

## Today's Prelims Topics

### Wetland City Accreditation

#### Context

Indore and Udaipur have become the **first two Indian cities** to join the global list of wetland accredited cities.

#### About Wetland City Accreditation

- It is a voluntary accreditation system that allows cities to gain international recognition for their wetland conservation efforts.
- It was launched in 2015 at **COP12 (Uruguay) of the Ramsar Convention**.
- It recognizes cities that have taken exceptional steps to safeguard their urban wetlands.
- **Validity:** Once granted, it is valid for a period of **6 years**.
- **Criteria for Accreditation** - Cities must satisfy six international criteria, including:
  - Adopting measures for wetland conservation and wise use.
  - Promoting ecosystem services provided by wetlands.
  - Maintaining sustainable socio-economic practices linked to wetlands.
  - Engaging local communities in conservation.
  - Addressing concerns related to wetland degradation.
  - Protecting both natural and human-made wetlands.

#### Latest Addition from India:

- **Indore, Madhya Pradesh:** Recognized for **Sirpur Lake**, a Ramsar site developed as a bird sanctuary and water bird congregation zone.
- **Udaipur, Rajasthan:** It is known for its interconnected wetlands, including **Pichola, Fateh Sagar, Rang Sagar, Swaroop Sagar, and Doodh Talai**, which support biodiversity and eco-tourism.

#### Ramsar Convention

- It is an intergovernmental treaty under UNESCO.
- Provides the framework for the conservation and wise use of wetlands and their resources.
- It was signed in Ramsar (Iran) on February 2, 1971.
- **Partners to Ramsar Convention:** Birdlife International, IUCN, Wetlands International, WWF., International Water Management Institute, Wildfowl and Wetlands Trust.
- India joined the Ramsar Convention in **1982**.

#### Source:

- [Times of India - Wetland accredited cities](#)

## SEBI's Proposed "When-Listed" Platform for Pre-Listing Trading

### Context

SEBI is planning to introduce a "when-listed" platform to regulate the trading of shares in the period between the allotment of shares after an **Initial Public Offering (IPO) bid closure** and the official listing on stock exchanges.

### About "When-Listed" Platform

- It will allow trading of newly allotted but **yet-to-be-listed shares** in a **regulated manner**.
- It aims to **curb grey market activity**, which is the **unofficial and unregulated** trading of shares before they are listed.
- According to the SEBI **Chairperson**, the move will provide a formal alternative to "**kerb trading**" (**grey market trading**) and bring transparency to the process.

### Grey Market & Its Impact

- The **grey market** refers to an **unofficial cash market** where shares of an upcoming IPO are traded before official listing.
- Trading in the grey market happens based on **demand and supply** principles.

### How Grey Market Trading Works:

- When a company announces an **IPO**, grey market brokers start operating.
- The IPO price band is **fixed** (e.g., ₹90-100 per share).
- A **premium** (e.g., ₹10, ₹20, ₹30) is added based on **demand expectations**.
- Investors **bid** for shares in the grey market before allotment.
- On **listing day**, if the stock opens higher than the grey market price, grey market operators **pay the profit** to the investors.
- If the stock **falls below** the purchase price, the **investor incurs a loss**.

### Issues with Grey Market Trading:

- **Unregulated & Risky**: No legal oversight, leading to potential fraud and unfair practices.
- **Speculative & Volatile**: Can create misleading price expectations.
- **Retail Investor Risk**: Many small investors rely on grey market premiums to decide on IPO investments.

### Current IPO Timeline & SEBI's Concerns

- The existing **T+3 IPO listing system** works as follows:
  - **T (IPO Closure Day)**: IPO subscription closes.
  - **T+1**: Allotment of shares takes place.
  - **T+3**: Shares officially listed on stock exchanges.
- **Problem**:
  - During the **gap between T+1 and T+3**, grey market trading booms.
  - SEBI believes **investors should trade in a regulated space** instead of engaging in **kerb trading**.
- **How Will the "When-Listed" Platform Work?**
  - Once IPO shares are **allotted (T+1)**, investors can start **officially trading them** on the "when-listed" platform.
  - It will **eliminate grey market dependency** by providing a **regulated environment** for pre-listing trades.

