# Current Affairs
## (Consolidation)

**JULY 2024**
**(Part – I)**

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# Polity and Governance

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## NITI Aayog SDG India Index 2023-24

### Why in News?

The **NITI (National Institution for Transforming India) Aayog** has released its latest **Sustainable Development Goal (SDG) India Index** for 2023-24, showing significant progress in **sustainable development** across states and union territory of India.

### What is the SDG India Index?

➢ **About:** The SDG India Index is a tool developed by NITI Aayog to measure and track India's progress towards the **SDGs set by the United Nations**.
  - ○ The Index supports the localization of SDGs, encouraging states to integrate these goals into their development plans.
  - ○ It serves as a benchmark for policymakers to identify gaps and prioritise actions towards achieving **sustainable development by 2030.**

➢ **Methodology:** The Index **assesses the performance** of states and union territories (UTs) **across 16 SDGs** using a set of indicators aligned with national priorities.
  - ○ The SDG India Index **measures national progress using 113 indicators** aligned to the **National Indicator Framework.**
  - ○ Goal-wise scores are computed for the 16 SDGs, and overall composite scores are derived for each State/UT. **Goal 14 (Life Below Water) has not**

been included in the calculation of the Composite Score for the Index as it solely pertains to the nine coastal States.
- ○ **Scores range from 0-100,** with higher scores indicating greater progress toward SDG targets.
  - State/UTs are categorised based on their SDG India Index score as follows: **Aspirant: 0–49, Performer: 50–64, Front-Runner: 65–99, and Achiever: 100.**

➢ **Impact on Development:** The Index promotes competitive and cooperative federalism, encouraging States and UTs to learn from each other and close outcome-based gaps.
  - ○ It provides a comprehensive analysis of progress, highlighting achievements and areas needing improvement.
  - ○ India fully integrated the SDGs into its national development strategies and is proud of its SDG localisation model based on **institutional ownership, collaborative competition, capacity building, and a whole-of-society approach.**
  - ○ The Index serves as a barometer for measuring progress towards **Viksit Bharat @ 2047** and informs national and subnational development strategies.

### What are the Key Highlights of the SDG India Index for 2023-24?

➢ **Overall Progress:** India's overall SDG score improved to 71 in 2023-24 from 66 in 2020-21 and 57 in 2018. All states have shown improvement in overall scores. Progress has been largely driven by targeted government interventions in poverty reduction, economic growth, and climate action.

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○ **Top Performers: Kerala and Uttarakhand emerged as the best-performing** states, each scoring **79 points**.

○ **Lowest Performer: Bihar** lagged behind with a score of **57 points**, followed by Jharkhand at 62 points.

○ **Front-Runner States:** 32 states and union territories (UTs) are in the front-runner category, with 10 new entrants including Arunachal Pradesh, Assam, Chhattisgarh, and Uttar Pradesh.
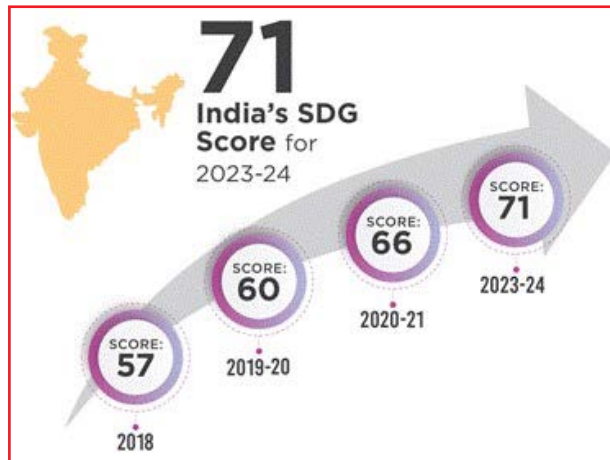


➢ **Government Interventions Contributions to SDG Progress:**

○ **Pradhan Mantri Awas Yojana**: Over 4 crore houses built**.**

○ **Swachh Bharat Mission:** 11 crore toilets and 2.23 lakh community sanitary complexes constructed.

○ **Ujjwala Yojana:** 10 crore LPG connections provided.

○ **Jal Jeevan Mission:** Tap water connections in over 14.9 crore households.

○ **Ayushman Bharat-PMJAY:** Over 30 crore beneficiaries. Access to 150,000 **Ayushman Arogya Mandir** which offer primary medical care and provide affordable generic medicines.

○ **PM Mudra Yojana:** 43 crore loans sanctioned.

○ **Saubhagya Scheme:** 100% household electrification**.**

○ **Renewable Energy:** Solar power capacity increased from 2.82 GW to 73.32 GW in a decade.

○ **National Food Security Act (NFSA):** Coverage of over 80 crore people.

○ **Direct Benefit Transfer (DBT):** Rs. 34 lakh crore made through **PM-Jan Dhan accounts.**

○ **Skill India Mission:** Over 1.4 crore youth being trained and upskilled and has reskilled 54 lakh youth.

➢ **Specific SDGs:**



SDG GOAL-WISE PERFORMANCE (INDIA)

| | SDG 1 | SDG 2 | SDG 3 | SDG 4 | SDG 5 | SDG 6 | SDG 7 | SDG 8 | SDG 9 | SDG 10 | SDG 11 | SDG 12 | SDG 13 | SDG 15 | SDG 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2023-24 | 72 | 52 | 77 | 61 | 49 | 89 | 96 | 68 | 61 | 65 | 83 | 78 | 67 | 75 | 74 |
| 2020-21 | 60 | 47 | 74 | 57 | 48 | 83 | 92 | 61 | 55 | 67 | 79 | 74 | 54 | 66 | 74 |
| 2019-20 | 50 | 35 | 61 | 58 | 42 | 88 | 70 | 64 | 65 | 64 | 53 | 55 | 60 | 66 | 72 |
| 2018 | 54 | 48 | 52 | 58 | 36 | 63 | 51 | 65 | 44 | 71 | 39 | | | 90 | 71 |

Aspirant (0-49)    Performer (50-64)    Front Runner (65-99)    Achiever (100)

