic Republic of Congo (DRC)**, after **Nigeria,** according to the **Trends in Maternal Mortality 2000-2023 report** released in April 2025.

Trends in Maternal Mortality 2000-2023 Report Prepared By:

1. The report was prepared by several important international organizations:
   a. **World Health Organisation (WHO)**
   b. **UNICEF**
   c. **UN Population Fund (UNFPA)**
   d. **World Bank**
   e. **UN Department of Economic and Social Affairs (Population Division)**
2. These organizations worked together to collect and analyze data related to **maternal mortality** around the world.

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Purpose of the Report:

1. The report provides **global data on maternal mortality** and highlights the **countries with the highest rates of maternal deaths**.
2. It also shows the trends over the years, such as how the numbers have changed since 2000.

Key Definitions:

1. **Maternal Mortality**: This refers to the **death of a woman** during pregnancy, childbirth, or within **42 days** after delivery. The cause must be related to complications from pregnancy or childbirth.
2. **Maternal Mortality Ratio (MMR)**: MMR is the **number of maternal deaths** per **100,000 live births** in a specific time period, usually measured annually.
3. This ratio helps to understand how dangerous childbirth is in different countries and regions.

Key Statistics (2023) :

Country	Maternal Deaths	Global Share
Nigeria	75,000	28.7%
India	**19,000**	**7.2%**
DRC	19,000	7.2%
Pakistan	11,000	4.1%
China	1,400	Less than 1%

China, despite having a population similar to India, recorded only **1,400 maternal deaths**.

These 4 countries (**Nigeria, India, DRC, and Pakistan**) together accounted for **47% of all maternal deaths globally** in 2023.

India's Progress: Reducing Maternal Mortality :

1. **Declining Maternal Mortality Ratio (MMR)**:
   a. In **2000**, India's MMR was **362 deaths per 100,000 live births**.
   b. By **2023**, this decreased to **80 deaths per 100,000 live births**, reflecting a **78% reduction** over 23 years.
   c. This marks significant progress, though the rate of improvement has slowed in recent years.
2. **Institutional Deliveries**:
   a. **Institutional deliveries** (births in healthcare facilities) increased from **79% in 2015-16** to **89% in 2019-21**.
   b. States like **Kerala** achieved **100% institutional deliveries**.
3. **State-Level Progress**:
   a. Eight Indian states (**Kerala**, **Maharashtra**, **Tamil Nadu**, **Telangana**, etc.) have reduced their MMR to below the **Sustainable Development Goal (SDG)** target of **70 maternal deaths per 100,000 live births**.

Key Causes of Maternal Deaths

1. **Direct Causes** (responsible for most maternal deaths):
   a. **Post-partum hemorrhage (PPH)**: Excessive bleeding after childbirth. This is the leading cause of maternal death globally.
   b. **Hypertensive disorders**: High blood pressure conditions, such as **pre-eclampsia**, which can complicate pregnancy.
   c. **Infections**: Bacterial or viral infections occurring during pregnancy, childbirth, or postpartum.
   d. **Unsafe abortions**: Abortions performed under unsafe conditions, which can lead to maternal death.
2. **Indirect Causes**:
   a. **Chronic diseases**: Pre-existing conditions such as **diabetes**, **asthma**, and **heart disease** can complicate pregnancies and lead to maternal deaths.
   b. **Mental health issues**: Disorders like **depression**, **anxiety**, and substance abuse, which affect maternal health.
   c. **Maternal infectious diseases**: Conditions like **malaria**, **HIV/AIDS**, and **tuberculosis** can significantly affect pregnancy outcomes.
3. **Preventability**:
   a. Most of these causes are **preventable** with proper healthcare, skilled birth attendants, and emergency obstetric care.

Why Is India Still Struggling with Maternal Deaths?

Despite improvements, there are still substantial challenges:

1. **Primary Health Centers (PHCs) and Community Health Centers (CHCs)**: These centers can manage **normal deliveries** but are often **ill-equipped** to handle **complicated pregnancies**, leading to referrals or delays.

2. **Geographical and Socioeconomic Disparities**:
   a. **Southern states** like **Kerala**, **Tamil Nadu**, and **Maharashtra** have better healthcare systems and have seen significant improvements in maternal health.
   b. **Northern states** like **Uttar Pradesh** and **Bihar** still struggle with poorer healthcare infrastructure, leading to **higher maternal death rates**.
   3. **Inadequate Emergency Obstetric Care**: **Rural areas** and **remote regions** lack access to **emergency care**, skilled doctors, and necessary equipment, which contributes to high maternal mortality.

The Impact of COVID-19

1. **COVID-19 and Maternal Health in 2021**:
   a. During the **COVID-19 second wave** in 2021, an additional **40,000 women** died due to pregnancy-related complications.
   b. The rise in maternal deaths was caused by:
      - **Direct effects** of COVID-19 on pregnant women, such as respiratory complications.
      - **Healthcare disruptions**: Maternity wards closing, staff shortages, and lack of essential medicines.
2. **Lesson from COVID-19**:
   a. **Maternity services** must continue during pandemics and emergencies to ensure safe pregnancies and deliveries.

Solutions and Action Required

1. **Improved Healthcare Access**: **Emergency obstetric care** and **skilled birth attendants** need to be made available in **rural** and **remote areas**.
2. **Training Healthcare Workers**: Increase the number of trained professionals to handle **complicated pregnancies** and **emergency obstetric care**.
3. **Public Awareness and Education**: Educating communities, especially in rural areas, about the importance of **prenatal care**, **family planning**, and **seeking timely medical help**.
4. **Infrastructure and Resources**: Improving the infrastructure and resource availability at **PHCs** and **CHCs** for the effective management of complicated cases.

Various Schemes for Maternal Health in India:

Scheme Name	Launched	Objective	Notable Features	Target Beneficiaries
Janani Suraksha Yojana (JSY)	2005	Promote institutional deliveries and reduce maternal mortality	Cash incentives, Focus on rural areas	Pregnant women from poor socio-economic backgrounds
Pradhan Mantri Matru Vandana Yojana (PMMVY)	2017	Provide maternity benefits and encourage institutional deliveries	₹5,000 cash benefit for first child, Incentives for girl child	Women pregnant with their first child after 01.01.2017
Janani Shishu Suraksha Karyakaram (JSSK)	2011	Eliminate out-of-pocket expenses for pregnant women and sick infants	Free delivery services, Free transport, Free post-delivery services	Pregnant women and sick infants in public health institutions
Surakshit Matritva Aashwasan (SUMAN)	2019	Provide assured, dignified, and quality healthcare at no cost	Zero denial policy, Focus on quality care, Respectful care	All pregnant women and newborns visiting public health institutions
LaQshya	2017	Improve the quality of care in labor rooms and maternity OT	Improve infrastructure, Monitoring and evaluation, Quality assurance	Pregnant women in labor rooms and maternity OT

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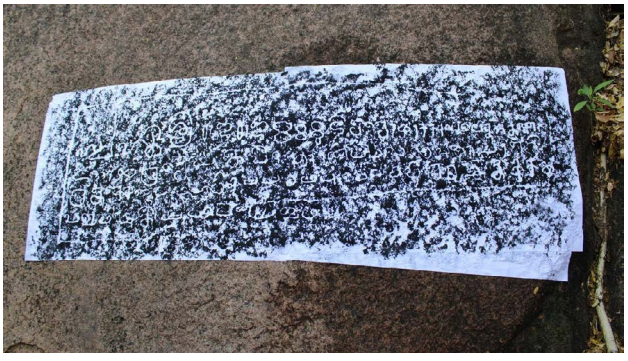
3. New Chola Inscription Discovered Near Madurai's Melavalavu



Discovery:

1. In April 2025, A new inscription related to Rajaraja Chola was discovered on **Somagiri Hills**, near **Melavalavu** in the **Madurai district**, Tamil Nadu.
2. **Date of Inscription**: Estimated to date back to around **1000 CE**.

Content of the Inscription:

1. The inscription begins with the title **Raja Raja Mummudichola**, an honorific found specifically in the **Pandya region**, marking a rare Chola reference in this area.
2. It discusses the **reign of Rajaraja Chola** in the Pandya region, showing the Chola Empire's influence over its neighbors.
3. The inscription mentions a military commander named **Viranarana Pallavarayan**, who had captured the area and ruled it during Rajaraja Chola's reign.
4. **Malaiyappa Sambu** is named as the person who carved steps on the rock to access a ledge where a temple was later constructed.
5. It also refers to a **bronze idol of Murugan** that was initially kept at the temple on the ledge but was moved to a newly constructed temple in the village, where it is still worshipped.

Significance of the Inscription:

1. This discovery is rare and important, as it sheds light on **Rajendra Chola's influence** over the Pandya region and provides insights into the Chola Empire's military and cultural history.
2. The inscription also highlights the **connections between the Cholas and the Pandya region**, particularly the relationship between the Chola military and local rulers.

Discovery Process:

1. The inscription was discovered during a field study by **Thamizhthaasan**, a **cultural ecologist** with the Madurai Nature Cultural Foundation, and a **temple architect** and **sculpture researcher**.
2. Research assistants at the Pandya Nadu Centre for Historical Research, Madurai, copied the inscription.
3. secretary of the Pandya Nadu Centre, successfully deciphered the inscription.

Key Facts About the Chola Empire: Origin, Rulers, and Contributions:

1. The **Chola Empire** was one of the longest-ruling and most influential dynasties in South India.
2. It is known for its vast contributions to **politics**, **culture**, **economics**, and **maritime power**.

About the Chola Empire:

1. The **Chola Empire** originated in the fertile plains of **Tamil Nadu** and expanded to include territories in present-day **southern Andhra Pradesh** and **Sri Lanka**.
2. The empire was initially centered around **Uraiyur** (modern-day **Tiruchirappalli**), a key trade hub particularly known for cotton trade.
3. The region under their rule became known as **Cholamandalam**, which later influenced the name **Coromandel Coast**.

Historical Context:

1. **King Elara**, a 2nd-century BCE Chola ruler, famously conquered **Sri Lanka** and ruled the island for about **50 years**.
2. spreading Chola influence beyond the Indian subcontinent.

Founding of the Chola Empire:

1. **Vijayalaya Chola** (9th century AD) re-established the Chola Empire by capturing **Thanjavur** from the **Mutharaiyar rulers** around **850 CE**.
2. It is marking the resurgence of Chola power after a period of decline.

Important Rulers of the Chola Dynasty:

Key Rulers:

1. **Karikala Chola (2nd century AD)**: Known for establishing **Puhar** (modern-day **Kaveripattanam**) as a major port and strengthening the **Chola navy**.
2. **Vijayalaya Chola (9th century AD)**: Founder of the Imperial Chola dynasty; restored Chola power and established **Thanjavur** as the capital.
3. **Aditya I (871–907 AD)**: Expanded Chola territory by defeating the **Pallavas**, setting the stage for Chola supremacy in **South India**.
4. **Rajaraja I (985–1014 AD)**: One of the most famous Chola rulers; greatly expanded the empire by conquering territories in **South India**, **Sri Lanka**, and the **Maldives**. Rajaraja I constructed the **Brihadeeswarar Temple** in **Thanjavur**.
5. **Rajendra I (1014–1044 AD)**: Extended Chola influence into **Southeast Asia**, particularly the **Srivijaya Empire**, and founded the city of **Gangaikonda Cholapuram**.
6. **Rajadhiraja Chola (1044–1054 AD)**: Continued military expansion, though his untimely death marked the beginning of the empire's decline.
7. **Kulottunga I (1070–1122 AD)**: Restored stability and prosperity to the Chola Empire after periods of political turbulence.
8. **Rajendra Chola III (1246–1279 AD)**: The last ruler of the Chola dynasty, his reign saw the decline of the empire due to internal strife and external pressures, particularly from the **Pandyas**.

Capital of the Chola Empire:

1. **Thanjavur** became the capital of the Chola Empire, under rulers like **Rajaraja I**.
2. Thanjavur was home to architectural masterpieces, including the **Brihadeeswarar Temple**, and became a major cultural, political, and religious center.

Administration of the Chola Empire:

1. The **Chola Empire** had a highly organized administration, with the king at the center of governance.
2. The empire was divided into **Mandalams** (provinces), **Nadus** (districts), and **Kottams** (smaller units), each overseen by officials appointed by the king.
3. **Local self-governance** was also significant, with **village assemblies** (Sabhas) managing irrigation, land revenue, and law enforcement.

Economic Strength of the Chola Empire:

1. The **Chola Empire**'s economy was based on agriculture, cotton trade, and maritime commerce.
2. **Puhar** and **Kaveripattanam** were key trade ports for cotton, textiles, and other goods, attracting merchants from across India and beyond.
3. The textile and cotton industries were major contributors to the Chola economy, and the **Chola navy** played a crucial role in securing maritime trade routes.