### Source:

- [Indian Express - When listed platform](#)

## Why Greenland's crystal blue lakes have turned brown

### Context

According to a recent study published in the *Proceedings of the National Academy of Sciences* over **7,500 lakes in western Greenland** have turned brown.

### What Triggered This Transformation ? - Unusual Weather Patterns in 2022:

- **Greenland typically receives snowfall from late August to September.**
- But, in **2022, warmer temperatures caused rainfall instead of snow**, leading to drastic environmental changes.
- **Heavy rainfall washed carbon, iron, magnesium and other elements into lakes**, altering their physical and chemical composition.
- **Increased heat** also thawed **permafrost**, which stores **organic carbon** and various minerals

### Consequences of This Environmental Shift

- **Water Quality Decline:** Increased organic material in lakes **affected their taste, odour and colour.**
- **Reduced Sunlight Penetration:**
  - The darkening of lakes **blocked sunlight**, disrupting the ecosystem.
  - **Phytoplankton**, which play a critical role in **absorbing carbon dioxide**, were negatively impacted.
  - This **reduced CO<sub>2</sub> absorption capacity**, making lakes less effective as carbon sinks.
- **Shift from Carbon Sink to Carbon Source:**
  - The lakes, which previously absorbed carbon, **began releasing it instead.**
  - **Carbon emissions from lakes increased by 350%** due to the **breakdown of organic material.**

### Role of Atmospheric Rivers:

- Atmospheric rivers are **long, narrow bands of moisture** in the atmosphere that transport large amounts of water vapor from the tropics.
- They are sometimes called "**rivers in the sky**" and are responsible for significant precipitation events.
- **Climate Change Impact on Atmospheric Rivers:**
  - A **2018 NASA study** has predicted that **atmospheric rivers will become more intense, longer, and wider** due to rising global temperatures.
  - **By the end of the 21st century**, atmospheric rivers could become **50-290% more frequent** in regions like **Greenland, western North America, East Asia, western Europe and Antarctica** (Phys.com report).

### Source:

- [Indian Express - Greenland's crystal blue lakes](#)

## The impact of classifying denotified tribes

### Context

The Anthropological Survey of India (AnSI) and Tribal Research Institutes (TRI) have classified 268 denotified, semi-nomadic, and nomadic tribes for the first time.

### About Denotified Tribes (DNTs)

- DNTs are communities in India that were previously listed as criminal tribes under the British Raj.
- The Union Government repealed the Criminal Tribes Act in 1952, removing the designation of "criminal" from these communities.
- **Key Previous Commissions related to DNT's**
  - First Backward Classes Commission (1953) - Kaka Kalelkar
  - Lokur Committee (1965)
  - Mandal Commission (1980)
  - Renke Commission (2008)
  - Idate Commission (2017)
- A Special Committee was formed by the PMO in 2019. It was given the task of Ethnographic classification of DNTs. It was led by AnSI and Tribal Research Institutes (TRIs).

### Key Findings of the Study

- **Total Communities Studied:** 268 **denotified, semi-nomadic, and nomadic tribes** were comprehensively categorized for the first time.
- **Inclusion in SC/ST/OBC Lists:** **179 communities** recommended for inclusion in Scheduled Castes (SC), Scheduled Tribes (ST), and Other Backward Classes (OBC) lists.
- **First-Time Classification:** **85 communities** recommended for classification for the first time ever.
- **Missing Communities:** **63 communities** were found to be "not traceable" due to possible **assimilation, name changes, or migration.**

### Need for Categorization

- The Parliamentary Standing Committee on Social Justice and Empowerment stressed the urgency of categorizing these communities for better welfare access.
- Misclassification in previous censuses has led to confusion regarding tribes and castes.
- Some communities remain unclassified, making it difficult for them to avail welfare schemes.