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| SDG | Key Highlights |
|---|---|
| Goal 1: No Poverty | ➢ Improved score from 60 in 2020-21 to 72 in 2023-24, 99.7% were offered employment of the persons demanding employment under **MGNREGA in 2023–2024.** |
| Goal 2: Zero Hunger | ➢ Improvement in overall composite score from Aspirant to Performer category. 99.01% beneficiaries covered under **National Food Security Act (NFSA), 2013.** |
| Goal 3: Good Health and Well-being | ➢ Overall score improved from 52 in 2018 to 77 in 2023-24. 93.23% children aged 9-11 months are fully immunised, and the Maternal Mortality Rate per 1,00,000 live births stands at 97. |
| Goal 4: Quality Education | ➢ Adjusted Net Enrolment Rate (ANER) for elementary education is 96.5% for 2021-22. 88.65% of schools have access to both electricity and drinking water. <br> ➢ 100% parity between females and males in Higher Education (18-23 years). |
| Goal 5: Gender Equality | ➢ Overall score improved from 36 in 2018 to 49 in 2023-24. Sex ratio at birth (females per 1,000 males) stands at 929. |
| Goal 6: Clean Water and Sanitation | ➢ Significant improvement in score from 63 in 2018 to 89 in 2023-24. 99.29% of rural households have improved their source of drinking water. <br> ➢ 94.7% of schools have functional toilets for girls. |
| Goal 7: Affordable and Clean Energy | ➢ **Highest score amongst all SDGs also significant improvement from 51 in 2018 to 96 in 2023-24.** <br> ➢ 100% households have access to electricity under the **Saubhagya Scheme.** <br> ➢ Significant improvement in households have clean **cooking fuel (LPG + PNG) connections from 92.02% (2020) to 96.35% (2024)** |
| Goal 8: Decent Work and Economic Growth | ➢ 5.88% annual growth rate of India's GDP per capita at constant prices in 2022-23. <br> ➢ **Reduction in unemployment rate** from 6.2% in 2018-19 to 3.40% in 2022-23. |
| Goal 9: Industry, Innovation and Infrastructure | ➢ Improvement in score from 41 in 2018 to 61 in 2023-24. 99.70% of targeted habitations connected with all-weather roads under **PM Gram Sadak Yojana.** |
| Goal 10: Reduced Inequalities | ➢ **Decrease in points from 67 in 2020-21 to 65 in 2023-24.** <br> ➢ 45.61% seats of Panchayati Raj Institutions held by women. 28.57% representation of SC/ST persons in state legislative assemblies. |
| Goal 11: Sustainable Cities and Communities | ➢ Significant improvement in score from 39 in 2018 to 83 in 2023-24. The percentage of municipal solid waste processed has increased from 68% in 2020 to 78.46% in 2024. <br> ➢ 97% of wards have 100% door to door waste collection. |
| Goal 12: Responsible Consumption and Production | ➢ 91.5% of biomedical waste generated is treated in 2022. <br> ➢ 54.99% hazardous waste recycled/utilized in 2022-23. |
| Goal 13: Climate Action | ➢ Drastic improvement from 54 (Performer category) in 2020-21 to 67 (Front Runner category) in the SDG India Index 4 (2023-24). <br> ➢ Disaster preparedness score as per Disaster Resilience Index stands at 19.20. <br> ➢ Improvement in electricity generation from renewable energy from 36.37% in 2020 to 43.28% in 2024. <br> ➢ 94.86% of industries comply with environmental standards. |

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| Goal 14: Life Below Water | ➤ **Goal 14 has not been included in the calculation** of the Composite Score for the Index as it solely pertains to the nine coastal States. |
|---|---|
| Goal 15: Life on Land | ➤ Score improved from 66 in 2020-21 to 75 in 2023-24. Nearly 25% of geographical area under forests and tree cover. |
| Goal 16: Peace, Justice and Strong Institutions | ➤ 95.5% of the population is under Aadhaar coverage as of March 2024.<br>➤ 71.3% charge sheeting rate of IPC crimes as per NCRB 2022. |

➤ **Overview of the Goals:** The goals "No Poverty", "Decent Work and Economic Growth", and "Life on Land" showed the highest increase in points across states from 2020-21 scores, while "Gender Equality" and "Peace, Justice, and Strong Institution" had the smallest increase.

  ○ **"Reduced Inequalities" was the only goal to decrease in points from 67 in 2020-21 to 65 in 2023-24.** This reduction reflects the **distribution of wealth and suggests that in many parts of India,** there are high levels of inequality, particularly in relation to employment opportunities at the lower end of the socioeconomic spectrum. The goal of reducing inequalities also includes addressing gender inequality in workforce participation.

  ○ **Gender Equality received the lowest score among all goals,** with a marginal increase from the previous year. Issues such as **sex ratio at birth, women owning land and assets, employment, and labour force participation rate are areas of concern**, particularly in states with below 900 sex ratio at birth.

  ○ The **Quality of Education goal** increased by 4 points to 61, highlighting that some states, particularly in central India, still face challenges. The main issue in India is not access, but rather the **quality of education, which impacts employment opportunities.**



| **NITI Aayog** |
|---|
| ➤ The **Planning Commission in India** was replaced by NITI Aayog in 2015, with a shift towards a **'Bottom-Up' approach** and emphasis on cooperative federalism.<br>➤ The composition of NITI Aayog includes the **Prime Minister as Chairperson,** Chief Ministers of all states and Lt. Governors of Union Territories in the Governing Council, and experts nominated by the Prime Minister as Special Invitees.<br>  ○ **Chief Executive Officer appointed by the Prime Minister** for a specific term, holding the rank of Secretary to the Government of India. |

➢ The NITI Aayog recognises the need for a **more flexible approach to economic planning in India,** taking into account the diverse strengths and weaknesses of its states. This shift is necessary to make India competitive in the global economy.

➢ The **key objectives** are to promote cooperative federalism with states, develop plans at the village level, incorporate national security into economic strategy, focus on marginalised sections of society, encourage partnerships with stakeholders and think tanks, create a support system for knowledge and innovation, resolve inter-sectoral issues, and maintain a resource centre for **good governance and sustainable development practices.**

➢ **Major Initiatives:** SDG India Index, Composite Water Management Index, Atal Innovation Mission, Aspirational District Programme, Health Index, India Innovation Index, and Good Governance Index.

# Telecommunications Act 2023

## *Why in News?*

Recently, the **central government** notified certain sections of the Telecommunications Act, of 2023.