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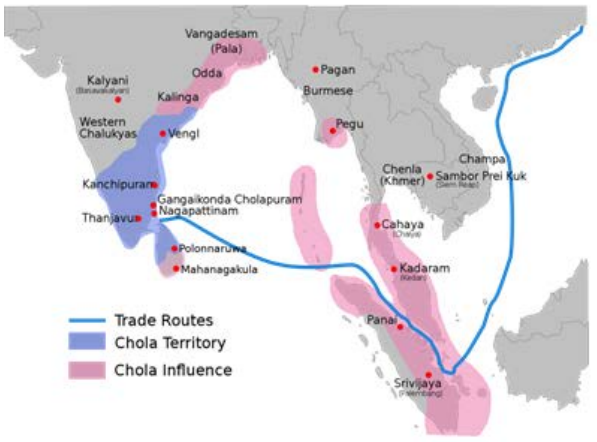
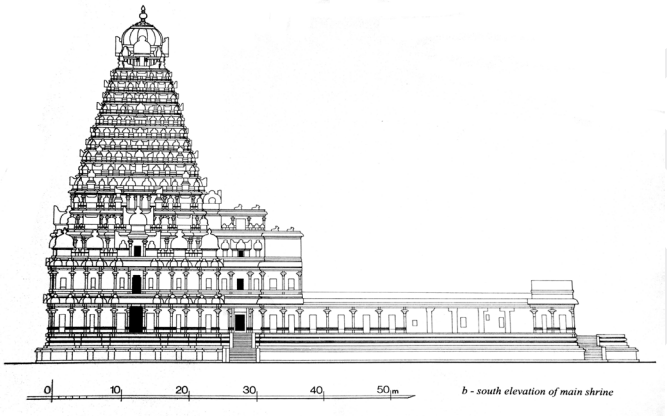


Art & Culture under Rajaraja Chola I:

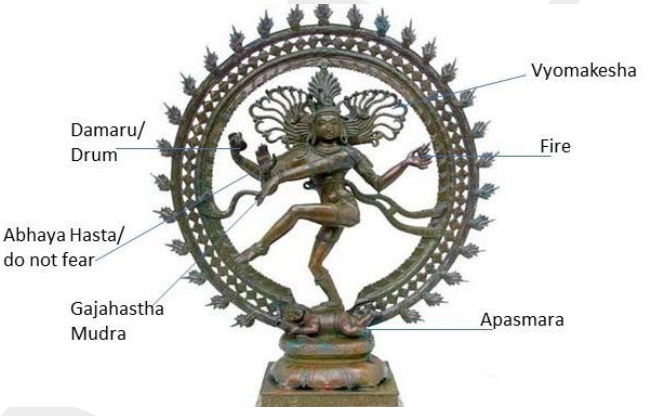
Contributions in Architecture & Art:

1. **Brihadeshwara Temple (Rajarajeshwaram Temple)**, built in **1010 CE** under Rajaraja I, is a **Dravidian architectural marvel** and a **UNESCO** World Heritage site.



   a. It features a massive colonnaded **prakaras** (enclosure), sub-shrines, and a monumental **gopuram** (gateway).
   b. The temple's murals, which depict **81 dance poses** from **Bharatanatyam**, highlight the cultural significance of dance.

2. **Nataraja Statue**: The **Nataraja** sculpture depicting **Lord Shiva** in the **Ananda Tandava** (Dance of Bliss) posture symbolizes the cosmic dance of creation, preservation, and destruction of the universe.
   a. The statue's features, such as the **flaming halo**, **drum (Damaru)**, and **flame (Agni)**, became iconic in Hindu art.



3. **Coinage**: Rajaraja I introduced new coins featuring a **standing king** and a **seated goddess**.
4. These coins were significant in Chola iconography and influenced the coinage of surrounding regions, including **Sri Lanka**.

Chola Contributions to Maritime Power & Trade:

1. The **Chola Empire** was a maritime power with a strong **navy** that dominated the **Bay of Bengal**, securing vital trade routes.
2. Ports like **Nagapattinam**, **Kaveripattanam**, and **Mamallapuram** were hubs for **international trade** in textiles, spices, and precious stones.
3. **Rajendra I** extended Chola influence over Southeast Asia, including **Sumatra**, **Java**, and the **Malay Peninsula**, ensuring control over key maritime trade routes.

Decline of the Chola Empire:

1. After the reign of **Karikala**, the Chola dynasty faced weakening leadership.
2. **Kaveripattanam**, the Chola capital, was destroyed, leading to the rise of the **Chera** and **Pandya** kingdoms and the gradual weakening of the Chola Empire.

3. By the 9th century, the Cholas had lost much of their earlier dominance, with internal strife and external invasions contributing to their decline.

Legacy:

The **Chola Empire** left an indelible mark on the cultural, economic, and military history of South India and Southeast Asia. The Cholas are particularly remembered for their contributions to **art**, **architecture**, **maritime power**, and the spread of **Hindu culture** across the region. The architectural masterpieces, like the **Brihadeeswarar Temple** and **Nataraja sculpture**, continue to stand as symbols of the Chola Empire's grandeur.

4. Over 30,000 Indian Parents Await Adoption

1. In a recent update to the Rajya Sabha, the Ministry of Women and Child Development (WCD) reported that over **30,000 Indian parents** are waiting to adopt children in the country.
2. The data, as per the **Child Adoption Resource Information and Guidance System (CARINGS)** portal, indicates that there are **32,856 in-country prospective adoptive parents (PAPs)** and **859 inter-country PAPs** waiting for adoption.
    a. Prospective Adoptive Parents (PAPs) are individuals or couples who are in the process of exploring and applying for adoption, with the goal of becoming the legal and permanent parents of a child in need of a family.
3. This reflects the growing demand for adoption, especially in India, where numerous children are still in need of a family.

Legal and Administrative Framework:

1. Adoption in India is governed by the **Juvenile Justice (Care and Protection of Children) Act, 2015 (JJ Act, 2015)**.
2. It ensures the **safety, security, dignity, and well-being** of children in need of care and protection.
3. The **Union Ministry of Women and Child Development (WCD)** is the nodal ministry overseeing the adoption process.
4. **And Central Adoption Resource Authority (CARA)**, established under the JJ Act, is responsible for regulating **both domestic and inter-country adoptions.**
5. The adoption process is entirely online and managed through the **CARINGS portal**.
6. It ensures transparency and accountability, and there is **no scope for illegal adoptions**.
7. According to the latest data, there are currently only **22 adoption orders pending** at the **District Magistrate (DM)** level across the country.
8. It is a significant achievement in reducing delays in the adoption process.

Adoption Statistics and Milestones:

1. India has achieved a significant milestone in child adoption with **4,515 adoptions** recorded in the **financial year 2024-25**, marking the highest adoption figure in the last 12 years.
2. Out of the total adoptions, **3,950** were domestic, and **565** were international.
3. This surge in adoption rates demonstrates both an improvement in adoption procedures and an increasing acceptance of adoption among Indian families.

Key Adoption Institutions and Stakeholders

The **States and Union Territories (UTs)** are responsible for implementing the JJ Act through various local institutions, such as:

1. **State Adoption Resource Agencies (SARA)**: These agencies play a crucial role in facilitating adoption at the state level.
2. **Child Welfare Committees (CWC)**: These committees are responsible for ensuring the welfare of children in need of protection and care at the local level.
3. **District Child Protection Units (DCPUs)**: These units focus on child protection issues at the district level.

Challenges in Adoption in India

Despite the progress, there are several challenges that still hinder the adoption process:

1. **Bureaucratic Delays**: The average waiting period for adoption is still more than a year due to procedural bottlenecks.

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2. **Age and Ability Bias**: Older children and those with disabilities face lower adoption rates, as many prospective parents prefer younger, healthy children.
3. **Social Stigma and Prejudices**: Adoption in India still faces a social stigma, with many people preferring biological children due to societal perceptions of lineage and "bloodline."

Measures to Improve and Expedite Adoption

Several reforms and initiatives have been introduced to address these challenges:

1. **Legal Reforms**: The **Juvenile Justice (Care and Protection of Children) Amendment Rules, 2022** have empowered **District Magistrates (DMs)** to directly handle adoption-related matters, speeding up the process.
2. **CARINGS Portal**: The fully online, transparent adoption process through the **CARINGS portal** ensures that all adoptions are ethical and legal, significantly reducing the chances of illegal adoptions.
3. **Mission Vatsalya Scheme**: This initiative supports children living in **Child Care Institutions** and promotes family-based care, including adoption, further helping children find permanent homes.

5. Registration of Births and Deaths in India

1. The **Registrar General of India (RGI)** has advised all government and private hospitals to report births and deaths promptly.
2. Despite a **90% registration rate**, many institutions fail to comply with the **21-day reporting deadline**, hampering the goal of **100% universal registration**.

Registration of Births and Deaths (RBD) Act, 1969

1. **Mandatory Registration**: All **births, deaths, and stillbirths** must be registered.
2. **Place of Registration**: Registration must occur at the place where the event happened.

Amendment in 2023:

1. **Digital Registration**: From **October 2023**, all registrations must be done **digitally** via the **Civil Registration System (CRS)**.

Time Limit:

1. Events must be reported within **21 days** of occurrence.
2. **Late fee** is applicable for delays beyond 21 days.

For Indian Citizens Abroad:

1. **Births outside India**: Must be registered under the **Citizenship Act, 1955** and **Citizens (Registration at Indian Consulates) Rules, 1956**.
2. **Section 20 (RBD Act)**: If parents return to India to settle, birth can be registered within **60 days** of arrival.
3. **Deaths abroad**: Registered at Indian consulates and valid under the **RBD Act**.

Penalties:

1. **Negligence by Registrars** is punishable with a **fine up to ₹1,000** under the RBD Act.

Civil Registration System (CRS)

1. A **national database** for continuous, real-time registration of **births and deaths**.
2. Implemented and managed under the **RBD Act**, overseen by RGI.
3. Integrated with other databases like **NPR (National Population Register)** and **Aadhaar**.

Registrar General of India (RGI)

About:

1. Established: **1949**, under the **Ministry of Home Affairs**.
2. Primary Role:
   - Conducts the **Census of India** every 10 years.
   - Manages **Civil Registration System** and **National Population Register (NPR)**.
   - Oversees the **Linguistic Survey of India**.

Organizational Setup:

1. Headed by a **senior civil servant** (usually at Joint Secretary rank).
2. Works with:
   a. **Chief Registrars** at the State level,
   b. **District Registrars** at the District level,
   c. **Local Registrars** for issuing birth and death certificates.

Importance of Timely Registration:

1. Ensures **accurate demographic data** for planning and policy.
2. Helps in access to **government welfare schemes**, health services, and legal identity documents.

Challenges:

1. **Delayed reporting** due to institutional negligence.
2. **Lack of awareness** in rural and underserved areas.
3. **Infrastructure gaps** for digital registration in some regions.

Way Forward:

1. **Strict enforcement** of penalties for non-compliance.
2. **Capacity building** for local registrars and hospital staff.
3. **Public awareness campaigns** on the importance and legal requirement of registration.
4. Integration with **hospital management systems** to automate real-time reporting.

Conclusion

The RBD Act is a cornerstone of India's civil registration framework. **Universal and timely registration** of births and deaths is not just a legal obligation but a **key enabler of demographic planning, social justice, and public health delivery**. Digital transformation through CRS marks a significant step toward this goal, but success depends on **institutional compliance and public awareness**.

6. India's Prison Conditions May Derail Global Extraditions, Warns Justice Lokur

1. Recently, Former Supreme Court Judge **Justice Madan B. Lokur**, currently the Chair of the **UN Internal Justice Council**, has warned that **India's poor prison conditions** could severely impact the country's ability to **secure international extraditions**.
2. This statement was made during the release of the **India Justice Report (IJR) 2025**, a landmark assessment of the country's justice delivery mechanisms.
3. He emphasized that **India's inability to uphold human rights in its prison system** not only affects inmates domestically but also **undermines India's credibility** on the global legal stage.

Background

1. India is actively pursuing the extradition of **economic fugitives**, such as **Mehul Choksi** and **Vijay Mallya**.
2. However, deteriorating prison infrastructure and inhumane conditions are becoming a **key obstacle**.
3. Justice Lokur noted that India's justice system is being **scrutinized for violations of human rights**, especially concerning custodial safety, hygiene, and healthcare.

The UK Court Ruling: A Turning Point : Case: Sanjay Bhandari Extradition Denied

1. A UK appellate court **rejected India's request** to extradite **Sanjay Bhandari**, a defence consultant charged with **tax evasion and money laundering**.
2. **Core Reason:** The court ruled that India could not provide **credible, concrete assurances** of **humane prison conditions**, particularly in **Tihar Jail**.
3. Despite repeated requests, Indian authorities **failed to provide adequate guarantees**.
4. Justice Lokur stated this verdict will have a **ripple effect** on over **100 pending extradition requests** globally

Disturbing Precedents in Indian Prisons

1. Several **high-profile custodial cases** have intensified global concerns:
   a. **Christian Michel** (AgustaWestland case): Refused bail, implying **jail was a safer option** due to high risk outside and harsh jail conditions.
   b. **Tillu Tajpuria**: Brutally beaten to death **on CCTV** by fellow inmates in Tihar Jail; guards present **did not intervene**.
   c. **Jagtar Johal** and **Ankit Gujjar**: Died in custody under **brutal or suspicious circumstances**, raising red flags on prison accountability.
2. These incidents expose **systemic failures**, including:
   a. Custodial violence
   b. Staff negligence
   c. Lack of independent oversight

India Justice Report 2025: Key Findings

Published by **Tata Trusts** and partners, the **India Justice Report (IJR) 2025** presents a **data-driven evaluation** of the justice system across India's **36 States and UTs**, covering:

1. **Police**
2. **Prisons**
3. **Judiciary**
4. **Legal Aid**
5. **Human Rights Commissions**

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A. Police

1. **Low personnel ratio**: 1 civil police officer for every **831 citizens**.
2. **17%** of police stations lack **CCTV surveillance**.
3. **30%** of stations do **not have a women's help desk**.
4. **Women's quotas in police forces** remain unmet across **all States and UTs**.

B. Prisons

1. **Overcrowding** and lack of health facilities dominate prison challenges.
2. **Uttar Pradesh** has the **most overcrowded prisons**.
3. **Delhi jails** house **91% undertrial prisoners**, reflecting deep flaws in bail and trial systems.
4. **Gujarat** has the **highest vacancies** among High Court **judges and staff**.

C. Judiciary & Legal Aid

1. In **Bihar**, **71% of lower court cases** have been pending for **over 3 years**.
2. Per capita spending:
   a. **₹182 on the judiciary**
   b. **₹57 on prisons**
   c. Only **₹6 on legal aid**
3. No State allocates more than **1% of its total budget** to the **judicial system**.