### Source:

- [The Hindu - Denotified tribes](#)

## Major Components of Union Budget

### Context

The Budget consists of three major components: expenditure, receipts and deficit indicators.

### Expenditure - Types of Expenditure

- **Capital Expenditure:** Used for creating durable assets or reducing liabilities.
  - Examples: **Constructing schools, hospitals, infrastructure projects.**
- **Revenue Expenditure:** Does not add to assets or reduce liabilities.
  - Examples: **Payment of wages, salaries, subsidies, interest payments.**
- **Development Expenditure:** Sum of **economic and social services expenditures.**

### Receipts - Types of Receipts:

- **Revenue Receipts:** Do not increase liabilities.
  - Includes **tax revenue (GST, income tax, corporate tax, excise, customs, etc.) and non-tax revenue (dividends, fees, fines, grants).**
- **Non-Debt Capital Receipts:** Do not create liabilities or future obligations.
  - Examples: **Recovery of loans, disinvestment proceeds.**
- **Debt-Creating Capital Receipts:** Involve **higher liabilities and future repayment commitments.**

### Different types of Deficits;

- **Fiscal Deficit:** It is the difference between the Revenue Receipts plus Non-Debt Capital Receipts (NDCR) and the total expenditure.
  - It is reflective of the total borrowing requirement of the Government.
  - It also indicates the additional number of financial resources needed to meet government expenditure
- **Revenue Deficit:** It refers to the excess of revenue expenditure over revenue receipts.
  - Revenue deficit = Total Revenue expenditure – Total Revenue
- **Effective Revenue Deficit:** It is the difference between Revenue Deficit and Grants for Creation of Capital Assets.
- **Primary Deficit:** It is measured as Fiscal Deficit less interest payments.
  - It shows the borrowing requirements of the government for meeting expenditure excluding interest payment.

### UPSC PYQ

**Q.** There has been a persistent deficit budget year after year. Which of the following actions can be taken by the government to reduce the deficit? **(2015)**

1. Reducing revenue expenditure
2. Introducing new welfare schemes
3. Rationalizing subsidies
4. Expanding industries

Select the correct answer using the code given below.

- (a) 1 and 3 only
- (b) 2 and 3 only
- (c) 1 only
- (d) 1, 2, 3 and 4

**Answer: A**

### Source:

- [The Hindu - Union Budget](#)

## Deep Seek AI

### Context

Chinese startup DeepSeek has launched AI models that compete with top U.S. models at a much lower cost.

### About DeepSeek AI

- **DeepSeek AI** is a Chinese artificial intelligence startup that has quickly gained prominence as a competitor to **ChatGPT**.
- It was **founded by Liang Wenfeng in May 2023** and became widely popular in **early 2025** with the release of its **DeepSeek-R1 model**.
- **Two Powerful AI Models:**
  - **DeepSeek-V3:** Focuses on general-purpose tasks like answering questions, generating content, and coding.
  - **DeepSeek-R1:** Excels in **complex reasoning**, logical problem-solving, and mathematical calculations.

### Features of DeepSeek AI

- **Mixture-of-Experts (MoE) Architecture:** Unlike traditional AI models, MoE ensures that only a **small portion of the model's parameters are active at any time**.
  - This **reduces computing power requirements** while maintaining high efficiency.
  - It also enables **faster learning and improved performance** over time.
- **Free to Use Without Limitations:**
  - Unlike ChatGPT's premium features, DeepSeek AI is **completely free** for regular users.
  - No restrictions on daily usage, making it accessible to everyone.
- **Cost-Effective API Pricing:**
  - DeepSeek AI offers significantly **cheaper APIs compared to OpenAI's ChatGPT**, making it an attractive choice for developers.
- **Real-Time Web Search Capability:** Users can search the web directly from DeepSeek AI to obtain real-time, updated information.