➢ It aims to **update and unify telecom laws**, by replacing outdated laws like the Indian Telegraph Act of 1885, the Indian Wireless Telegraph Act, 1933 and Telegraph Wires (Unlawful Possession) Act, 1950.

| 1G | 2G | 3G | 4G | 5G | 6G |
|---|---|---|---|---|---|
| Analog Voice | Digital Message | Mobile Data | Mobile Broadbond | New Radio | New Technology |
| 1980 | 1990 | 2000 | 2009 | 2019 | 2030 |
| Mobile voice communication (AMPS, NMT, TACS) | Efficient voice to reach billions (DAMPS, GSM, CDMA) | Focus shifts to mobile data (HAPA+/WCDMA, EV-D0) | Internet Data expansion (LTE, LTE-A, Gigabit LTE) | Unified connectivity (Wireless edge, 5G new radio) | New combination of requirement (eMBB, uRLLC, mMTC) |

## *What are the Salient Features of the Telecommunications Act 2023?*

➢ **Definitions:** The Act clearly defines its scope, **thereby reducing uncertainties.**
  ○ Messages sent through internet-based messaging service providers such as WhatsApp, Signal, and Telegram, as well as those that are encrypted (except Over-the-Top (OTT) services), are within the Act's ambit.

➢ **Right of Way (RoW) Framework:** The Act provides an effective RoW framework, **both on public and private property**.
  ○ The definition of public entities has been **broadened to include government agencies**, local bodies, and PPP projects like airports, seaports, and highways.
  ○ Public entities shall be obligated to provide right of way except in special circumstances.

➢ **Common Ducts:** In line with PM Gati Shakti's vision, the law provides for the Central Government to establish common ducts and cable corridors.

➢ **National Security Measures:** Section 20 (2) of the Act allows the government to **stop the transmission of any message** in the interest of public safety and during a public emergency.
  ○ This majorly expands the number of government entities that may be able to intercept messages.

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➢ **Digital Bharat Nidhi:** With the new Act, the **Universal Service Obligation Fund (USOF)** will become **Digital Bharat Nidhi**, which can be used to fund research and development and pilot projects instead of just supporting the establishment of telecom services in rural areas.
  ○ The Act also provides a legal framework for **Regulatory Sandbox** to facilitate innovation and deployment of new technology.

➢ **Protection of Users:** Commercial messages sent without the user's consent may lead to the relevant operator facing a fine and being banned from providing services.
  ○ Establishing **Do Not Disturb registers has been made mandatory** for operators.
  ○ **Having more than 9 SIM cards will attract fines up to Rs 2 lakh.** The limit is being reduced to six for residents of Jammu and Kashmir and the Northeast.

**Note:**
➢ In 2019, the government informed the Lok Sabha that **10 central agencies** including the Central Bureau of Investigation (CBI), the Enforcement Directorate (ED) and the Intelligence Bureau (IB) **can intercept telephone communications**, provided they have the Union home secretary's prior permission to do so.
  ○ The **section 20(2) allows the Centre or states to take temporary possession of any telecom service or network during a public emergency**, including disaster management, or in the interest of public safety.

**Historical Framework (1885-2023)**

➢ The Indian telecom sector shaped by three laws namely **The Indian Telegraph Act**, **1885**; **The Indian Wireless Telegraphy Act, 1933**; and **The Telegraph Wires (Unlawful Possession) Act, 1950** has undergone a **transformative legal evolution.**
  ○ The 1950 Act, addressing unlawful possession of telegraph wires, was recently repealed by the **Repealing and Amending Act, 2023**, emphasising regulatory adaptability.

**Regulatory Authorities**

➢ The **TRAI Act, 1997**, instrumental in tariff regulation, established both the TRAI and the **Telecom Disputes Settlement and Appellate Tribunal (TDSAT).**
➢ Licensing authority, however, remains vested in the central government.

## *What are the Merits and Demerits of the Telecommunications Act, 2023?*

➢ **Merits:**
  ○ **Navigates Different Communication Technologies:** The Act is poised to navigate generations of communication technologies, including innovations like voice calls, messaging, video calls, wearables, and **Industry 4.0.**
    ● The inseparable integration of computing and technologies like **AI, IoT, and quantum computing** is anticipated in the future of communication.
  ○ **Promotion to R&D:** Act will promote **competition and mobilising resources** for research and development and pilot projects under Digital Bharat Nidhi.
  ○ **Extensive Juridiction of Law:** As per Act, the **rules extend to the whole of India and any offence committed** or contravention made **outside India** by any person, as provided in this Act.
  ○ **Promotion of Verifiable User:** Act mandates telecom **operators use verifiable biometric identification (Aadhaar) for new SIMs/connections.**
    ● Prohibition on commercial messaging **(by establishing Do Not Disturb registers)** without the user's consent provided protection from spam.

➢ **Demerits:**
  ○ **Unrestricted Government Authority:** The Act grants the government authorities extensive powers to intercept and disclose messages without the procedural safeguards recommended in the ***Anuradha Bhasin vs Union of India case***.
  ○ **Privacy and Security Risks:** By requiring access to encrypted messages, the Act poses a serious threat to the security and privacy of communications.
    ● The Act requires telecom operators to use verifiable biometric identification (Aadhaar) for new SIMs/connections, raising concerns about individual privacy.
  ○ **Grey Area of Messaging:** Messages sent through Over-the-Top (OTT) services are not considered within the scope of the Act. **Messaging OTTs will remain a grey area.**
  ○ **Reducing rate of Telecom Penetration in Rural Area** by diverting fund of Universal Service Obligation Fund (USOF) for R&D and pilot projects instead of targeting establishment of telecom services in rural areas.

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| Government Initiatives in Telecom Sector |
|---|
| • Prime Minister Wi-Fi Access Network Interface (PM-WANI) |
| • Bharatnet project |
| • Production Linked Incentive (PLI) |
| • Bharat 6G Alliance |

# Defamation Case Against Wikipedia

## Why in News?

Recently, news agency Asian News International (ANI) has moved the Delhi **High Court** against Wikipedia for **allowing allegedly defamatory content** on ANI's Wikipedia page.

➢ The petitioner has sought damage compensation of Rs 2 crore, alleging that the content is **"palpably false"** and defamatory and that its reputation was being tarnished and goodwill discredited.

| Wikipedia |
|---|
| ➢ It is **a free online encyclopaedia founded by Jimmy Wales** and Larry Sanger in 2001. |
| ➢ It provides **freely editable content on various branches of knowledge,** aiming to benefit readers by **offering information and guidance through linked articles.** |

## What is the Legal Basis for ANI's Case Against Wikipedia?

➢ **Section 2(1)(w) of the Information Technology (IT) Act, 2000:**
  ○ It defines an **"intermediary" as anyone who handles electronic records on behalf of others**. This includes telecom, network, and internet service providers, web-hosting services, search engines, online payment sites, auction sites, marketplaces and cyber cafes.