India's Prison Healthcare Crisis

1. Worsening Overcrowding

1. Inmate population surged from **3.8 lakh (2012)** to **5.7 lakh (2022)**, with a projection of **6.8 lakh by 2030**.
2. **Prison capacity** remains stagnant at **4.3 lakh**, expected to grow only to **5.15 lakh** by 2030.
3. **Occupancy rate:** Now at **131%**, up from 112% in 2012.
4. Example: **Maharashtra**'s prison occupancy rose from **99% to 161%** in a decade.
5. **Consequences:**
   - Spread of infectious diseases
   - Mental stress among inmates
   - Excessive burden on infrastructure

2. Shortage of Medical Professionals

1. **43% vacancy** in posts for prison medical officers.
2. Current **doctor-to-prisoner ratio:** 1:775 vs **Model Prison Manual** standard of **1:300**.
3. Severely impacts:
   a. Routine care
   b. Emergency response
   c. Outbreak control
   d. Injury documentation

3. A Mental Health Emergency

1. Only **25 psychologists** serve the **entire prison population** (1 per **22,929 inmates**).
2. **Mental illness cases** doubled from **4,470 (2012)** to **9,084 (2022)**.
3. In 2022, **only half of 69 sanctioned posts** for mental health professionals were filled.
4. **No state/UT** meets the standard of **1 psychologist per 500 inmates**.
5. **25 States/UTs** offer **no provision** for a psychiatrist or psychologist.
6. **Risks:**
   a. Suicides
   b. Violent incidents
   c. Untreated substance abuse
   d. No mental health support for withdrawal or rehabilitation

4. Invisibility of Disability in Prisons

1. **No national data** exists on:
   a. Prisoners entering with disabilities
   b. Those who acquire disabilities during incarceration
2. This lack hinders:
   a. Inclusive policy making
   b. Targeted healthcare and legal safeguards
   c. Rehabilitation and reintegration support

Challenges to India's Global Extradition Strategy

1. India's extradition efforts face increasing **resistance from countries** with strong human rights protections, such as the **UK, US, and EU** members.
2. **Main Concerns:**
   a. Inhumane detention conditions
   b. Overcrowded cells
   c. Lack of basic healthcare and mental health services
   d. Custodial deaths and abuse

3. Courts in these countries are now **blocking extraditions** not on the **merits of legal charges**, but on the **grounds of humanitarian violations**.

Recommendations and Way Forward

The **India Justice Report 2025** offers the following key reforms:

1. **Urgent recruitment** of medical and mental health professionals for prisons.
2. **Strategic investment** in prison infrastructure to reduce overcrowding.
3. **Real-time publication** of prison health, death, and disability data.
4. **Policy incentives** for States to:
   a. Implement **non-custodial sentencing**
   b. Promote **bail reforms**
   c. Use **community-based alternatives** to reduce inmate populations.

Conclusion

India's prison system is approaching a **crisis point**. As the nation grows economically and asserts global leadership, its **justice and correctional systems must evolve** to meet **international human rights norms**. Failure to do so may result in: **Legal isolation, Damaged diplomatic ties, Collapse of international cooperation in criminal justice matters.** Justice Lokur's warning is not just a critique but a **call to action**—to ensure prisons are **not just places of punishment**, but of **reform, dignity, and justice**.

7. Pope Francis Dies: How Will a New Pope Be Elected?

1. **Date of Death**: **April 21, 2025**, at **7:35 AM** on Easter Monday.
2. **Cause**: Pope Francis had been battling a lengthy illness, having been hospitalized in **February 2025** for complications from bronchitis, followed by a diagnosis of **bilateral pneumonia**.
3. **Location**: He passed away at his residence, **Casa Santa Marta** in Vatican City.
4. **Predecessor's Retirement**: Unlike most popes, **Pope Benedict XVI** retired in **2013** due to a "lack of strength of mind and body."

Transfer of Power

1. The process following the Pope's death is governed by **detailed laws and rituals**, some dating back to the **Middle Ages**.
2. These laws govern the transition of power and the **election of a new Pope**.
3. **Papal Funeral Rites :**
   a. **Updated Rites**: In **April 2024**, Pope Francis approved an updated version of the **Ordo Exsequiarum Romani Pontificis** (the book governing papal funeral rites).
   b. **Verification of Death**: Traditionally, the **Camerlengo** (Cardinal Kevin Farrell) verifies the Pope's death by calling the Pope's baptismal name thrice.
   c. The updated rites indicate this process will take place in the **chapel**, rather than in the Pope's room.
   d. **Symbolism**: The **Ring of the Fisherman** (Pope's signet ring) is ceremonially broken to mark the end of his papacy.
   e. The Pope's apartment is sealed, and the **College of Cardinals** is informed.
   f. **Nine Days of Mourning**: This period of mourning is called **Novendiale**, following which the Pope's body is prepared for public viewing.
   g. **Public Viewing and Funeral**: The Pope's body is typically displayed in **St. Peter's Basilica**, but Pope Francis had requested in **2022** that he be buried in **Santa Maria Maggiore Basilica** in Rome, rather than under St. Peter's.
   h. **Funeral Mass**: The funeral takes place **within four to six days** and is led by the **Dean of the College of Cardinals**.

Sede Vacante (Vacant See)

1. This term means "the seat is vacant," and it marks the period after the Pope's death or resignation until a new Pope is elected.
2. During this time, the **College of Cardinals** temporarily assumes the responsibility of governing the Church.

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3. **Election of the New Pope**:
   a. Within **15 to 20 days**, cardinals under the age of 80 travel to the Vatican to begin the **Papal Conclave**, a secret voting process to elect the new Pope.
   b. **Voting**: The cardinals vote in several rounds, and **two-thirds majority** is required to elect the new Pope. If no pope is elected, **black smoke** is released from the Sistine Chapel. **White smoke** indicates the election of a new Pope.
4. **Announcement**: Once the new Pope is elected, a **representative from the College of Cardinals** announces the election with the famous words: **"Habemus Papam"** (We have a Pope), from the **balcony of St. Peter's Basilica**.
5. The new Pope then delivers his first public address.

Eligible Cardinals from India

1. In the 2025 Papal Conclave, **four cardinals** from India are eligible to vote, as they are under 80 years old:
   a. **Cardinal Filipe Neri Ferrão**
   b. **Cardinal Cleemis Baselios**
   c. **Cardinal Anthony Poola**
   d. **Cardinal George Jacob Koovakad**

The Office of the Pope

1. **Role**: The Pope serves as the **Bishop of Rome** and is the visible leader of the **Catholic Church**, which considers **Jesus Christ** its invisible head.
2. The Pope holds the title of **supreme pontiff** and oversees the **Holy See** and **Vatican City**.
3. **Diplomatic Role**: The Vatican is an independent state with formal diplomatic relations with other nations.

Life of Pope Francis

1. **Birth**: **Jorge Mario Bergoglio** was born in **1936** in **Buenos Aires**, Argentina. He was the **266th pope** in a lineage dating back to **Saint Peter** in **30 CE**.
2. **Papacy**: He assumed the papacy on **March 13, 2013**, after the resignation of **Pope Benedict XVI**.
3. **Historic Significance**:
   a. **First South American Pope** and the **first Jesuit pope**.
   b. Known for his **moderate views** on many social issues.
   c. For example, he publicly apologized to gay people and criticized **trickle-down economic policies**, but also upheld **traditional Catholic teachings**, opposing **gay marriage** and **women priests**, and calling **abortion** the "most horrific" of crimes.
4. **Leadership and Reform**:

a. Pope Francis faced the fallout from the **Vatileaks scandal**, which exposed corruption in the Vatican.
b. He aimed for **reform** within the Church, focusing on eliminating corruption and addressing the **child abuse crisis**, which he described as a **"stain" on the Church's legacy**.
c. He was widely regarded for his **sober and austere lifestyle**.
d. Known for his efforts in **simplifying** the papal office and for being a voice on **social justice** issues such as **poverty** and **climate change**.

Conclusion

The death of **Pope Francis** initiates a profound transition for the Catholic Church. The **Papal Conclave** will be crucial in determining his successor, a leader who will continue his legacy, particularly in areas such as **social justice**, **reform**, and **global challenges**. The process remains deeply traditional, blending both **ritual** and **political strategy** as the **College of Cardinals** prepares to elect a new leader for the Church.

8. CSR Spending in India Grows 16% in FY24: Key Trends and Leading Contributors

1. India witnessed a **16% increase** in Corporate Social Responsibility (CSR) spending in FY2023-24, with listed companies investing **₹17,967 crore**, up from **₹15,524 crore** in FY23.
2. This surge reflects not only improved compliance but also growing corporate profitability and commitment to sustainable development.

About Corporate Social Responsibility (CSR)

1. CSR has become a **core component** of India's corporate governance landscape.

2. Introduced under the **Companies Act, 2013** and enforced from **April 1, 2014**, the CSR mandate applies to companies that meet **any** of the following criteria:
   a. Net worth ≥ ₹500 crore
   b. Turnover ≥ ₹1,000 crore
   c. Net profit ≥ ₹5 crore
3. Such companies must allocate at least **2% of their average net profits** over the preceding three years to CSR initiatives.
4. The purpose of this legislation is dual-fold:
   a. Ensure corporate participation in nation-building.
   b. Embed social accountability into the DNA of Indian businesses.
5. CSR in India has since expanded across domains such as **education**, **healthcare**, **rural development**, **environmental sustainability**, and **cultural preservation**.
6. Over time, corporations are increasingly aligning CSR with **Sustainable Development Goals (SDGs)** and **national priorities**.

Rise in CSR Spending in FY24

1. FY24 CSR spend: **₹17,967 crore**
2. FY23 CSR spend: **₹15,524 crore**
3. Growth rate: **16% YoY**
4. This rise aligns with an **18% growth** in average three-year net profits — ₹9.62 lakh crore (FY24) vs ₹8.14 lakh crore (FY23).
5. As per mandate, companies were supposed to spend **₹18,309 crore**, but **₹2,329 crore** was transferred to *Unspent CSR Accounts* for future projects, accounting for the gap.
6. This is the **first major uptick** in CSR spending after three years of sluggish growth, signaling renewed corporate enthusiasm for community engagement and regulatory compliance.

Leading CSR Contributors

The top 10 corporate contributors dominated the CSR landscape in FY24:

Company	CSR Spend (₹ Crore)
HDFC Bank	945.31
Reliance Industries	900.00
Tata Consultancy Services	827.00
ONGC	634.57
Tata Steel	580.02
ICICI Bank	518.87
Indian Oil Corporation	457.71
Infosys Ltd	455.67
ITC Ltd	404.05
Power Grid Corporation	330.48

These ten corporates alone made up a **substantial share** of total CSR contributions, confirming that India's CSR momentum is largely driven by its corporate heavyweights.

Sectoral Allocation of CSR Funds

1. CSR funds were channeled into diverse and high-impact sectors:
   a. **Education** remained the top priority with ₹1,104 crore.
   b. **Healthcare** followed at ₹720 crore.
   c. **Environmental Sustainability** saw the **largest relative growth** — a **54% increase** YoY.
2. Conversely, some sectors saw a notable decline:
   a. **Slum Development**: ↓72%
   b. **Rural Development**: ↓59%
   c. **Armed Forces Veterans' Welfare**: ↓52%
3. These changes highlight a **sectoral shift toward environmental responsibility**, likely reflecting rising concerns around climate change and sustainability

Trends in Compliance and Governance

1. **98%** of 1,394 eligible companies complied with CSR requirements.
2. **49%** of companies went beyond their mandated spending.
3. Only **259 companies** fell short, primarily due to ongoing **multi-year projects**.
4. **Public Sector Undertakings (PSUs):**
   - 66 PSUs spent **₹3,717 crore**, showing a **19% increase** over FY23.
5. **Governance Improvements:**
   - Companies spending >₹50 lakh must form a **CSR Committee** (3 directors, at least 1 independent).

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- Out of 1,028 such companies, **990 had fully compliant committees**, reflecting better internal governance.

Call for Revising CSR Thresholds

1. The average 3-year net profit (used to determine CSR obligations) has **more than doubled** in a decade:
   a. From ₹4.18 lakh crore (2014) → ₹9.62 lakh crore (2024).

Expert Recommendations: Revise CSR thresholds upward to:

1. Ease compliance burden on small businesses.
2. Focus regulatory effort on larger, more capable companies.

Emerging CSR Focus Areas:

1. **Climate change mitigation**
2. **Digital inclusion**
3. **Skilling for the future workforce**
4. **Healthcare innovations**

Integration Trends:

Companies are expected to more deeply embed CSR into:

1. Business strategies
2. National development priorities
3. ESG (Environmental, Social, Governance) frameworks

9. Tax Exemption for National Mission for Clean Ganga

1. In April 2025, The **Central Board of Direct Taxes (CBDT)** notified **the National Mission for Clean Ganga (NMCG)** as an **authority under the Income Tax Act, 1961**, granting it **income tax exemption** under **Section 10(46A)**.
2. This supports the mission's financial and operational autonomy under the **Namami Gange Programme**.

About National Mission for Clean Ganga (NMCG)

1. **Nodal Agency**: Implementation wing of the **National Ganga Council (NGC)**.
2. **Established**: Initially registered as a society in **2011** under the **Societies Registration Act, 1860**.
3. **Upgraded**: Declared an **authority** in **2016** under the **Environment (Protection) Act, 1986**.