### Source:

- [Indian Express - Deepseek](#)

### Certificates of Origin 2.0 System

- Recently, the Directorate General of Foreign Trade (DGFT) has launched the enhanced Certificate of Origin (**eCoO 2.0 System**).
- It is an upgraded digital platform for issuing Certificates of Origin (CoO).
- A **certificate of origin (CO)** is a document that confirms the country of origin for a product being exported.

### Key Features

- **Multi-User Access:** Exporters can authorize multiple users under a **single Importer Exporter Code (IEC)**, improving accessibility within an organization.
- **Aadhaar-Based e-Signing:** The system supports **Aadhaar-based e-signing** alongside **digital signature tokens**, offering exporters greater flexibility.
- **Integrated Dashboard:** The dashboard provides seamless access to: **eCoO services, Free Trade Agreement (FTA) information & Trade events and resources**.
- **Correction Feature:** A new feature allows exporters to request corrections to previously

issued Certificates of Origin through an easy online application process.

Source:

- [Indian Express - Enhanced eCoO 2.0 System](#)

### Fentanyl

- Recently, the US President said his administration was discussing a 10% punitive duty on Chinese imports as fentanyl is being sent from China to the US via Mexico and Canada.

#### About Fentanyl

- Fentanyl is a potent **synthetic opioid** used as an analgesic (pain reliever) and anesthetic.
- It is **100 times stronger than morphine and 50 times more potent than heroin**.
- Health Risks:
  - Overdoses can cause: Pupil size changes, Cyanosis (blue skin due to lack of oxygen), Respiratory failure leading to death etc.
- **Other Opioids:** Oxycodone, morphine, codeine, heroin etc. They cause euphoria and pain relief but are **highly addictive**.
- **Highly Addictive Nature:**
  - Opioids provide instant relief, but the effect wears off quickly, leading to frequent use and addiction.
  - Many people start with prescription opioids and later move to stronger illicit drugs like fentanyl.

Source:

- [Indian Express - fentanyl crisis in the US](#)

### Corpse Flower - Amorphophallus Titanum

- Recently two rare **corpse flowers** bloomed simultaneously in **Sydney, Australia, and New York, USA**.

#### About Corpse Flower

- It is a rare species, which blooms once in a decade and lasts **only one day**.
- It is called the '**corpse flower**' because it smells like **rotting flesh to attract pollinators**.
- It is one of the largest in the world, growing over 10 ft. in height.
- It is **native to western Sumatra, Indonesia**.
- **IUCN Status:** Endangered.



Source:

- [The Hindu - what is corpse flower](#)

### WHO Issues Guidelines on Lower-Sodium Salt Substitutes

- **The World Health Organization (WHO)** has released a new set of guidelines recommending the use of **lower-sodium salt substitutes** to reduce **sodium intake and prevent cardiovascular diseases**.

#### What are Lower-Sodium Salt Substitutes?

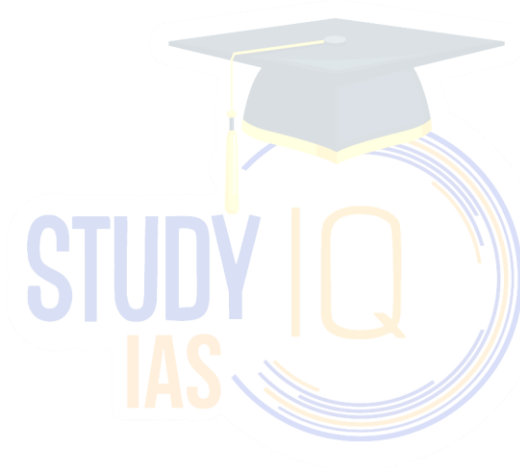
- **Lower-sodium salt substitutes** are alternatives to regular table salt (**sodium chloride - NaCl**) where part of the **sodium** is replaced with **potassium chloride (KCl)** or other minerals.
- These substitutes help in reducing **sodium intake**, which is linked to **high blood pressure**,