➢ **Sections 79 of IT Act, 2000 (Safe Harbour Clause):**
  ○ It provides **legal protection to intermediaries** from liability for any third-party content or information hosted or transmitted through their platforms.
    • **Section 79(2)(b):** To avail the safe harbour protection, the **intermediary must fulfil conditions,** such as:

➢ It should observe due **diligence while discharging their duties.**

➢ It should **not initiate the transmission, select the receiver of transmission or modify the information** contained in the transmission.

➢ It should **comply with the directions of the government** such as **Intermediary Guidelines and Digital Media Ethics Code, 2021** or court orders.
  • **Section 79(3)** states that the **protection will not be applicable** if the intermediary, after being notified by the government, fails to promptly remove or disable access to the specified material.

➢ **Sections 3 of IT Act, 2000:**
  ○ It allows subscribers to **authenticate electronic records** using **digital signatures** and requires the **use of an asymmetric crypto system and hash function for authentication.**
  ○ **Verification of electronic records can be done using the public key** of the subscriber, where the private key and public key form a unique key pair.

**Note:**
➢ Section 230 of the **US Communications Decency Act**, similar to **Section 79 of the IT Act,** provides that providers or users of interactive computer services are **not considered the publishers or speakers of information provided by others.**

## What were the Previous Supreme Court Rulings Related to Wikipedia?

➢ Ayurvedic Medicine Manufacturers Organisation of India v. Wikipedia Foundation Case, 2022:
  ○ In this **Supreme Court** dismissed petitions alleging a Wikipedia article was defamatory, advising the petitioners to edit the article or seek other legal remedies.

➢ Hewlett Packard India Sales v. the Commissioner of Customs Case, 2023:
  ○ The SC observed that adjudicating authorities had extensively referred to online sources like Wikipedia to support their conclusions.
  ○ It **cautioned against using crowd-sourced** and user-generated platforms like Wikipedia **for legal dispute resolution,** as they **can promote "misleading information."**

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### What are Government Initiatives Related to Information Technology (IT)?

➢ **Information Technology Amendment Rules, 2023**,
➢ **Information Technology (IT) Act, 2000**
➢ **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021.**
➢ **National Critical Information Infrastructure Protection Centre (NCIIPC)**
➢ **Indian Cyber Crime Coordination Centre (I4C).**

    **Read more:** **Information Technology Amendment Rules, 2023**, **New IT Rules and Social Media**

# Maintenance Rights of Divorced Muslim Women

## Why in News?

In the case of **Mohd Abdul Samad v. the State of Telangana, 2024**, the **Supreme Court (SC) of India,** dismissed a petition challenging the applicability of **Section 125 of the Criminal Procedure Code (CrPC)** to a divorced Muslim woman.

## What was the Petition About?

➢ The petition was filed by a Muslim man challenging a direction to pay interim maintenance to his divorced wife under **Section 125 CrPC.**
    ○ The petitioner argued that the **Muslim Women (Protection of Rights on Divorce) Act, 1986,** should override the secular law of Section 125 CrPC.
➢ The petitioner claimed that the 1986 Act, being a special law, provided more comprehensive maintenance provisions and should therefore take precedence over the **general provisions of Section 125 CrPC.**
    ○ The petitioner argued that Sections 3 and 4 of the 1986 Act, with a **non-obstante clause**, empower First Class Magistrates to decide matters of *Maher* (mandatory gift that the husband gives to his wife at the wedding) and subsistence allowances.
    ○ He insisted that **family courts** lack jurisdiction as the Act mandates Magistrates to handle these issues. The petitioner emphasised the wife's failure to submit an affidavit opting for CrPC provisions over the 1986 Act, as required by Section 5.
➢ It was argued that the **1986 Act implicitly repealed Section 125 CrPC for Muslim women** due to its specific provisions, thus barring them from seeking relief under Section 125 CrPC.

## What is the Muslim Women (Protection of Rights on Divorce) Act, 1986?

➢ **Purpose:**
    ○ The Act was enacted to protect the rights of Muslim women who have been divorced by, or have obtained divorce from, their husbands. It provides for matters connected with or incidental to the protection of these rights.
    ○ This Act was a response to the **Mohd. Ahmad Khan vs. Shah Bano Begum, 1985**. In which the **SC delivered held that section 125 of the CrPC** is a secular provision **applicable to all, irrespective of religion.**
    ○ The right to maintenance under CrPC is not negated by provisions of personal law.
➢ **Provisions:**
    ○ A divorced Muslim woman is **entitled to a reasonable and fair provision and maintenance** from her former husband, to be paid within the *iddat* period.
       ● *Iddat* **is a period, usually of three months**, which a woman must observe after the death of her husband or a divorce before she can remarry.
    ○ The Act also covers the payment of *mahr* **(dower)** and the return of properties given to the woman at the time of marriage.
    ○ It allows a divorced woman and her former husband to choose to be governed by the **provisions of sections 125 to 128 of the CrPC, 1973**. If they make a joint or separate declaration to this effect at the first hearing of the application.
➢ **Evolution:**
    ○ A Constitution bench of the SC had in its 2001 judgement in the case **Danial Latifi & Another vs Union Of India** upheld the constitutional validity of the 1986 Act and said that its provisions do not offend **Articles 14, 15 and 21 of the Constitution of India.**
       ● It extended the right of Muslim women to receive maintenance until they remarry **beyond the iddat period**.
    ○ **Shabana Bano v. Imran Khan Case, 2009:** The SC reiterated that divorced Muslim women could claim maintenance under Section 125 of the CrPC, even beyond the iddat period, **as long as they do not remarry.** This affirmed the principle that the CrPC provision applies irrespective of religion.

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### What Does Section 125 of the CrPC Say?

➢ Section 125 of the CrPC mandates that a **Magistrate of the first class** may order a **person with sufficient means to make a monthly allowance for the maintenance** of:
  ○ His wife, if she is unable to maintain herself.
  ○ His legitimate or illegitimate minor child, whether married or not, unable to maintain itself.
  ○ His legitimate or illegitimate adult child with physical or mental abnormalities or injuries that render them unable to maintain themselves.
  ○ His father or mother, unable to maintain themselves.