Namami Gange Programm

1. **Launched**: 2014 as a **Flagship Programme** of the Union Government.
2. **Budget**: ₹20,000 crore.
3. **Ministry**: Ministry of Jal Shakti.
4. **Objectives**:
   a. Abatement of pollution.
   b. Conservation and rejuvenation of River Ganga.
5. **Implementation Structure**:
   a. **National Level**: High-level task force chaired by Cabinet Secretary (assisted by NMCG).
   b. **State Level**: State Program Management Groups (SPMGs), chaired by Chief Secretaries.
   c. **District Level**: Chaired by District Magistrates.
6. **Three-Tier Project Implementation**:
   a. **Entry-Level**: Immediate impact (e.g., ghats, crematoriums).
   b. **Medium-Term**: Within 5 years (e.g., sewerage networks).
   c. **Long-Term**: Within 10 years (e.g., riverfront development, afforestation).

About National Ganga Council (NGC)

1. **Replaced**: National Ganga River Basin Authority.
2. **Established**: 2016 under the **River Ganga (Rejuvenation, Protection and Management) Authorities Order, 2016**.
3. **Chairperson**: Prime Minister of India.

Income Tax Exemption for NMCG

1. **Legal Basis**
2. **Section 10(46A), Income Tax Act, 1961**:
   a. Exempts income of bodies constituted under **Central or State laws** for specific purposes.
   b. Applicable to NMCG as it is now an authority under the **Environment (Protection) Act, 1986**.
3. **Effective From: Assessment Year (AY) 2024–25.**
4. **Condition: NMCG must continue as a statutory authority under the 1986 Act.**

Significance:

1. Grants **financial autonomy** and avoids unnecessary **tax liabilities**.
2. Enables smoother implementation of the **Namami Gange** programme.

Taxation Issues Faced by NMCG (Background)

1. Though upgraded to an **authority in 2016**, its **PAN status remained as an Association of Persons (AOP)**.
2. This led to **income tax demands** of **₹243.74 crore**.
3. The issue was addressed by the **Ministry of Jal Shakti**, which coordinated with the **Ministry of Finance**.

CBDT Relief Measures:

1. **Allowed delayed filing** of revised returns.
2. **Retrospective tax exemption** granted by CBDT.
3. Resolved long-pending tax issues that were hindering fund utilization.

Importance of Tax Exemption:

1. Prevents diversion of public funds toward tax payments.
2. Encourages efficiency in executing environmental missions.
3. Reinforces the government's commitment to **river rejuvenation and sustainable water management**.

Challenges Addressed:

1. Legal-technical gaps in status transition (from society to authority).
2. Inconsistent treatment under tax law due to outdated PAN classification.
3. Administrative delays in exemption despite statutory eligibility.

Conclusion

The **tax exemption** granted to the **National Mission for Clean Ganga** underlines the importance of aligning **legal status, taxation, and governance frameworks** in mission-mode programs. This move not only **strengthens the financial capacity** of NMCG but also accelerates progress under the **Namami Gange** initiative, critical to the **ecological rejuvenation of the Ganga River system**.

10. Golconda Blue Diamond: A Royal Indian Gem Set for Auction

1. A **rare 23.24-carat Golconda Blue diamond**, steeped in **Indian royal history** and famed for its **origin and purity**, is set to be auctioned.
2. This gemstone is among the most prized specimens from the historic **Golconda mines**, reflecting India's rich legacy in the world of precious stones.

Key Characteristics

1. **Weight**: 23.24 carats
2. **Type**: **Blue diamond** — a rare and highly valued category in gemology.
3. **Colour grading**: Noted for **rich blue hue** with **high saturation and purity**, making it **exceptionally rare and valuable**.
4. **Clarity**: High-grade, indicating minimal impurities and high transparency.

Origin: Golconda Diamond Mines

1. Mined in the **Golconda region** of present-day **Telangana**, India.
2. Golconda was a prominent diamond hub during medieval times and is considered one of the **world's oldest diamond mining sites**.
3. Other legendary diamonds from Golconda include:
   - Koh-i-Noor
   - Hope Diamond
   - Darya-i-Noor
4. These mines are renowned for producing **Type IIa diamonds**, among the **purest of all natural diamonds**.

Historical Ownership and Royal Connections

1. **Initially owned by**: **Maharaja Yeshwant Rao Holkar II** of **Indore**.
2. Later purchased by an **American jeweler**, indicating early global trade of Indian gems.
3. Eventually sold to the **Maharaja of Baroda**, linking it to two significant royal lineages in Indian history.

Documentation by Jean-Baptiste Tavernier

1. The diamond and its mining region were documented by **Jean-Baptiste Tavernier**, a **17th-century French gem merchant and traveler**.
2. Tavernier:
   - Visited **Golconda** and observed the diamond trade firsthand.
   - Also attended the **Mughal court**, providing early European insights into **India's gem wealth** and **royal patronage of jewels**.

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- His writings remain a key source on India's **diamond legacy**.

Cultural and Historical Significance

1. The Golconda Blue is not just a gemstone but a **symbol of India's rich gemological heritage**, once part of **royal treasuries and global trade routes**.
2. Its **auction today reconnects the global market with India's historical legacy** in the diamond world.

Conclusion

The upcoming auction of the **Golconda Blue Diamond** highlights the enduring appeal of India's **historic gems**, and its connection to **royalty, craftsmanship, and global admiration**.

It serves as a modern reminder of India's **centuries-old prominence** in the **global diamond trade**, especially through the famed **Golconda mines**.

11. Guru Tegh Bahadur: The Ninth Sikh Guru and Martyr for Religious Freedom

1. The **Parkash Purab** (birth anniversary) of **Sri Guru Tegh Bahadur Ji**, the **ninth Guru of the Sikhs**, was recently observed with reverence and devotion.
2. Guru Tegh Bahadur is celebrated for his **spiritual leadership**, **philosophical contributions**, and **supreme sacrifice** to protect the religious freedom of others.

Early Life and Background

1. **Born**: 1621 in **Amritsar**.
2. **Parents**:
   a. **Father**: **Guru Hargobind**, the sixth Sikh Guru, known for militarizing Sikhism and introducing the concept of **"Miri-Piri"** (spiritual and temporal authority).
   b. **Mother**: **Mata Nanki**.
3. Guru Hargobind raised an army to resist **Mughal oppression**, laying the groundwork for the Sikh warrior ethos.

Childhood and Education

1. **Birth name**: **Tyag Mal**, reflecting his **ascetic and meditative temperament**.
2. **Tutors**:
   a. **Bhai Gurdas**: Instructed him in **Gurmukhi, Hindi, Sanskrit**, and **Indian religious philosophy**.
   b. **Baba Budha**: Trained him in **martial arts** — swordsmanship, archery, and horse-riding.

Name and Rise to Prominence

1. At **age 13**, he demonstrated **extraordinary bravery** in a battle against a **Mughal chieftain**.
2. His valor earned him the title **"Tegh Bahadur"**:
   - **"Tegh"** means **"sword"** in Punjabi.
   - Denotes a balance of **spiritual wisdom and martial courage**.

Personal Life

1. **Marriage**: In **1632**, married **Mata Gujri** at **Kartarpur**.
2. Afterwards, he settled in **Bakala**, near Amritsar.

Spiritual Contributions and Travels

1. Extensively **traveled across India** to spread the teachings of **Guru Nanak**, the founder of Sikhism.
2. Composed many **hymns and Saloks (couplets)**, which were later included in the **Guru Granth Sahib**, the holy scripture of the Sikhs.
3. Emphasized themes such as:
   - Detachment from materialism
   - Universal brotherhood
   - Steadfastness in the face of adversity

Resistance to Religious Oppression

1. Guru Tegh Bahadur lived during the **reign of Mughal Emperor Aurangzeb**, known for his **intolerance and persecution of non-Muslims**.
2. He **resisted the forced religious conversions** of Hindus and other non-Muslims to Islam.
3. Stood as a **protector of the oppressed**, advocating for **freedom of conscience and belief**.

Martyrdom and Legacy

1. **Arrested and executed** on the orders of **Aurangzeb** in **Delhi** in **1675** for refusing to convert to Islam and for defending religious liberty.
2. His **martyrdom is commemorated annually** as **Shaheedi Divas** on **November 24**.
3. Known as the **"Hind-di-Chadar"** (Shield of India) for sacrificing his life for the **protection of Hindu and other non-Muslim communities**.

Core Teachings and Legacy

1. Advocated for:
   - Freedom of religion
   - Justice and equality
   - Spiritual depth with moral courage
2. His sacrifice set a precedent for standing against **tyranny and religious coercion**.
3. Left a lasting impact on **Sikh philosophy**, **Indian history**, and **interfaith solidarity**

Conclusion

Guru Tegh Bahadur's life is a **symbol of courage, sacrifice, and spiritual commitment**. He is remembered not only as a Sikh Guru but also as a **martyr for human rights**, whose legacy continues to inspire people to **stand up for truth and justice** in the face of oppression.

12. Pandit Chatur Lal: Tabla Maestro and Cultural Ambassador of Indian Percussion

1. The **Department of Posts, Government of India**, announced the release of a **commemorative stamp** in honour of **Pandit Chatur Lal** as part of his **centenary year celebrations** (2025).
2. He is remembered for being the **first Indian percussionist to introduce tabla to the West** in the 1950s.

Early Life and Background

1. **Birthplace**: **Udaipur**, Rajasthan
2. **Family Background**:
   a. Belonged to a lineage of **court musicians and farmers**.
   b. Grew up in a culturally rich environment that valued **classical music traditions**.

Musical Training and Style

1. **Guru**: Trained under **Ustad Abdul Hafiz Ahmed Khan**
   a. His guru was a disciple of **Jehangir Khan**, a court musician in **Indore**.
   b. This lineage was deeply influenced by the **Farukhabad** and **Lucknow gharanas** (schools) of tabla.
2. Pandit Chatur Lal developed a **distinctive tabla style**, combining **precision, clarity, and emotional depth**.

Pioneering Role in the West

1. **First Indian tabla artist to perform internationally**, especially in **Europe and North America**.
2. Played a **pivotal role in connecting Indian classical rhythms with Western audiences**, paving the way for:
   a. Cross-cultural musical exchanges
   b. Later **Indo-jazz fusion groups**, such as **Shakti** (with L. Shankar and John McLaughlin)

Key Milestone: Collaboration with Yehudi Menuhin

1. In **1952**, world-renowned violinist **Yehudi Menuhin** visited India.
   a. Attended a **private concert** featuring **Pandit Ravi Shankar and Chatur Lal**.
   b. Menuhin was deeply impressed, leading to **invitations for Chatur Lal to tour and perform abroad**.
2. This event was instrumental in **globalizing Indian classical music**, particularly **tabla**.

Recognition and Awards

1. **1957**: First Indian percussionist **nominated for an Academy Award (Oscars)** for his music in the **Canadian short film *A Chairy Tale***.
2. Also received a **Special BAFTA Award**, showcasing his **international acclaim** in both film and music circles.

Legacy and Death

1. **Died in 1965**, but left a profound and lasting impact on Indian music and global cultural exchange.
2. Remembered as a **trailblazer** who elevated **tabla** from a traditional Indian accompaniment instrument to a **global solo and ensemble instrument**.
3. His centenary is being marked with **official recognition**, highlighting his contribution to India's **musical heritage and cultural diplomacy**.

Cultural and Musical Significance

1. Chatur Lal's work stands at the **intersection of Indian classical music and global fusion**.
2. He helped reframe the **tabla** as a **virtuosic solo instrument** on the world stage.
3. His legacy lives on through:
   - The **Pandit Chatur Lal Memorial Society**
   - Ongoing performances by his descendants and disciples

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H. ETHICS

1. Rat-Hole Mining in India: An Ethical Dilemma Beneath the Surface

1. Rat-hole mining is a controversial and hazardous method of coal extraction, commonly seen in parts of Northeast India, especially Meghalaya.
2. Despite **a ban by the National Green Tribunal (NGT) in 2014** due to its detrimental environmental and human impacts, this practice persists illegally in several regions.
3. It reflects not only regulatory and administrative failure but also raises profound ethical questions concerning human dignity, environmental justice, and societal responsibility.

What is Rat-Hole Mining and Why is it Problematic?

1. Rat-hole mining involves **digging narrow, horizontal tunnels** just wide enough for a person to enter and extract coal.
2. While this method is cost-effective and easily accessible for local communities, it is extremely unsafe.
3. Workers, often children and the economically vulnerable, risk their lives in poorly ventilated and unsupported mines.
4. The practice leads to frequent accidents, respiratory diseases, and even deaths.
5. Furthermore, it causes significant environmental degradation, including groundwater contamination and deforestation.

How Does Rat-Hole Mining Violate Ethical Principles?

Ethical implications of rat-hole mining through major philosophical and ethical lenses:

1. Buddhist Ethics

- **a.** It violates *Ahimsa* (non-violence) by endangering lives.
- **b.** It creates *Dukkha* (suffering) through exploitation and unsafe labor.
- **c.** The principle of *Right Livelihood* is broken, as the work involves harm.
- **d.** The economic activity contradicts the *Middle Path*, promoting greed and harm over balance and compassion.

2. Swami Vivekananda's Practical Vedanta

- **a.** Rat-hole mining denies individuals their inherent dignity and potential.
- **b.** It neglects the Vedantic call for social service and upliftment.
- **c.** The duty towards social equity is abandoned, reducing human beings to tools for profit.

3. Rabindranath Tagore's Humanism

- **a.** This practice destroys the harmony between human beings and nature.
- **b.** It ignores universal human dignity, fostering exploitation.
- **c.** It reveals a collapse of the collective moral conscience of society.

4. Kantian Ethics (Immanuel Kant)

- **a.** Treating miners merely as means to economic gain violates Kant's *Second Categorical Imperative*.
- **b.** Rational autonomy is ignored, with workers reduced to instruments for commercial benefit.
- **c.** The fundamental respect due to human life is compromised.