**heart disease and strokes.**

- They are mainly recommended for **household use** and **not for processed or restaurant foods.**
- **Common Types of Salt Substitutes:** Potassium Chloride (KCl), Magnesium Sulfate (MgSO<sub>4</sub>) & Calcium Chloride (CaCl<sub>2</sub>)
- **They are not recommended for:** People with kidney disease (excess potassium can be harmful), Pregnant women and children (not enough research on safety).
- **Health Benefits of Lower-Sodium Salt Substitutes:**
  - Reduces high blood pressure (hypertension) by lowering sodium intake.
  - Lowers risk of heart disease and stroke.
  - Helps maintain electrolyte balance with potassium intake.

**Source:**

- [The Hindu - lower-sodium salt substitutes](#)





## Editorial Summary

### Substantive Equality in Child Marriage Laws

#### Context

The Allahabad High Court in *Sanjay Chaudhary v. Guddan (2024)* annulled a child marriage where the man was 12 and the woman was 9 at the time of marriage, under the **Section 3 of the Prohibition of Child Marriage Act (PCMA), 2006**.

#### Provisions Related to Child Marriage

- **Prohibition of Child Marriage Act (PCMA), 2006**
  - Defines a child as a **girl below 18 years** and a **boy below 21 years**.
  - **Section 3**: Allows annulment of child marriage if filed **within two years of attaining majority** (18 for girls, 21 for boys).
  - Criminalizes marriage involving a minor, with penalties for adult men marrying underage girls.
- **Indian Majority Act, 1875**: Declares majority at **18 years** for both males and females.
- **Independent Thought v. Union of India (2017)**
  - Struck down the marital rape exception for wives below 18 years.
  - Observed that **males could annul child marriages till 23 years**, but without detailed examination of PCMA.

#### Relevant Cases and Verdicts

- **T. Sivakumar v. The Inspector of Police (2011) – Madras HC**
  - Held that if annulment is only allowed until 20 for men, it creates an unfair disadvantage for males married at 20 but unable to annul their marriage.
  - Extended the age limit to **23 years** for males.
- **Sanjay Chaudhary v. Guddan (2024) – Allahabad HC**
  - Held that **males entering marriage after 18 cannot claim ignorance of the law**.
  - Differentiation in age stems from patriarchal notions, and both genders should have the same annulment age limit.
  - However, since the Supreme Court in **Independent Thought (2017)** had suggested 23 years, the High Court followed that precedent while calling for gender equality in annulment rights.

#### What Needs to Be Done?

- **Uniform Age of Marriage at 18 for All Genders**: Current age differentiation (18 for women, 21 for men) is based on outdated gender roles.
  - Raising the marriage age to **21 for women (as proposed in the 2021 amendment bill)** could **curb autonomy** rather than empower women.
- **Equal Annulment Period for Both Genders**: Males currently have **till 23 years** to annul marriage, while females have **till 20 years**, creating **gender disparity**.
  - The law should be **uniform for both**.
- **Strengthening Social Reforms Instead of Criminalisation**: Studies indicate **49.4% of child marriages are self-initiated**, mainly opposed by families.
  - Raising the age will lead to **increased state and parental control**, risking **criminalization and institutionalization** of young couples.
  - **Better alternatives**: Free and compulsory education, access to healthcare, social security, and sexuality education.

- **Increase Time Limit for Annulment Petitions:** Given the socio-economic and psychological constraints, the window to seek annulment should be **extended beyond the current two-year limit**.

### Conclusion

The Supreme Court's ruling in this case will set a precedent for **whether men can seek annulment till 23 or only till 20 years**. More broadly, it presents an opportunity to re-examine **gendered legal assumptions** and move toward **equal marriage laws and annulment rights** for both men and women.