### What are the Supreme Court Observations?

➢ SC held that **Section 125 CrPC applies to all women,** not just married women. It emphasised that the provision would apply universally.

➢ The SC's judgement reaffirms the rights of divorced Muslim women to claim maintenance under Section 125 CrPC, ensuring legal parity and safeguarding constitutional **guarantees of equality** and non-discrimination.

➢ The Supreme Court dismissed the appeal, reaffirming that Muslim women can seek maintenance under **Section 125 CrPC despite the existence of the 1986 Act.**

➢ The Court noted that Section 3 of the 1986 Act, starting with a **non-obstante clause, does not restrict the application** of Section 125 CrPC, but rather provides an additional remedy.

➢ The SC emphasised the need for **Indian men to financially empower their wives who lack independent income.** It highlighted the **difference between financially independent or employed married women** and those who stay at home without any means to meet their personal expenses.

> **Note: Instant triple talaq, or talaq-e-bidat,** is a practice within the Muslim community where a **man can instantly divorce his wife by pronouncing "talaq" three times in one sitting,** through phone, or even via text message. The divorce is immediate and irrevocable, regardless of the husband's later desire to reconcile.

➢ The Court affirmed that divorced Muslim women, including those divorced through **triple talaq (now deemed illegal),** can claim maintenance under Section 125 CrPC irrespective of personal laws.
  ○ Triple talaq has been declared as void by the SC and criminalised by the **Muslim Women (Protection of Rights on Marriage) Act 2019.**

# Criteria For Classical Language

### Why in News?

Recently, the **Central government** has decided to **modify the criteria for granting classical language status,** following recommendations from the **Linguistics Expert Committee of the Union Culture Ministry.**

### What are Classical Languages?

➢ **About:**
  ○ In 2004, the Government of India decided to create a new category of languages called **"classical languages".**
  ○ In 2006, it laid down the **criteria for conferring classical language** status. So far, the 6 languages are granted classical language status.

| Sl. No. | Languages | Year of Declaration |
|---------|-----------|---------------------|
| 1. | Tamil | 2004 |
| 2. | Sanskrit | 2005 |
| 3. | Telugu | 2008 |
| 4. | Kannada | 2008 |
| 5. | Malayalam | 2013 |
| 6. | Odia | 2014 |

➢ **Criteria:**
  ○ **High antiquity** of early texts/recorded history spanning 1,500–2,000 years.
  ○ Possession of a **body of ancient literature/texts** considered valuable heritage by generations.
  ○ **Presence of an original literary** tradition not borrowed from another speech community.
  ○ The classical **language and literature being distinct from modern,** there can **also be a discontinuity between the classical language** and its later forms or its offshoots.

➢ **Benefits:**
  ○ Once a language is declared classical, it gets **financial assistance for setting up a centre of excellence** for the study of that language and also opens up an avenue for two major awards for scholars of eminence.
  ○ Additionally, the **University Grants Commission** can be requested to establish professional chairs for scholars of classical languages, starting with central universities.

➢ **Recent Developments:**
  ○ The Central government has decided to **modify**

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the criteria for granting classical language status, following recommendations from the **Linguistics Expert Committee of the Union Culture Ministry.**

- The Linguistics Expert Committee comprises representatives of the Union Ministries of Home, Culture and four to five linguistic experts at any given time. It is **chaired by the president** of the **Sahitya Akademi**.

○ The new criteria will be officially notified once **approved by the Union Cabinet**.

- It has delayed the consideration of **languages like Marathi for classical status.**

○ There have been demands from other languages groups to classify their languages as classical language. For example Bengali, Tulu etc.

- According to **National Education Policy-2020** works of literature of **Pali, Persian, and Prakrit** shall also be preserved.

## What are the Arguments for Inclusion of Various Languages as Classical Language?

➢ **Bengali:** According to the language family, **Bengali is categorised as a Modern or New Indo- Aryan language** of the Indo-European language family.

○ **Bengali alphabets and terms** started to appear in the literatures of as **early as 10th century AD.** Since then it had gone through significant stages of development to finally take the present shape.

○ However, a panel established by the Bengal government established that Bengali's origin is **2,500 years ago** with **concrete evidence showing its written existence** as early as the 3rd-4th BCE.

- Research indicates that bengali **retains its fundamental syntactic structure,** as well as its distinct morphological and phonological patterns, throughout its course of evolution at least from 3rd BCE.

➢ **Tulu:** Tulu is a **Dravidian language spoken mainly in two coastal districts** Dakshina Kannada and Udupi of Karnataka and Kasaragod district of Kerala.

○ Scholars suggest **Tulu is the language that was segregated from the original Dravidian languages some 2,000 years ago** and is one of the **most highly developed languages of the Dravidian family.**

○ The language has also been **mentioned in the Sangama Literature of Tamil and in Greek Mythology.**

○ **Tulu has a rich oral literature tradition** with folk-song forms like paddana, and traditional folk theatre yakshagana.

## What are the Constitutional Provisions Related to Language?

➢ **Eighth Schedule:**

○ It was intended **to promote the progressive use of Hindi** and for the enrichment and **promotion of the language.**

○ **Article 344(1)** provides for the **constitution of a Commission** by the President on **expiration of five years** from the commencement of the Constitution for the progressive use of Hindi for official purposes of the Union.

○ **Article 351** of the Constitution provides that it shall be the **duty of the Union to promote the spread of the Hindi language** to develop it so that it may serve as a medium of expression for all the elements of the composite culture of India.

○ **Languages in the Eighth Schedule:** The Eighth Schedule to the Constitution consists of the following 22 languages:

- Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Nepali, Oriya, Punjabi, Sanskrit, Sindhi, Tamil, Telugu, Urdu, Bodo, Santhali, Maithili and Dogri.

➢ Of these languages, **14 were initially included.**

➢ Sindhi language was added in 1967 **(21st Amendment Act).**

➢ Three more languages Konkani, Manipuri and Nepali were included in 1992 **(71st Amendment Act).**

➢ Bodo, Dogri, Maithili and Santhali were added in 2004 **(92nd Amendment Act).**

○ **Demands of Languages for Inclusion in the Eighth Schedule:** At present, there are **demands for inclusion of 38** more languages in the Eighth Schedule. Example: Angika, Banjara, Bazika, Bhojpuri etc.