5. Rousseau's Social Contract Theory

- **a.** The state, as per Rousseau, must protect all citizens. Its failure here shows a breach of the *social contract*.
- **b.** The *general will* is disregarded in favor of powerful interests.
- **c.** Vulnerable communities are exploited by the powerful with impunity.

6. Dharmic Ethics

- **a.** Both the state and mine owners fail in their *Dharma* (righteous duty).
- **b.** There is disruption of both the natural order (environmental harm) and social order (inequality).

c. A failure of *Raj Dharma*—the duty of the state to protect and govern justly—is evident.

7. Ambedkar's Modern Indian Thought

a. The state fails to provide security and dignity, especially to marginalized sections.
b. It perpetuates caste- and class-based economic exploitation.
c. True democracy is hollow without the guarantee of dignity and safety.

8. John Rawls' Theory of Social Justice

a. Rat-hole mining violates the *difference principle*—the worst-off are being further exploited.
b. There is a lack of institutional safeguards to protect laborers.
c. Economic desperation forces people into hazardous jobs, widening inequality.

9. Amartya Sen's Capability Approach

a. The state fails to ensure basic *capabilities* like safe work, health, and education.
b. People are deprived of choices and forced into "unfreedoms" due to economic compulsion.
c. There is no provision of alternative, dignified livelihoods.

10. Gandhian Ethics

a. Economic exploitation here is a form of *violence*, contrary to Gandhian non-violence.
b. The practice violates *Sarvodaya* (welfare of all), benefiting a few at the cost of many.
c. There is a breach of *Trusteeship*, where owners ignore their moral duty to care for workers.
d. *Swadeshi* principles, favoring local, sustainable livelihoods, are completely bypassed.

11. Rule Utilitarianism (J.S. Mill)

a. The long-term harm—including environmental damage and human suffering—outweighs the short-term economic benefit.
b. The broader community suffers due to ecological degradation.
c. The absence of proper regulation results in greater collective suffering than individual gain.

What is the Ethical Way Forward?

To address the issue of rat-hole mining, we must adopt a multi-pronged ethical approach based on three pillars: **Ethical Standards**, **Integrity Systems**, and **Moral Aptitude**.

1. ETHICAL STANDARDS (What Must Be Upheld)

a. Practice **sustainable and responsible mining**.
b. Ensure **human dignity** and **labor safety** are non-negotiable.
c. Comply with **environmental regulations** and **resource conservation norms**.
d. Promote **fair labor practices**, including minimum wages and child labor prohibition.
e. Maintain **transparency and accountability** in mining operations.
f. Ensure **equitable distribution** of natural resources.

2. INTEGRITY SYSTEMS (Tools for Implementation)

Regulatory Framework

a. Enforce strict **licensing systems** for mining operations.
b. Conduct regular **safety audits** and **environmental impact assessments**.
c. Protect workers through **labor rights mechanisms**.
d. Create effective **grievance redressal systems**.

Monitoring Mechanisms

a. Use **technology** (like drones, sensors) for real-time surveillance.
b. Set up **independent oversight bodies**.
c. Empower **community-based monitoring** systems.
d. Ensure **regular compliance reporting** and **transparent documentation**.

3. MORAL APTITUDE (Human Element in Decision Making)

Sensitivity

a. Be aware of the **vulnerabilities of workers**.
b. Acknowledge the **environmental and social impact** of mining.
c. Respect **cultural and ecological sensitivities** of indigenous communities.

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Moral Reasoning

a. Carefully balance **economic growth** with **human safety and dignity**.
b. Promote **long-term sustainability** over short-term profit.
c. Use ethical frameworks to make informed, just decisions.

Leadership

a. Exhibit **proactive leadership** in solving ground-level issues.
b. Engage with all **stakeholders**, including local communities and workers.
c. Encourage **innovation in safety** and **sustainable alternatives**.
d. Display resilience and responsiveness during mining-related crises.

Implementation Wisdom

a. Plan a **phased transition** away from rat-hole mining.
b. Develop **alternative livelihood programs** (e.g., tourism, horticulture, skill-based employment).
c. Invest in **skill development and education** of local communities.
d. Involve communities in **decision-making and benefit-sharing**.
e. Use resources optimally without compromising future generations.

Rat-hole mining is not just an illegal economic practice; it is an ethical failure on many levels—governance, societal values, environmental responsibility, and human rights. A just society must not prosper at the cost of its most vulnerable citizens. The path forward lies in embedding ethics in every stage of resource management—from policy and regulation to ground-level implementation and community participation. Only then can India truly uphold the ideals of justice, equity, and dignity enshrined in its Constitution.

2. Surveillance Capitalism: The Business of Watching You

Introduction: When Data Becomes the New Oil

1. In today's digital age, nearly every action we take—whether browsing online, using an app, or speaking near a smart device—leaves behind a digital trace.
2. While in 1986, only about 1% of global information was stored digitally, by 2013, this number had skyrocketed to 98%.
3. This massive shift in data generation has given rise to a new economic model known as **Surveillance Capitalism**, where human behavior becomes a raw material for profit.
4. Pioneered by tech giants like **Google, Meta, and Amazon**, surveillance capitalism raises serious concerns about **privacy, autonomy, manipulation, and the future of democratic societies**.

What is Surveillance Capitalism?

1. **Surveillance Capitalism** refers to an economic system where **personal data is harvested, analyzed, and sold** to influence behavior and maximize profits.
2. Unlike traditional capitalism that focuses on physical goods and services, this model is built on **monitoring and predicting human behavior**.

How It Works:

1. **Data Extraction**: Tech platforms track user behavior—searches, clicks, location, purchases—often without explicit consent.
2. **Predictive Analytics**: Algorithms process this behavioral data to predict future actions, preferences, or risks.
3. **Behavioral Influence**: Insights are then used for: Targeted advertising, Dynamic pricing, Personalized recommendations and Nudging opinions and emotional responses

Example: Google suggests products before you even search for them. Facebook's feed shows content that keeps you hooked—often by triggering emotional reactions.

Categories of Surveillance Capitalism	
Corporate Surveillance: Companies track and monetize user data for commercial gain. **Example:** Facebook monitors user activity across apps to deliver hyper-personalized ads.	**State-Corporate Nexus:** Governments collaborate with private tech firms under the banner of national security. **Example:** China's Social Credit System uses surveillance data to rate citizen behavior, affecting access to public services.

Aspect	Traditional Capitalism	Surveillance Capitalism
Core Resource	Labor and natural resources	User behavior and personal data
Value Creation	Mass production (e.g., assembly lines)	Predicting and influencing behavior
Profit Model	Selling goods or services	Selling behavioral predictions to advertisers and firms
Example	Steel plants, car manufacturing	Google Ads, Amazon product suggestions

"Arguing that you don't care about the right to privacy because you have nothing to hide is no different than saying you don't care about free speech because you have nothing to say." — **Edward Snowden**

Ethical Concerns of Surveillance Capitalism

1. Manipulation of Choices: Algorithms exploit psychological weaknesses and biases to influence decisions without users realizing it.

- **Example:** YouTube often pushes emotionally charged or extreme content to boost engagement.

2. Invasion of Privacy: Data is frequently collected without clear consent, leading to mass surveillance.

- **Example:** France banned Clearview AI in 2021 for harvesting biometric data without legal approval.

3. Commodification of Intimacy: Personal information—once private—is now bought, sold, and profited from like a commodity.

- **Example:** U.S. sleep apnea machines sent patient usage data to insurance companies, impacting coverage.

4. Unfair Business Practices: Users are often misled about how their data is collected and used.

- **Example:** Facebook was fined €7 million in Italy for lack of transparency on data usage.

5. Threat to Democracy: Combining corporate power with state surveillance undermines individual freedom and autonomy.

- **Example:** India's IT Rules (2021) raise concerns about excessive government control over online content.

6. Mental Health Consequences: Content curated to maximize attention can heighten anxiety, anger, and social polarization.

- **Example:** Social media platforms often push divisive content that boosts emotional reactions but damages mental well-being.

"Whoever controls the data, controls the future." — **Yuval Noah Harari**

Challenges in Regulating Surveillance Capitalism

1. **Weak Legal Frameworks:** Current laws struggle to control how companies collect and use data.
2. **Fast-Paced Technology:** Rapid developments in AI, IoT, and big data outpace regulation.
3. **Corporate-State Collaboration:** Governments and tech giants often share interests, making independent oversight difficult.
4. **Lack of Transparency:** Users rarely understand the extent of data being collected or how it's used.
5. **Global Reach:** Digital platforms operate beyond borders, complicating national regulatory efforts.

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Steps Taken to Regulate Surveillance Capitalism

Global Initiatives	India's Efforts
1. **EU's General Data Protection Regulation (GDPR), 2018**: Sets strict rules on data consent, grants users control over their information, and imposes heavy fines for violations.	1. **K.S. Puttaswamy Judgment, 2017**: Recognized the right to privacy as a fundamental right under Article 21 of the Indian Constitution.
2. **California Consumer Privacy Act (CCPA), 2020** : Allows Californians to access, delete, and opt out of the sale of their personal data.	2. **Digital Personal Data Protection (DPDP) Act, 2023**: Mandates user consent for data processing, provides rights to access or erase data, and introduces penalties for non-compliance.

Way Forward: Ensuring a Human-Centric Digital Future

1. **Strengthen Laws and Accountability**: Update data protection laws to include **independent oversight, regular audits**, and meaningful penalties. *E.g., India must limit exemptions in the DPDP Act and include judicial review for government actions.*
2. **Empower Digital Citizens**: Promote **data literacy** to help users understand how their information is used and enforce **clear consent mechanisms**.
3. **Regulate Monopolies** : Use **antitrust laws** to break up or regulate dominant digital platforms, reducing their unchecked influence.
4. **International Collaboration**: Create **global standards** for data protection to avoid regulatory loopholes across countries.
5. **Encourage Ethical Tech Design**: Shift focus to **privacy-by-design** and ethical AI development that minimizes surveillance incentives from the ground up.

Surveillance Capitalism represents a new form of power that extends deep into personal lives, often without consent or awareness. While it offers economic benefits and convenience, it also risks turning people into products, eroding privacy, autonomy, and even democracy itself. Addressing this challenge requires a united effort—by lawmakers, citizens, tech companies, and global institutions—to ensure that technology serves humanity, not the other way around.

3. Case Studies For Practice

Case Study 1: Ethical Dilemmas in the Digitization of MGNREGA

Mr. Himanshu, a newly recruited Development Officer, has been posted in a remote district to oversee the implementation of the MGNREGA scheme. In line with the government's vision of *Digital India*, a new attendance app has been introduced to track workers' attendance and compute their wages. However, the digitization drive has met with several operational and ethical roadblocks.

Issues Faced:

1. **Technical Glitches in the App:**
   a. The attendance app frequently malfunctions, leading to **inaccurate wage calculations** and **delayed payments**.
   b. This has caused **financial distress** among workers who depend on timely wages for basic sustenance.
2. **Worker Disillusionment:**
   a. The persistent payment issues have led to **loss of morale and motivation** among MGNREGA workers.
   b. Reduced enthusiasm and productivity are affecting the overall effectiveness of the scheme.
3. **Resistance from Contractors and Middlemen:**
   a. Local intermediaries, who previously manipulated the muster rolls for a commission, are now instigating workers against the new system.
   b. Their **vested interests** are threatened by the transparency of the digital platform, leading to **deliberate misinformation** campaigns.

Ethical Issues Involved:

1. **Exploitation and Economic Hardship:**
   a. The most vulnerable section—unskilled rural workers—is being deprived of their rightful earnings due to system errors.

   b. This violates principles of **justice and welfare** under a rights-based scheme like MGNREGA.
2. **Erosion of Trust in Governance:**
   a. Systematic glitches and payment delays diminish **citizens' faith** in the state's ability to deliver services.
   b. A weakening of the **social contract** undermines the democratic ethos of accountability and trust.
3. **Legitimization of Corrupt Practices:**
   a. Workers, who earlier received partial wages through intermediaries, now perceive the **corrupt manual system as more reliable**.
   b. This shift in perception threatens the values of **integrity and ethical governance**.
4. **Exclusion of the Digitally Marginalized:** The digital system unintentionally **excludes those without access to technology or digital literacy**, widening the rural-urban digital divide.
5. **Failure of Institutional Accountability:**
   a. The **Gram Panchayat and Ministry of Rural Development** are morally and administratively responsible for ensuring smooth functioning of welfare schemes.
   b. The app's failure reflects a **lack of preparedness and oversight**.

Suggested Measures to Resolve the Situation:

1. **Immediate Rectification and Technical Oversight:**
   a. The app development team must be held accountable and directed to **urgently resolve software bugs**.
   b. Establish a **technical grievance redressal mechanism** to ensure timely corrections.
2. **Human Interface for Verification:**
   a. Engage the **Panchayat Secretary or field-level officials** to cross-verify the attendance and payment records manually until the app stabilizes.
   b. Discrepancies should be corrected through **direct compensation** to affected workers.
3. **Appointment of a Local Digital Facilitator:**
   a. A **local educated youth** can be hired as a contractual overseer to monitor the digital attendance system.
   b. This creates local employment while ensuring **transparency and accountability**.
4. **Bridging the Digital Divide:**
   a. Conduct **training workshops** for workers and contractors to enhance **digital literacy**.
   b. Educating users will empower them to **identify and report errors** confidently.
5. **Institutionalizing Social Audits:**
   a. A **social audit committee** comprising local Panchayat members and community volunteers (with **diverse representation**) should be established.
   b. Their role would include **monitoring digital records, investigating complaints**, and ensuring ethical practices.
6. **Rebuilding Trust:**
   a. Mr. Himanshu should **initiate community meetings** to transparently explain the government's intention behind digitization and the steps being taken to address current issues.
   b. Reinforcing **citizen-government partnership** will restore faith in the system.