Source: [The Hindu: substantive Equality in Child Marriage Laws](#)



## For equitable growth, India Inc needs to step up

### Context

India's economic landscape has undergone significant changes over the past decade, marked by strong growth and persistent inequalities.

### Economic Growth and Reforms

- **High Growth Era:** India has **transitioned** from being classified as a fragile economy to a beacon of growth, driven by strong political will and strategic reforms.
  - Global institutions like the IMF and World Bank forecast robust growth prospects due to reforms and capital investments.
- **Key Reforms:** Major reforms since 2014 include:
  - **Goods and Services Tax (GST):** Introduced in 2017, GST unified India's tax structure, simplifying compliance and boosting tax collections to ₹20.18 lakh crore in 2023-24.
  - **Make in India Initiative:** Aimed at transforming India into a global manufacturing hub, it has attracted significant foreign direct investment (FDI), which rose from \$24 billion in 2013-14 to \$44 billion in 2023-24.
  - **Pradhan Mantri Jan Dhan Yojana (PMJDY):** Launched in 2014, this initiative has opened over 53 crore bank accounts, enhancing financial inclusion.

### Facts

- The government has successfully **reduced multidimensional poverty from 29.2% in 2013-14 to 11.3% in 2022-23**, lifting approximately 250 million people out of poverty.
- Annual spending on social sector schemes amounts to around ₹48 lakh crore, targeting health, sanitation, education, and transport.

### Challenges That Persists

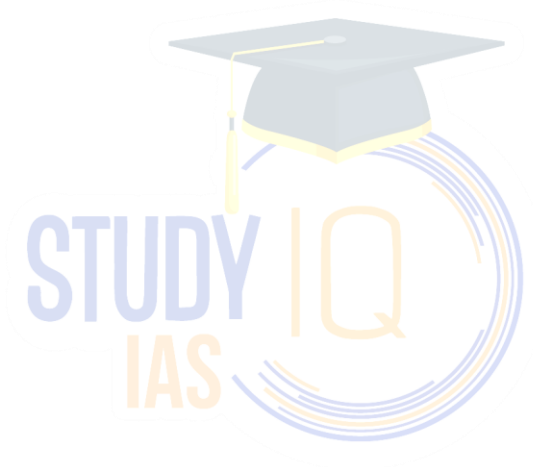
- **Geographical Disparities:** A stark divide exists between high-income states (Gujarat, Maharashtra, Karnataka, Tamil Nadu) and low-income states (Bihar, Jharkhand, Chhattisgarh, Odisha, Assam).
  - The per capita income of high-income states is **2.2 times higher** than that of the latter group.
- **Economic Indicators:**
  - Low-income states **contribute only 11% of GDP** despite housing **26% of India's workforce**.
  - **Maternal mortality rates** are significantly higher in these states (165 compared to the national average of 75).
  - **Poverty rates are at 23%**, more than double the national average of 10%.
- **Aspirational Districts:** Conditions in the 112 aspirational districts, primarily located in underdeveloped states, are dire.
  - These districts have **Human Development Index** scores comparable to some of the **weakest sub-Saharan nations**.
  - **Examples of challenges faced:** In Assam, monsoon floods isolate areas known as "Chars," cutting access to education and services.
    - In Bairaich district, children face dangerous wildlife encounters on their way to school.
    - In Nagaland's Kiphire district, residents must travel long distances through difficult terrain for medical care.
- **Corporate Social Responsibility (CSR) Disparities:** There is a significant disparity in CSR funding:
  - Pune receives ₹257 crore annually (₹375 per capita).

- The aspirational districts receive only ₹472 crore for a population of 25 crore, translating to just ₹19 per capita.