○ **Present Status on Inclusion of Languages in the Eighth Schedule:** As the **evolution of dialects and languages is dynamic**, influenced by socio eco-political developments, the matter is still under government consideration and the decision will be taken in line with the recommendation of the **Pahwa (1996) and Sitakant Mohapatra (2003) Committee.**

Note:

- ➤ **Language of The Union:**
  - ○ **Article 120:** Deals with the language to be used in **Parliament.**
  - ○ **Article 210:** Similar to Article 120 but applies to the **State Legislature.**
  - ○ **Article 343:** Declares **Hindi in Devnagari script** as the official language of the Union.
- ➤ **Regional Languages:**
  - ○ **Article 345:** Allows the state legislature to adopt **any official language** for the state.
  - ○ **Article 346:** Specifies the **official language for communication** between states and between states and the Union.
  - ○ **Article 347:** Allows the **President to recognise any language** spoken by a section of the population of a state if demanded.
- ➤ **Special Directives:**
  - ○ **Article 29:** It **protects the interests of minorities.** It states that any section of citizens with a distinct language, script, or culture has the **right to preserve it.**
  - ○ **Article 350:** Ensures that every person has the right to submit a representation for the **redress of any grievance in any language** used in the Union or the State.
    - ● **Article 350A:** Directs States to provide **adequate facilities for instruction in the mother tongue** at the primary stage of education to children belonging to linguistic minority groups.
    - ● **Article 350B:** Establishes a **Special Officer for linguistic minorities appointed by the President,** tasked with investigating matters relating to safeguards provided for linguistic minorities under the Constitution.

# Appointment to Cabinet Committees

### Why in News?

Recently, the **Union government constituted eight Cabinet committees**, with the **Cabinet Committee on Economic Affairs (CCEA)** getting three new faces and the **Appointments Committee of the Cabinet (ACC)** and **Cabinet Committee on Security (CCS)** remaining unchanged.

- ➤ In another development **Lok Sabha Speaker** has amended the **oath-taking rules** for Members of Parliament, **prohibiting them from adding any remarks** during their oath as members of the House.

### What are Cabinet Committees?

- ➤ **About:**
  - ○ A **Cabinet Committee** is a **subset of the Union Cabinet,** consisting of selected Union Ministers.
  - ○ These committees are **established to streamline decision-making** by dividing responsibilities among different groups, such as those dealing with economic affairs, security, parliamentary affairs, and political affairs.
  - ○ They provide **detailed consideration and ensure efficient handling of complex issues**, which are then presented to the full Cabinet for final approval.
  - ○ They are based on the **principles of division of labour** and effective delegation.
- ➤ **Type:**
  - ○ Standing (Permanent nature)
  - ○ Ad hoc (Temporary nature to deal with special problems)
- ➤ **Features of Cabinet Committees:** They are **extra-constitutional** in nature and the **Rules of Business** provide for their establishment.
  - ○ The executive in India works under the Government of India **Transaction of Business Rules, 1961.**
    - ● The rules come from **Article 77(3) of the Constitution**, which says the President makes rules for smooth government operations and assigns tasks among Ministers.
- ➤ **Membership:**
  - ○ They are **set up by the Prime Minister** according to the exigencies of the time and requirements of the situation.
  - ○ Their membership **varies from three to eight.** They usually **include only Cabinet Ministers.** However, the **non-cabinet Ministers are not debarred** from their membership.
    - ● They not only include the Ministers in charge of subjects covered by them **but also include other senior Ministers.**
  - ○ In case the Prime Minister is a member of a committee, he invariably presides over it.

Note:

○ They not only sort out issues and formulate proposals for the consideration of the Cabinet, but **also take decisions.** However, the **Cabinet can review their decisions.**

➢ **List of 8 Cabinet Committees:**

○ Cabinet Committee on Economic Affairs (CCEA)

○ Appointments Committee of the Cabinet (ACC)

○ Cabinet Committee on Security (CCS)

○ Cabinet Committee on Accommodation

○ Cabinet Committee on Parliamentary Affairs (referred as Super-Cabinet)

○ Cabinet Committee on Political Affairs

○ Cabinet Committee on Investment and Growth

○ Cabinet Committee on Skill, Employment and Livelihood

➢ **Recent Changes:**

○ The Home Minister is the **sole Cabinet member** to feature on all these panels.

○ **The Prime Minister heads all six committees** except the Committee on Accommodation and the Cabinet Committee on Parliamentary Affairs.

○ No change has been made in the **Appointments Committee, which is headed by the Prime Minister** and where the Home Minister is the sole member.

### Parliamentary Committees

➢ **Parliamentary committees** are **specialised committees** formed to handle the detailed work of the Parliament, which is **often too complex** and extensive to be conducted within the full sittings of the Houses.

➢ They are **essential for ensuring detailed scrutiny,** discussion, and investigation into specific matters. There are various types of parliamentary committees like **Standing Committees**, **Departmentally Related Standing Committees (DRSCs)** etc.

### Groups of Ministers

➢ These are **ad hoc bodies formed** to give recommendations to the cabinet on **certain emergent issues and critical problem areas.**

➢ Some of these GoMs are **empowered to take decisions** on behalf of the Cabinet whereas the others make recommendations to the Cabinet.

○ The institution of GoMs has become a viable and effective instrument of coordination among the ministries.

➢ Ministers heading the concerned ministries are inducted into the relevant GoMs and when the advice is crystallised they are disbanded.

### Lok Sabha Speaker Amends Oath-Taking Rules For MPs

➢ A new clause has been added to **'Direction 1'** within the **'Directions by the Speaker'** to manage specific matters related to the House's functioning that are not explicitly covered by existing rules.

➢ According to the amendment to 'Direction 1', **the new clause 3** states that a member shall take and subscribe to the oath or affirmation **without using any words** or expressions as prefixes or suffixes to the prescribed form.

## *What are the Challenges of the Cabinet Committees?*

➢ **Overlapping Mandates:** It leads to **delays, inefficiency, and conflict** between committees as they fight for control. Proposals get stuck and decisions are slow.

➢ **Lack of Expertise:** A committee focused on healthcare policy might not have medical professionals on board. This can **lead to poorly informed decisions with unintended consequences.** Thus lack of experts can result in **long term policy ramifications.**

➢ **Information Silos & Poor Communication:** Committees might operate in isolation, not sharing information or collaborating. This creates blind spots and **hinders a holistic approach.** It leads to **duplication of effort, missed opportunities** for synergy, and decisions based on limited information.