The success of *Digital India* lies not merely in the rollout of new technologies, but in **inclusive access**, **trust-building**, and **ethical implementation**. While digitization can enhance transparency, it must be backed by robust infrastructure and responsive governance.

In the words of Deendayal Upadhyay, *"Antyodaya leads to Sarvodaya."* Unless the **last person in the queue is empowered and heard**, the larger goals of good governance and inclusive growth will remain unfulfilled. Mr. Himanshu's ethical leadership, guided by empathy and accountability, can turn this crisis into an opportunity for transformative governance.

Case Study 2: Ethical Dilemma in Disaster Relief – Choosing Between Immediate Need and Long-Term Integrity

As the District Magistrate of a flood-ravaged district facing its worst natural disaster in decades, your primary duty is to ensure timely rescue, relief, and rehabilitation of affected citizens. Despite sincere efforts by the district administration, the **available resources are inadequate** to meet the growing needs of the population.

In response to your appeal, there is a **strong inflow of support** from civil society, philanthropists, and volunteers—bringing hope in a time of crisis. However, during the course of operations, it comes to light that

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certain well-funded groups, linked with liquor, sand, and land mafias, are actively distributing relief materials. These groups are suspected of using this humanitarian crisis as an opportunity to build goodwill with the public, **seeking future political favours**.

Although their funding sources are unproven and indirect, their presence raises concerns about **the long-term consequences** of accepting their help. Yet, given the shortage of resources, their assistance could make a significant difference to the people in distress.

A. Ethical Issues Involved:

1. **Means vs. Ends Dilemma:** Accepting help from groups backed by criminal elements may serve the immediate need of saving lives but violates ethical norms by using **tainted means for a noble end**.
2. **Misuse of Crisis for Personal Gain:** The attempt by such groups to gain **illegitimate political influence** during a humanitarian crisis is an **exploitative and unethical practice** that undermines the integrity of democratic processes.
3. **Moral Legitimacy and Accountability:** As a public servant, your **moral accountability lies not only in achieving results** but also in ensuring **ethical conduct and transparency** in the process.
4. **Trust and Public Perception:** Associating with questionable actors may erode public trust in the administration and **set a dangerous precedent** for future crises.
5. **Resource Scarcity vs. Ethical Governance:** There is a **moral conflict between the need to mobilize resources rapidly** and the duty to ensure that governance remains free from the influence of criminal or corrupt entities.

B. Course of Action:

1. **Maximize Ethical Resource Mobilization:**
   a. Strengthen and expand current efforts to draw support from:
      i. **Civil society organizations** and NGOs with transparent credentials.
      ii. **State and Central Government** emergency funds.
      iii. **Corporate donors and affluent individuals** with no vested interests.
   b. Establish a **public fund portal** with real-time transparency to encourage more donations from ethical sources.
2. **Leverage Community Participation:** Encourage **local volunteers and community leaders** to assist in distribution and monitoring to build ownership and **minimize dependence on dubious actors**.
3. **Set Clear Guidelines for External Assistance:**
   a. Issue a formal guideline that **all relief activities must be coordinated with the district administration** to ensure accountability and fairness.
   b. Implement **vetting mechanisms** to scrutinize donor backgrounds discreetly without public confrontation.
4. **If Tainted Help Becomes Unavoidable:**
   a. Accept assistance **only in kind**, not in cash, with **strict monitoring and zero branding**.
   b. Ensure that such actors **cannot use the situation for self-promotion or political advantage**.
   c. Maintain a clear public record of contributions to avoid any future claims of favours or quid pro quo.
5. **Preserve Ethical Integrity and Transparency:**
   a. Document every decision and ensure transparency in relief distribution.
   b. Communicate openly with the public regarding how funds and supplies are being sourced and used to **maintain trust in administration**.

In times of disaster, a public servant is tested not just by the ability to provide relief, but by the **wisdom to balance compassion with integrity**. While saving lives is paramount, allowing unethical actors to exploit tragedy for future gain can lead to **lasting damage to governance and society**.

A conscientious administrator must seek every possible ethical avenue before compromising on moral standards. Relief delivered with integrity strengthens public trust, while hasty decisions involving dubious partnerships can erode the very foundations of ethical governance.

Such dilemmas remind us that **leadership in crisis is not just about outcomes—but about the values that guide those outcomes.**

I. ESSAY

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"Human and Technical Intelligence: The Dual Force Against Terrorism for Global Peace"

"If you know the enemy and know yourself, you need not fear the result of a hundred battles."

— Sun Tzu, The Art of War

A single WhatsApp message can trigger panic in a city. A drone carrying a small payload can paralyze a military base. A teenager sitting in front of a screen can get radicalized thousands of miles away. This is the world we live in today — a world where terrorism does not always wear a uniform, follow a flag, or cross a visible border. It moves through ideas, money, code, and people. And to stop it, countries need more than just soldiers and weapons. They need ***intelligence — both from humans and from machines*** — that helps us to understand what's happening behind the scenes.

However, *Terrorism has become smarter and more complex.* It does not always happen in war zones anymore. For example, 22 April 2025 was supposed to be a peaceful holiday. Tourists were enjoying the green meadows of **Baisaran Valley in Pahalgam, Jammu and Kashmir,** when gunshots shattered the calm. Armed Terrorists were dressed in military-style uniforms and began firing at unarmed Indian civilians. They asked names and religions, and then killed without mercy. 26 people died — including a local Muslim man who tried to stop the attackers. The terrorist group The Resistance Front, linked to Lashkar-e-Taiba, later claimed responsibility. In a world that is already divided and anxious, such attacks remind us of a harsh truth: terrorism still thrives, and no place is completely safe.

From the ***Paris attacks in 2015*** to the ***Sri Lanka Easter bombings in 2019***, and even the ***Pulwama attack in 2019*** in India, we have seen how fast and unpredictable terror strikes can be. In all these cases, the attackers planned carefully, moved silently, and used modern tools to stay hidden. That's why it's no longer enough to react after something bad happens — we must know in advance, and act before it's too late.

This is where Human Intelligence, or HUMINT, plays a key role. It means *gathering information through people* — like informers, undercover agents, or even regular citizens who report something suspicious. For example, in 2023, Indian agencies caught a terrorist module in Jammu and Kashmir after receiving tips from locals who noticed unusual activity. These small clues, when passed on at the right time, can save many lives. Human intelligence works well because humans can pick up on emotions, intentions, and hidden meanings — something technology still struggles to do.

But humans alone can't cover everything. Today's terrorists use ***encrypted apps, digital payments, and fake online identities***. Some operate in cyberspace more than in real space. That's where Technical Intelligence, or TECHINT, becomes essential. It includes tracking phones, intercepting messages, analyzing satellite images, or using artificial intelligence to find patterns in large data sets. In 2024, Indian agencies used drone footage and phone data to trace Amritpal Singh, a fugitive linked to Khalistani extremism. It was a perfect example of how TECHINT adds speed and scale to the hunt.

"The modern terrorist is not just a man with a gun — he may also be a coder with Wi-Fi."

Still, the most effective strategy is when human and technical intelligence work together. One without the other often leaves gaps. The ***US operation that killed Osama bin Laden in 2011*** succeeded because human sources tracked his couriers for years, and satellites helped confirm his hideout. *In India, the 2023 G20 Summit was secured using both crowd surveillance through facial recognition cameras and manual monitoring by intelligence officers*. This combined approach allows governments to act smartly and prevent damage before it's done.

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However, intelligence alone cannot create peace. Terrorism grows where there is anger, injustice, or a feeling of being ignored. ***In Africa's Sahel region,*** *terrorist groups keep gaining ground not just because of weapons, but because people there feel neglected and have no faith in the government.* Similarly, some Indian youths who joined ISIS online did so because they felt isolated or angry, and someone on the internet gave them a false sense of purpose. To stop terrorism for good, countries must fix these emotional and social gaps.

That's why many nations are now trying to stop terrorism before it starts — by using intelligence to not just catch terrorists, but also stop people from turning into terrorists. India's ***"De-radicalization Centres"*** help bring back young people who were misled. Programs like "Operation Sadbhavana" in Kashmir use education and community outreach to give youth better choices. These ideas are just as important as catching someone with a bomb.

> *"Peace cannot be kept by force; it can only be achieved by understanding."*
>
> *— Albert Einstein*

Another big part of fighting terrorism is working with other countries. Terrorists don't respect borders, so intelligence must also travel across borders. India has signed intelligence-sharing deals with countries like the US, Australia, and the UK. *In 2024, Indian and British agencies together stopped a cyberattack planned by pro-Khalistan groups.* Global bodies like INTERPOL and FATF also help nations share data, track funds, and stop terror networks.

But there's a challenge: not every country agrees on who is a terrorist. Sometimes, a country may protect a group that targets another nation, for political reasons. Pakistan's support to certain terror outfits is a well-known example that hurts South Asia's security. China blocking UN efforts to blacklist global terrorists like Masood Azhar also shows how politics can come in the way of justice. Until the world agrees on a common definition and standard for terrorism, cooperation will always be incomplete.

At the same time, intelligence must be used carefully. Surveillance and spying can help stop attacks, but they can also invade people's privacy. The Pegasus spyware controversy showed how intelligence tools can be misused. If governments use intelligence to target journalists or political opponents, they risk becoming what they are fighting against. The goal should always be to protect people — not control them.

> *"He who fights with monsters should look to it that he himself does not become a monster."*
>
> *— Friedrich Nietzsche*

In the end, terrorism is not just a security issue — it's a test of our values, our systems, and our global unity. Human and technical intelligence give us the tools to win the fight, but the real victory lies in building a world where terrorism has no space to grow. That means listening to people, solving problems, promoting justice, and staying alert — both on the ground and online.

> *"If you know yourself but not the enemy, for every victory gained you will also suffer a defeat."*
>
> *— Sun Tzu*

So, to truly win, we must know both — the enemy, and ourselves. Intelligence is not just about spying or secrets. It is about awareness, understanding, and using knowledge wisely. In the battle between fear and peace, information is our strongest weapon — and wisdom, our greatest guide.

J. SCHEME

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1. Seven Years of Stand-Up India Scheme (2016-25)

1. The **Stand-Up India (SUI) Scheme** was launched on **April 5, 2016** by the **Ministry of Finance** under the **Azadi Ka Amrit Mahotsav** program.
2. It completed **7 successful years** on **April 5, 2025**, empowering SC, ST, and women entrepreneurs across India.
3. The scheme is anchored by the **Department of Financial Services (DFS)**, Ministry of Finance, Government of India.

Objective of the Scheme

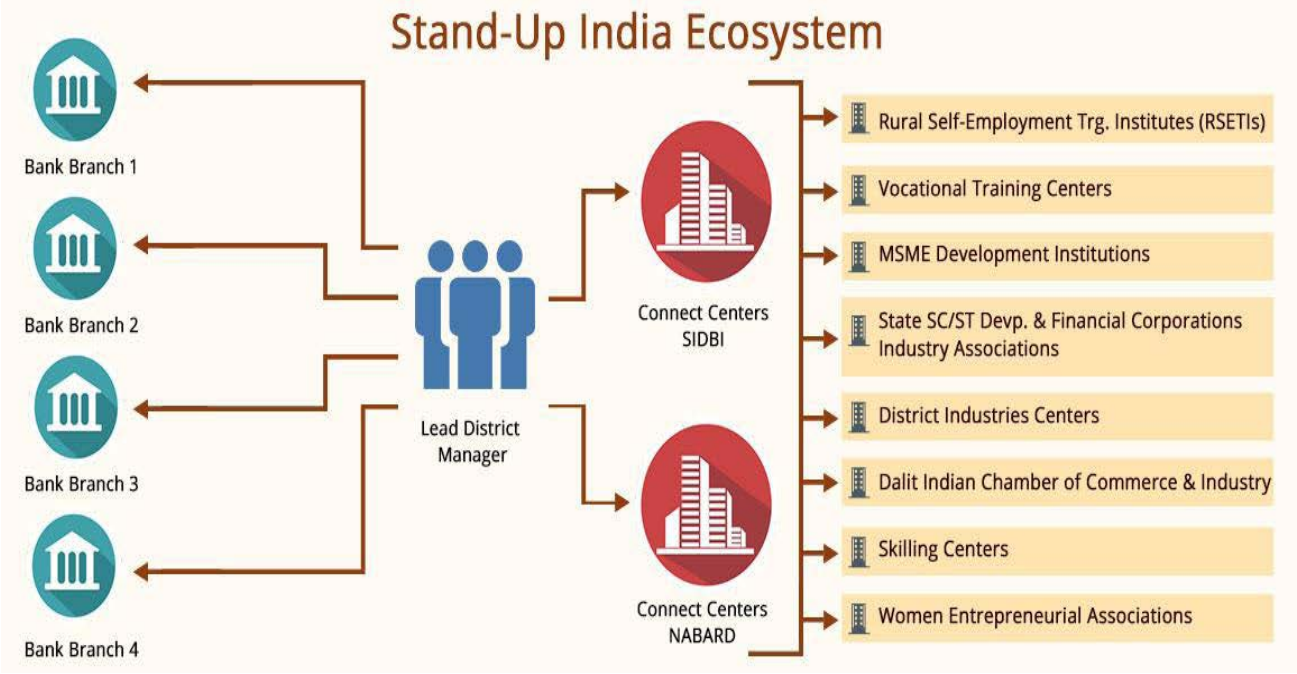
1. To **promote entrepreneurship** among **Scheduled Castes (SCs), Scheduled Tribes (STs), and women**.
2. To **facilitate bank loans** for setting up **greenfield enterprises** in manufacturing, services, or trading sectors.