#### A Three-Segment Approach for Inclusive Growth

- India's population can be categorized into three segments:
  - **Affluent segment:** 5.6 crore people.
  - **Mid-income and aspiring segment:** 110 crore people.
  - **Economically weak segment:** 20 crore people.
- **Solutions for Equitable Development:**
  - Higher **private sector participation** in CSR initiatives targeting the poorest districts.
  - **Government reforms in mid-level systems** to ensure better public service delivery.

Source: [Indian Express: India Inc. Equity Challenge](#)



## Annual Status of Education Report 2024

### Context

The Annual Status of Education Report 2024 was recently released.

### More in News

- The report highlights **significant improvements in learning outcomes**, particularly in government schools, and attributes much of this progress to the **New Education Policy (NEP) 2020**.

### Key Findings of ASER 2024

- **Overall Recovery in Learning Losses:** Rural schoolchildren **have largely recovered** from the learning losses caused by school closures during COVID-19.
  - However, the **recovery is uneven**, with variations across subjects, school types (government vs. private), and states.
- **Reading Ability: Uneven Recovery: Government school students have fully recovered** to pre-pandemic reading levels.
  - **Private school students have not fully recovered**, despite some improvement.
  - **Key statistics (Class 5 students reading a Class 2-level paragraph in their regional language):**
    - **Government schools:**
      - **2018:** 44.2%
      - **2022:** 38.5% (pandemic low)
      - **2024:** 44.8% (6.3-point recovery)
    - **Private schools:**
      - **2018:** 65.1%
      - **2022:** 56.8%
      - **2024:** 59.3% (only a 2.5-point recovery)
- **Arithmetic Skills: Stronger Recovery**
  - **Both government and private school students** have exceeded their **pre-pandemic arithmetic proficiency levels**.
  - **Government school students showed a stronger recovery** than private school students.
  - **Key statistics (Class 5 students able to divide three-digit numbers):**
    - **Government schools:**
      - **2018:** 22.7%
      - **2022:** 21.6%
      - **2024:** 26.5% (4.9-point recovery)
    - **Private schools:**
      - **2018:** 39.8%
      - **2022:** 38.7%
      - **2024:** 41.8% (3.1-point recovery)
- **State-Level Variations:** Not all states followed the **national trend** of recovery.
  - **Reading Ability:**
    - States that **followed the national trend:** Assam, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Uttarakhand, Tamil Nadu.
    - States that **did not recover fully:** Andhra Pradesh & Kerala (Government schoolchildren's reading ability did not recover).
      - **Bihar** (Private schoolchildren's reading ability did not recover).
      - **Chhattisgarh** (No recovery in both government and private schools).
  - **Arithmetic Ability:**

- States that **followed the national trend: Karnataka, Madhya Pradesh.**
- States with **worsened arithmetic skills: Kerala** (Decline in both government and private schools in 2024).

#### Challenges Highlighted in ASER 2024

- **Teacher Training: Progress But Still Work in Progress**
  - Many teachers have become **more empathetic** and are **better at addressing students' learning needs.**
  - However, **teacher training programs are not yet fully sufficient** to help teachers tackle **classroom-specific challenges.**
  - **Limited post-training support** is available to teachers.
  - Decisions on **teaching methods** are still **syllabus-driven**, rather than focusing on **ensuring universal FLN.**

#### Key Areas for Policymakers to Focus On

- **Strengthen post-training teacher support** to ensure **effective classroom teaching** beyond syllabus completion.
- **Address state-level disparities** in **reading and arithmetic recovery**, especially in **Kerala, Andhra Pradesh, Bihar, and Chhattisgarh.**
- **Ensure flexible pedagogy** that **adapts to different learning levels**, rather than a **one-size-fits-all** approach.
- **Sustain momentum on FLN initiatives** to secure **long-term learning improvements.**

#### Sources:

- [The Hindu: Govt. schoolchildren lead recovery in basic skills; private ones lag](#)
- [Indian Express: Classroom Success](#)