➢ **Political Pressure & Short-termism:** Political considerations can push committees to **prioritise short-term gains** over long-term strategic planning. This can lead to **reactive measures instead of proactive solutions.**

➢ **Lack of Accountability & Transparency:** The decisions made should not be shrouded in **secrecy as it leads to erosion of trust.** Without clear information about committee activities and decisions, **the legislature can't hold them accountable.**

➢ **Concentration of Power:** If decision-making authority rests with only a few committees or individuals, valuable perspectives might be excluded. This can **lead to unbalanced decisions.** Important voices might not be heard, potentially **overlooking creative solutions and fostering resentment** among excluded parties.

Note:

# Extension of Smart Cities Mission

## Why in News?

Recently, the Central Government has decided to extend the deadline for **Smart Cities Mission** till **31ˢᵗ March 2025.**

➤ Initially planned for completion by 2020, **the mission had already been extended twice.**

## What is the Smart Cities Mission (SCM)?

➤ **About:**
  ○ It is a **Centrally Sponsored Scheme**, **launched in June 2015** to transform 100 cities to provide the necessary core infrastructure and clean and sustainable environment to enable a decent quality of life to their citizens through the application of **"Smart Solutions"**.
  ○ It aimed to improve the quality of life for citizens through sustainable and **inclusive development**.

➤ **Components of the SCM:**
  ○ **Area-based Development:**
    ● **Redevelopment (City Renewal):** Renewal of existing urban areas to improve infrastructure and amenities. E.g. Bhendi Bazar, Mumbai.
    ● **Retrofitting (City Improvement):** Upgrading infrastructure in existing areas to make them more efficient and sustainable. E.g. Local Area Development (Ahmedabad).
    ● **Greenfield Projects (City Extension):** Development of new urban areas with a focus on sustainability and smart technologies. E.g. New Town, Kolkata, Naya Raipur, **GIFT City (Gujarat International Finance Tec-City).**
  ○ **Pan-City Solutions:**
    ● Implementation of **Information and Communication Technology (ICT)** solutions across various sectors such as **e-governance, waste management, water management, energy management, urban mobility**, and **skill development**.

➤ **Governance Structure:**
  ○ To enhance effectiveness, a new governance model was adopted.
    ● A **Special Purpose Vehicle (SPV)** was created under the **Companies Act, 2013** led by a bureaucrat or a representative of a **Multinational Corporations (MNC).**

➤ **Financing of Smart Cities:**
  ○ The SCM receives **Rs. 48,000 crores over 5 years** from the Central Government, averaging **Rs. 100 crore per city per year**.
  ○ States and **Urban Local Bodies (ULB)** are required to **contribute an equal amount**, resulting in a total of nearly Rs. 1 lakh crore for Smart Cities development.

➤ **Convergence with Other Government Schemes:**
  ○ The SCM can be strategically converged with other Central and State Government programs to utilise its full potential.
  ○ **Benefits of Convergence:**
    ● Combining resources and objectives of SCM with schemes like **AMRUT (urban transformation)**, **Swachh Bharat Mission (cleanliness)**, **HRIDAY (heritage city development)**, **Digital India**, **Skill Development**, and **Housing for All** leads to a **more comprehensive approach.**
    ● Existing funds and infrastructure from various schemes can be leveraged to **achieve common goals** within the SCM framework.
    ● Convergence ensures **social infrastructure** (health, education, culture) is **addressed alongside physical infrastructure development** in smart cities.

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### What is a Smart City?

➤ A Smart City is a concept that refers to the **use of technology, data, and innovative solutions** to **improve the efficiency, sustainability, and quality of life** in urban areas.

➤ Core Infrastructure Elements of a Smart City include:
  ○ Adequate water supply,
  ○ Assured electricity supply,
  ○ Sanitation, including solid waste management,
  ○ Efficient urban mobility and public transport,
  ○ Affordable housing, especially for the poor,
  ○ Robust IT connectivity and digitalisation,
  ○ Good governance, especially e-Governance and citizen participation,
  ○ Sustainable environment,
  ○ Safety and security of citizens, particularly women, children and the elderly, and
  ○ Health and education.

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Note:

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**ILLUSTRATIVE LIST**

## Smart Solutions

**E-Governance and Citizen Services**
1. Public Information, Grievance Redressal
2. Electronic Service Delivery
3. Citizen Engagement
4. Citizens - City's Eyes and Ears
5. Video Crime Monitoring

**Waste Management**
6. Waste to Energy & fuel
7. Waste to Compost
8. Waste Water to be Treated
9. Recycling and Reduction of C&D Waste

**Water Management**
10. Smart Meters & Management
11. Leakage Identification, Preventive Maint.
12. Water Quality Monitoring

**Energy Management**
13. Smart Meters & Management
14. Renewable Sources of Energy
15. Energy Efficient & Green Buildings

**Urban Mobility**
16. Smart Parking
17. Intelligent Traffic Management
18. Integrated Multi-Modal Transport

**Others**
19. Tele-Medicine & Tele Education
20. Incubation/Trade Facilitation Centers
21. Skill Development Centers

**Note:** Cities accommodate nearly 31% of India's current population and contribute 63% of **Gross Domestic Product (GDP)** as per **Census 2011**. Urban areas are expected to house 40% of India's population and contribute 75% of India's GDP by 2030.

### What are the Challenges Faced by the Smart Cities Mission?

➤ **Lack of Clarity in Definition:** The SCM has acknowledged the lack of a universal definition for the term "smart city." This recognition reflects the understanding that each city's vision for a smart city is shaped by its unique local contexts and aspirations. However, **this ambiguity in the conceptualisation of a smart city poses a challenge** in effectively allocating resources and prioritizing projects.

○ The conceptualisation of a Smart City **varies significantly from one city to another, and even from country to country**. These differences are influenced by factors such as the level of development, the willingness to embrace change and reform, the availability of resources, and the aspirations of the city's residents.

➤ **Delay in Project Completion:** Despite the extension of the deadline, a significant number of projects **(around 10%) are still incomplete**, indicating delays in execution. This can be attributed to factors such as **inadequate planning, lack of technical expertise,** and **issues in land acquisition and clearances.**

➤ **Inadequate Funding and Its Utilisation:** While 74 cities have received 100% of their central share, **26 cities are yet to get the full funding** due to the slow progress of projects.