Growth and Achievements (2016–2025)

1. **Total Loan Sanctioned**: ₹16,085.07 crore (as on March 31, 2019) → ₹61,020.41 crore (as on March 17, 2025)
2. **Loan Accounts Growth**:
   a. **SC Entrepreneurs**:
      i. Accounts increased from **9,399** to **46,248**
      ii. Loans rose from **₹1,826.21 crore** to **₹9,747.11 crore**
   b. **ST Entrepreneurs**:
      i. Accounts increased from **2,841** to **15,228**
      ii. Loans rose from **₹574.65 crore** to **₹3,244.07 crore**
   c. **Women Entrepreneurs**:
      i. Accounts increased from **55,644** to **1,90,844**
      ii. Loans rose from **₹12,452.37 crore** to **₹43,984.10 crore**

Key Features of the Scheme

1. **Loan Purpose & Target Beneficiaries**
   a. To provide **composite bank loans** for **setting up new (greenfield) enterprises**.
   b. Targets at least **one SC/ST borrower** and **one woman borrower** per bank branch.
2. **Eligibility Criteria**
   a. SC/ST and/or women entrepreneurs aged **above 18 years**.



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b. Loans applicable **only for greenfield projects** (first-time ventures in manufacturing, services, or trading).
c. For **non-individual enterprises**, **51% of shareholding** and **controlling stake** must be held by SC/ST and/or woman entrepreneurs.
d. The borrower should **not be in default** to any bank or financial institution.

3. **Loan Details**

Feature	Details
Loan Type	Composite loan (Term loan + Working capital)
Loan Size	₹10 lakh to ₹1 crore
Coverage	Typically up to **75% of project cost**, inclusive of term loan & working capital
Borrower Contribution	Minimum **10% of project cost** as own contribution
Interest Rate	Lowest applicable bank rate (not exceeding MCLR + 3% + tenor premium)
Security	Primary security + collateral/ CGFSIL guarantee as per bank norms
Repayment Period	Up to **7 years**, with **maximum 18 months moratorium**

Special Features

1. **Credit Guarantee Fund Scheme for Stand-Up India Loans (CGFSIL)** helps banks cover credit risk.
2. **RuPay debit cards** help facilitate easy withdrawal and working capital use.
3. Promotes **financial inclusion**, **job creation**, and **inclusive economic growth**.

2. Jal Jeevan Mission Faces Funding Cuts

1. In April 2025, the **Expenditure Finance Committee (EFC)** under the Ministry of Finance (MoF) recommended a significantly **lower central share for the Jal Jeevan Mission (JJM),** reducing it to **Rs 1.51 lakh crore for the period up to 2028.**
   - Notable, JJM extended till 2028 with enhanced Budget outlay in Union Budget 2025-26
2. This recommended amount is **approximately 46% lower than** what was sought by the Ministry of Jal Shakti, raising concerns about the future progress of water supply schemes, especially in rural areas.

What Are the Consequences of the Recent EFC Recommendation?

The **lower central share (Rs 1.51 lakh crore)** could impact state-level implementation, especially in resource-stretched or high-population states.

Estimated shortfalls due to the reduced allocation:

- **Tamil Nadu**: Rs 21,232 crore
- **Bihar**: Rs 7,500 crore
- **Assam**: Rs 2,991 crore
- **Maharashtra**: Rs 641 crore
- **UP, Rajasthan, MP (combined)**: ~Rs 50,000 crore

This could significantly **delay infrastructure** rollout in remote and underserved rural regions.

What Are the Ministry's Options?

Since **EFC recommendations are not binding**, the **Ministry of Jal Shakti** has several avenues:

1. Appeal to the **Finance Minister** for reconsideration
2. Seek help from the **Cabinet Secretariat**
3. Approach the **Union Cabinet**, which has final authority to approve or modify the funding share

When and Why Was Jal Jeevan Mission Launched?

1. The **Jal Jeevan Mission** was launched by **Prime Minister Narendra Modi on August 15, 2019**, with the ambitious goal of providing **Functional Household Tap Connections (FHTCs)** to **all rural households by 2024**.
2. At the time of launch:
   - Only **3.23 crore** households had tap connections
   - Roughly **81.67%** of India's **17.87 crore** rural households lacked access to piped water

What Was the Initial Financial Plan?

1. The mission had a projected outlay of **Rs 3.60 lakh crore**, broken down as:
   a. **Rs 2.08 lakh crore** from the **Centre**
   b. **Rs 1.52 lakh crore** from **State governments**

2. The fund-sharing ratio:
    a. **90:10** for Himalayan (Uttarakhand, Himachal Pradesh) and North-Eastern States.
    b. **100%** for UTs.
    c. **50:50** for rest of the States.

Data: -

- **As of now (April 2025) , Eight States and three Union Territories** have achieved **100 per cent household water connections** under Jal Jeevan Mission, which includes- Goa, Andaman & Nicobar Island, Dadar & Nagar haveli and Daman & Diu, Haryana, Telangana, Puducherry, Gujarat, Punjab, Himachal Pradesh, Arunachal Pradesh and Mizoram.
- In October 2020, **Goa became the first state** in India to provide 100% tap water connections to all rural households. This achievement was recognized.

What Is the Core Strategy and Focus?

1. The mission focuses on creating **in-village piped water infrastructure** for each rural household, ensuring **55 litres per capita per day (lpcd)** of potable water as per **BIS standard IS:10500**.
2. It adopts a **community-based approach**, incorporating:
    a. Greywater management
    b. Rainwater harvesting
    c. Water source sustainability
    d. **Information, Education, and Communication (IEC)** to promote public participation

How Are States and Communities Involved?

1. States and Union Territories are responsible for preparing their own **drinking water security strategies**, with institutional frameworks that prioritize **service delivery and financial sustainability**.
2. **Gram Panchayats and local communities** are empowered to:
    a. Plan and implement water schemes
    b. Operate and maintain local water systems
    c. Contribute through **cash, kind, or shramdaan (voluntary labor)**
3. The mission also covers public institutions such as **schools, anganwadi centres, health centres**, and **Gram Panchayat buildings**.

What Are the Broader Objectives?

The mission's goals include:

1. Universal rural tap water coverage
2. Special focus on **quality-affected, drought-prone, and desert areas**
3. Prioritization of **Sansad Adarsh Gram Yojana (SAGY)** villages
4. Ensuring **long-term functionality** and **sustainability** of tap connections

How Does It Ensure Long-Term Water Security?

To ensure durability and resilience:

1. **Water source protection**, infrastructure maintenance, and **O&M budgeting** are mandated
2. **Human resource training** is promoted in areas like plumbing, water testing, and treatment
3. **Public awareness campaigns** make water conservation a **shared responsibility**

What Are the Key Infrastructure Components?

Supported infrastructure and interventions include:

1. **Bulk water transfer projects**, treatment plants, and distribution networks
2. **Retrofitting of old schemes** to meet the 55 lpcd norm
3. **Technology solutions** for tackling water contamination
4. **Greywater management** and local employment through **skill training programs**

The ultimate aim is to **improve public health** by reducing **water-borne diseases** through access to safe drinking water.

What is the Jal Jeevan Mission (Urban)?

1. In the **Budget 2021-22**, **Jal Jeevan Mission (Urban)** was announced under the MInistry of Housing of Urban Affairs to provide universal coverage of water supply to all households through functional taps in all statutory towns in accordance with **Sustainable Development Goal- 6.**
2. It complements the **Jal Jeevan Mission (Rural)** which envisages supply of 55 litres of water per person per day to every rural household through Functional Household Tap Connections (FHTC) by 2024.
3. **Objectives of Jal Jeevan Mission (Urban):**
    a. Securing tap and sewer connections.
    b. Rejuvenation of water bodies.
    c. Creating circular water economy.

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3. Ten years of the Pradhan Mantri MUDRA Yojana (PMMY)

PMMY, the Flagship Programme of the Prime Minister aimed at **Funding the Unfunded** micro enterprises and small businesses completes 10 years.

About PMMY

1. PMMY a Central Sector Scheme, launched in **2015** for providing loans (i.e., MUDRA loans) to the **non-corporate, non-farm small/micro enterprises.**
2. PMMY ensures **collateral-free institutional credit** up to Rs 20 lakh is provided by Member Lending Institutions (MLIs).
   - MLIs are Scheduled Commercial Banks, Regional Rural Banks, Non-Banking Financial Companies & Micro Finance Institutions.
3. **Types of Loans Provided**
   a. **Shishu:** Loans up to Rs 50,000
   b. **Kishor:** Loans between Rs 50,000 and Rs 5 lakh
   c. **Tarun:** Loans between Rs 5 lakh and Rs 10 lakh
   d. **Tarun Plus**: Loans above Rs. 10 lakhs and upto Rs. 20 lakhs.

Achievements of PMMY

1. **Entrepreneurship Revolution:** MUDRA laid the foundation for a new era of grassroots entrepreneurship. PMMY has sanctioned over **52 crore loans** worth **₹32.61 lakh crore**.
2. **MSMEs Funding:** MSME lending surged from **₹8.51 lakh crore in FY14** to **₹27.25 lakh crore in FY24**, & is projected to **cross ₹30 lakh crore in FY25**.
3. **Women Empowerment:** Women account for **68 %** of all Mudra beneficiaries, underscoring the scheme's pivotal role in advancing **women-led enterprises** across the country**.**
4. **Financial Inclusion: 50% of Mudra accounts** are held by **SC, ST & OBC entrepreneurs**. Furthermore, **11 % of Mudra loan holders** belong to **minority communities.**

4. Zero Poverty Uttar Pradesh Campaign

1. On **Dr. B.R. Ambedkar's birth anniversary (14 April, 2025)** , the Uttar Pradesh (U.P) government officially renamed the Zero Poverty Uttar Pradesh campaign as:**"Baba Saheb Dr. Bhimrao Ambedkar Zero Poverty Programme"**
2. **Reason for Renaming:**
   a. Dr. Ambedkar symbolized **educational, social, and economic upliftment** of the marginalized.
   b. As the **chief architect of the Indian Constitution**, first Law Minister of India, and a **Dalit icon**, the naming is seen as a tribute to his legacy of social justice.

Background and Launch

1. On the occasion of **Gandhi Jayanti (October 2, 2024)**, the U.P **Government of Uttar Pradesh (UP)** announced a bold and time-bound mission to **eliminate extreme poverty from the state within one year**.
2. This historic move reflects:
   a. The **government's strong resolve and commitment** to inclusive development.
   b. Its **confidence in the successful execution** of the campaign.
   c. The presence of a **methodologically sound and tech-driven strategy**.

Objective of the Campaign

1. To ensure **no individual in Uttar Pradesh is deprived of basic amenities**.
2. To **link the poorest and most marginalized communities** to **all relevant government welfare schemes**.
3. To uphold the philosophy of **"no person left behind"** by focusing on last-mile delivery.

Strategy and Implementation

1. **Three-Tier, Technology-Driven Identification Process**
   a. A **transparent and disciplined methodology** has been adopted using **end-to-end digitized systems**.

b. **Automated vulnerability-rating systems** will finalize the identification of extremely poor families in each **Gram Panchayat** based on tangible socio-economic indicators.

2. **Village-Level Committees for Onsite Verification: Committees** will be formed to:
   a. Verify the selected families.
   b. Recommend genuine cases for inclusion.
   c. Ensure **community participation and transparency** in the process.

Targeted Households and Beneficiaries

1. In each **Gram Panchayat**, around **20–25 ultra-poor families** will be identified who are still deprived of basic government facilities.
2. **In the first phase**, the campaign aims to cover **14–15 lakh families** across the state.

Priority Communities

The scheme gives **special focus** to: **Musahar**, **Tharu**, **Vantangiya**, **Kol**, **Buksa**, **Chero**, **God** and **Saharia**

These are among the most **marginalized tribal and vulnerable communities** in Uttar Pradesh.

Benefits to Be Provided

Each identified family will be linked to the following government schemes and facilities:

1. Pradhan Mantri Awas Yojana (Housing)
2. Toilets (under Swachh Bharat Mission)
3. Drinking water and electricity
4. LPG gas connections (under Ujjwala Yojana)
5. Ayushman Bharat health insurance cards
6. Old age, widow, and disability pensions

Community Engagement and Institutional Strengthening

1. The programme promotes **collaborative participation** from:
   a. Private sector
   b. Corporate Social Responsibility (CSR) initiatives
   c. Banks and financial institutions
   d. Civil society organizations
2. The aim is to **mobilize partnerships across all sectors** to support the state's vision of inclusive and sustainable poverty eradication.

Data and Relevance

1. According to **NITI Aayog's Multidimensional Poverty Index (2021)**:
   a. UP had the **second-highest number of multidimensionally poor people** in India, after Bihar.
   b. The State's efforts to **fast-track poverty elimination** is key to India's overall SDG performance.
2. **Uttar Pradesh** is home to **~240 million people**—any impactful policy here has **national implications.**

Sustainable Development Goals (SDGs) Alignment

This campaign directly contributes to several United Nations SDGs:

SDGs No.	Goal	Alignment
1	No Poverty	Elimination of extreme poverty within one year
2	Zero Hunger	Linking with food and nutrition security schemes
3	Good Health and Well-being	Ayushman Bharat for universal health coverage
4	Quality Education	Indirectly supports access through stability and basic security
6	Clean Water and Sanitation	Access to toilets and drinking water
7	Affordable and Clean Energy	LPG gas and electricity for every household
10	Reduced Inequality	Focus on most marginalized communities
17	Partnerships for the Goals	Multi-stakeholder collaboration encouraged

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5. Cabinet Approves M-CADWM as Sub-Scheme under PMKSY

1. The Union Cabinet has approved **Modernization of Command Area Development and Water Management (M-CADWM)** as a **sub-scheme of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)** for **2025–2026**.
2. It aims to **modernize irrigation water supply networks** and create a **robust backend infrastructure** for **micro-irrigation**.
3. The scheme has an **initial total outlay of ₹1600 crore**.

Objective of M-CADWM

1. To **modernize irrigation systems** that supply water from **existing canals or other sources** in **designated clusters**.
2. To ensure **last-mile connectivity** with **pressurized underground piped irrigation** from source to farm gate (up to 1 hectare).
3. To enhance **Water Use Efficiency (WUE)** at the farm level, thereby improving **agricultural productivity** and **farmers' income**.

Key Features of M-CADWM

1. **Modern Irrigation Infrastructure**
   a. **Underground pressurized piped irrigation systems** up to 1 hectare.
   b. Supports **micro-irrigation readiness** from the backend to the farm gate.
2. **Advanced Technology for Water Management:** Deployment of **SCADA (Supervisory Control and Data Acquisition)** and **Internet of Things (IoT)** for:
   a. Real-time **water accounting**.
   b. Efficient **water distribution and monitoring**.
3. **Sustainable Irrigation Governance**
   a. Adoption of **Irrigation Management Transfer (IMT)** to **Water User Societies (WUS)** for local management of irrigation infrastructure.
   b. WUSs to receive handholding support for 5 years and will be linked to:
      - **Farmer Producer Organizations (FPOs)**.
      - **Primary Agricultural Credit Societies (PACS)** and other economic entities.
4. **Youth-Oriented Approach:** Encourages **youth participation** in agriculture by introducing **modern, tech-enabled irrigation practices**.
5. **Pilot Implementation**
   a. Pilot projects will be initiated through **challenge funding** across various **agro-climatic zones** of the country.
   b. Learnings will help in formulating a **National Plan for Command Area Development and Water Management** under the **16th Finance Commission period from April 2026**.

Background: What is the CADWM Programme?

1. **Genesis & Evolution**
   a. Launched as **Command Area Development (CAD)** in **1974-75**.
   b. Restructured in **2004** and renamed as **Command Area Development and Water Management (CADWM)**.
   c. Implemented under **PMKSY-Har Khet Ko Pani** since **2015-16**.
2. **Objectives**
   a. To ensure **effective utilization of irrigation potential created**.
   b. To **increase agricultural productivity** through both **structural** and **non-structural interventions**.
3. **Components**
   a. Structural Interventions:
      - On-Farm Development (OFD) works.
      - Construction of **field, intermediate, and link drains**.
   b. Non-Structural Interventions:
      - **One-time Functional Grant** to registered **Water Users' Associations (WUAs)**.
      - **Training, demonstrations**, and **adaptive trials** for improving **water use efficiency**.

About Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

1. Launched in **2015-16**.
2. **Aims to:**
   a. Expand **cultivable area under assured irrigation**.
   b. Improve **on-farm water use efficiency**.
   c. Promote **water conservation** and ensure **"Har Khet Ko Pani"**.

6. Delhi Joins Ayushman Bharat PM-JAY

1. On April 5, 2025, Delhi officially became the **35th State/Union Territory** to implement the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).
2. A Memorandum of Understanding (MoU) was signed between the **National Health Authority (NHA)** and the **Government of Delhi**.
3. This move brings Delhi into the fold of the **world's largest health assurance scheme**, aiming to deliver comprehensive healthcare to India's most vulnerable citizens.

What is Ayushman Bharat PM-JAY?

1. The **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY)** is a **flagship healthcare initiative** launched by the Government of India on **September 23, 2018**, by **Prime Minister Narendra Modi**.
2. It is a part of the broader **Ayushman Bharat Mission** aimed at achieving **Universal Health Coverage (UHC)** by addressing both primary and secondary healthcare needs of citizens.
3. The scheme was formerly known as the **National Health Protection Scheme (NHPS)** and has subsumed the **Rashtriya Swasthya Bima Yojana (RSBY)** launched in 2008.

Who Are the Beneficiaries?

1. PM-JAY targets the **poorest and most vulnerable sections** of the population.
2. It aims to cover around **12 crore families**, which accounts for approximately **55 crore beneficiaries**—prioritizing the **poorest 40%** of the Indian population.
3. Beneficiaries are primarily identified using data from the **Socio-Economic Caste Census (SECC) 2011** for both **rural and urban areas.**
4. Additionally, families previously enrolled under **RSBY** but not listed under SECC-2011 are also eligible.
5. Notably, the scheme includes **36 lakh frontline workers**, including **ASHAs** and **Anganwadi workers**, recognizing their critical role in the healthcare ecosystem.

Key Features of PM-JAY

1. Under PM-JAY, each eligible family receives **health coverage of ₹5 lakh per year** for **secondary and tertiary care hospitalization**. There is **no cap on family size, age, or gender**, and all **pre-existing conditions** are covered **from day one**.
2. The scheme covers **1,929 medical procedures**, including surgeries, diagnostics, and medications. It also provides **3 days of pre-hospitalization** and **15 days of post-hospitalization expenses**.
3. Healthcare services are **cashless and paperless**, available at **empaneled public and private hospitals** across the country through a system of **nationwide portability**.

Implementation and Funding

PM-JAY is implemented under a **centrally sponsored scheme model**, with funding shared between the **Centre and the States**:

1. **General States**: 60:40 ratio
2. **North-Eastern and Himalayan States**: 90:10 ratio
3. **UTs with legislature**: 60:40
4. **UTs without legislature**: 100% Central funding

The scheme is administered by the **National Health Authority (NHA)**, an autonomous body under the **Ministry of Health and Family Welfare**, chaired by the union Health minister.

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At the state level, the **State Health Agency (SHA)** oversees implementation, and at the district level, the **District Implementing Unit (DIU)**—chaired by the DC/DM—manages the rollout.

Modes of Implementation

1. States can choose from **three models** to implement PM-JAY:
   a. **Insurance Model**: SHA pays premiums to insurance companies.
   b. **Trust/Assurance Model**: SHA directly reimburses hospitals.
   c. **Mixed Model**: A combination of both approaches.
2. The scheme employs **Aadhaar-based digital identification**, offering **e-KYC, fingerprint, iris scan, and face authentication** to ensure transparency.
3. Additionally, the **Whistleblower Policy**, **Anti-Fraud Cells**, and surprise inspections at hospitals help curb fraud and misuse.

Health and Wellness Component: Ayushman Arogya Mandirs

1. In addition to PM-JAY, the Ayushman Bharat Mission includes the creation of **1.5 lakh Ayushman Arogya Mandirs (formerly known as Health and Wellness Centres or AB-HWCs)**.
2. These centres are envisioned to deliver **Comprehensive Primary Health Care (CPHC)**, which is **universal and free to users**.
3. These centres expand beyond maternal and child health to include services like **non-communicable disease management, mental health support, oral, eye and ENT care, palliative care**, and more.
4. This aligns with the vision of **preventive and promotive healthcare**, bringing essential services closer to communities.
5. The funding for these centres is facilitated through the **National Health Mission (NHM)**.

Recent Initiative: Ayushman Bhava Campaign

1. To enhance outreach and saturation of health services, the government launched the **Ayushman Bhava Campaign** with the goal of ensuring **no citizen is left behind**. The campaign includes:
   a. **Ayushman Apke Dwar 3.0**: Doorstep delivery of AB-PMJAY cards
   b. **Ayushman Melas**: Health camps at Health and Wellness Centres (HWCs) and Community Health Centres (CHCs)
   c. **Ayushman Sabhas**: Community-level meetings in every village and panchayat
2. These grassroots activities aim to spread awareness and increase enrollment and utilization of services.

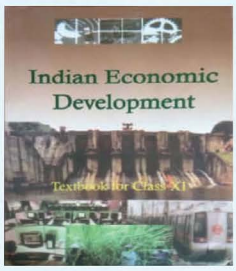
Challenges in Implementation

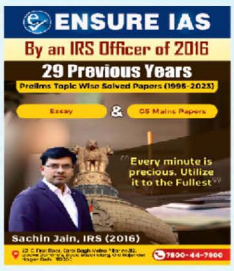
1. Despite its scale and ambition, PM-JAY faces several challenges:
   a. **Fraud and misuse** of benefits in certain regions
   b. **Low awareness** among eligible beneficiaries
   c. **Limited participation** from private hospitals due to pricing and payment delays
2. Addressing these issues is essential to ensure the scheme's long-term success and credibility.

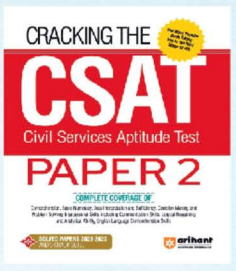
The inclusion of Delhi into the Ayushman Bharat PM-JAY network represents a significant stride toward **Universal Health Coverage** in India. As the world's **largest health assurance scheme**, it holds immense potential to transform India's healthcare landscape—especially for the underprivileged.

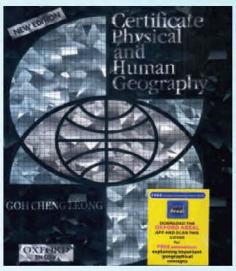
By ensuring **cashless, paperless, and portable healthcare access**, Ayushman Bharat not only reduces the financial burden on the poor but also brings quality healthcare within reach of millions. Its integration with wellness initiatives further strengthens India's vision of **"Swasth Bharat, Samriddh Bharat"**—a healthy and prosperous India.

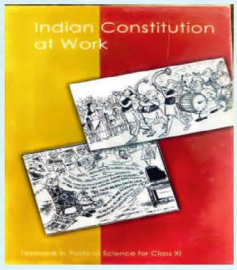
New List of Books to be provided to our classroom students since December 2023

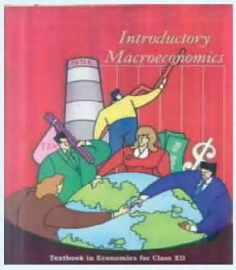


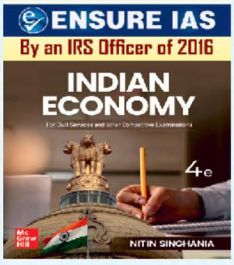


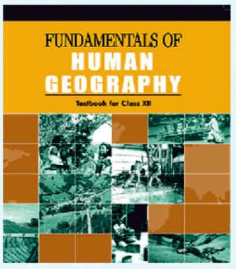


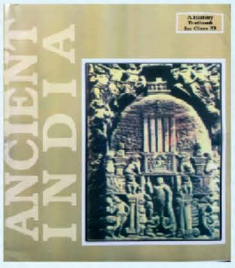


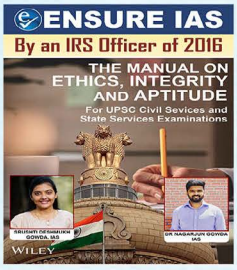


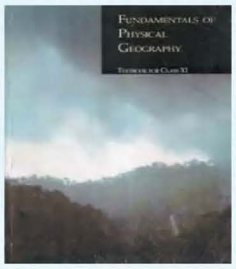


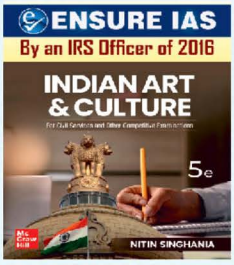


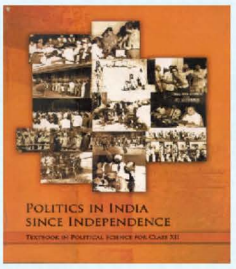


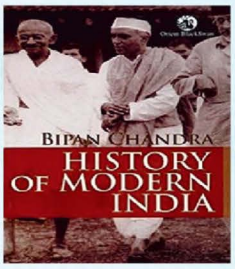


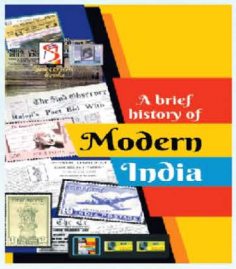


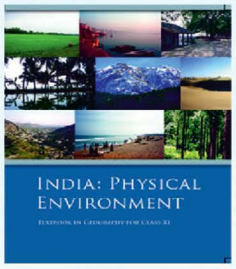


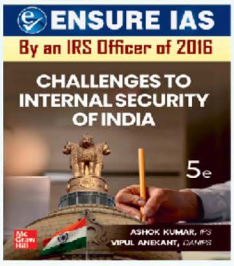


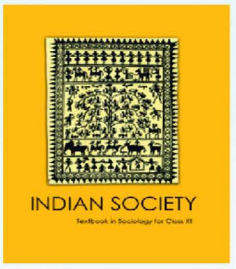


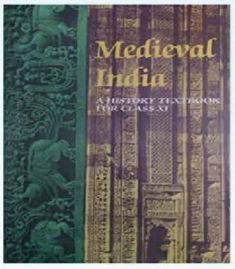


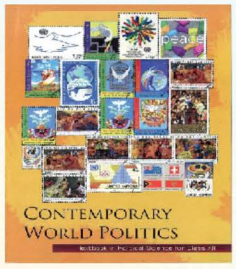


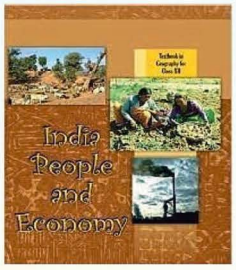


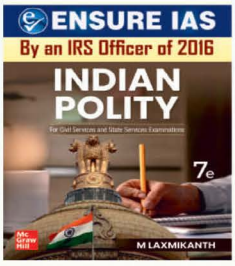


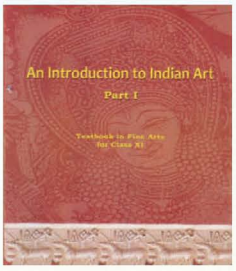


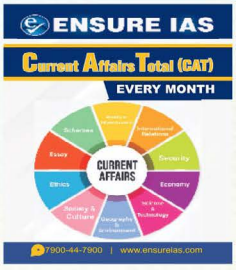












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