○ The SPV model adopted for smart city projects has faced objections due to its misalignment with the **74th Constitutional Amendment**. This has **resulted in criticism of the top-down governance structure of the smart city initiatives**.

➤ **Lack of Coordination:** Effective coordination between the central, state, and local governments has been a challenge due to **differences in priorities, bureaucratic**

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hurdles, and **lack of clarity in roles and responsibilities** that have hindered the seamless implementation of the mission.

➤ **Sustainability Concerns:** There are doubts about the **long-term sustainability** of the smart city projects, as many of them focus on **technology-driven solutions** rather than addressing the **fundamental issues of urban planning and governance**.

➤ **Displacement and Social Impact:** According to the **World Bank**, in urban areas of India more than **49% of the population live in slums.**

❍ The execution of smart city projects **has led to the displacement of residents in poorer areas, such as street vendors**, disrupting the fabric of urban communities. Infrastructure development in certain towns has contributed to increased urban flooding due to disruptions in water channels and contours.

## *What Should be the Steps Taken to Strengthen Smart Cities Mission?*

➤ **Effective Governance and Implementation:** Appointing CEOs with fixed tenures ensures continuity and attracts qualified professionals. Stakeholder representation, including experts and **Member of Parliaments (MPs)**, fosters inclusive decision-making.



**SMART CITIES MISSION**

**About**
- **Launched:** 2015
- **Nature:** Centrally Sponsored
- **Nodal Ministry:** Ministry of Housing & Urban Affairs
- **Implemented through:** Special Purpose Vehicles (SPVs) at city level
- **Mission Deadline:** Extended to June 2023
- **Coverage:** Developing 100 selected cities as Smart Cities

**Six Fundamental Principles**
- Citizen at the core
- More from Less
- Cooperative and competitive federalism
- Integration, innovation & sustainability
- Technology as means, not the goal
- Convergence

**SMART SOLUTIONS**

**E-Governance and Citizen Services**
- Public Information, Grievance Redressal
- Electronic Service Delivery
- Citizen Engagement
- Citizens-City's Eyes and Ears
- Video Crime Monitoring

**Energy Management**
- Smart Meters & Management
- Renewable Sources of Energy
- Energy Efficient & Green Buildings

**Waste Management**
- Waste to Energy & fuel
- Waste to Compost
- Waste Water Treatment
- Recycling and Reduction of Waste

**Urban Mobility**
- Smart Parking
- Intelligent Traffic Management
- Integrated Multi-Modal Transport

**Water Management**
- Smart Meters & Management
- Leakage Identification, Preventive Maintenance
- Water Quality Monitoring

**Others**
- Tele-Medicine & Tele Education
- Incubation/Trade Facilitation Centers
- Skill Development Centers

**60% projects have been completed so far**

**Challenges**
- **Managing Finance:** Difficulty in mobilising funds, transferring them to SPVs, and using them efficiently
- **Urban Problems:** Like air pollution, road congestion & decline in public transport
- **Policy Issues:** Like hindrances in getting environment clearances
- **Data privacy and security**
- **Lack of Center-State Co-ordination**

**Way Ahead**
- **Decentralisation:** Planning at Municipal & state level for better implementation
- **Policy Issues:** Like red-tapism, environmental clearances need to be taken care of
- **PPP Model:** For better administrative & technological capabilities
- **Integrated Approach:** For holistic development of transportation, energy, housing
- **Promote Citizen Engagement**

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➤ **Strategic Project Focus:** The SCM digital infrastructure is expected to generate and utilise vast amounts of data from diverse sources. Therefore, it is necessary that a robust system should be implemented to protect these platforms from cyberattacks and guarantee adequate protection for sensitive public and private data.

➤ **Data Security and Upgradation:** Establish robust digital infrastructure protection to counter cyber threats and safeguard data privacy.

❍ Develop comprehensive **Operation and Maintenance (O&M) strategies** to maximise infrastructure lifespan and ensure timely upgrades.

➤ **Building Capacity and Funding:** Strengthen **Urban Local Bodies (ULBs)** in smaller cities through capacity building programs. Central government assistance can be crucial for organisational restructuring and skill development.

➤ **Ensuring Project Completion:** The Ministry's role should extend beyond fund allocation. **Active monitoring and providing expertise** for timely project execution are essential.

➤ **Global Knowledge Sharing:** India's focus on sustainable urban development positions it to guide similar projects in developing nations (Example: **Gelephu Smart City Project** in **Bhutan**).

Note:

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○ The Gelephu Smart City Project aims to create an economic corridor connecting **South Asia with Southeast Asia** through **India's northeastern States**. It will prioritise environmental standards and sustainability, seeking quality investment from specially screened international companies.

# Issue of Urban Finance and 16th Finance Commission

### *Why in News?*

Recently, developments concerning the **16ᵗʰ Finance Commission (FC)** in India highlight critical issues regarding **fiscal decentralisation**, particularly **focusing on urban areas** and their financial sustainability within the **federal structure.**

➢ The World Bank has estimated that USD 840 billion is **needed for basic urban infrastructure** in the next decade.

### *What are the Financial Sustainability Issues with the Urban Areas?*

➢ **Urbanisation Challenges:** India's urban areas, which contribute **66% of India's GDP and about 90% of total government revenues** face immense infrastructure and financial challenges.

○ Despite being crucial economic hubs, **cities receive inadequate fiscal support** with **intergovernmental transfers (IGTs) constituting only 0.5% of GDP** impacting their ability to provide essential services and maintain infrastructure.

➢ **Financial Devolution Issues**: The devolution of funds to **Urban Local Bodies (ULBs)** is significantly lower than other developing nations.

○ For instance, **South Africa** allocates 2.6%, Mexico 1.6%, the Philippines 2.5%, and Brazil 5.1% of their GDPs to their cities.

○ This shortfall **affects urban productivity and quality of life**, exacerbated by the introduction of the **Goods and Service Tax (GST)**, which has reduced **ULBs' own tax revenues.**

➢ **Draining Resources:** An **RBI survey** of 221 municipal corporations (2020-21) revealed that **more than 70%** of these corporations saw a **decline in revenues** while in contrast, their expenditure rose by almost 71.2%.

○ The RBI report also highlights the **limited coverage of property tax** and its failure in shoring up municipal corporation revenues.

○ As per the **OECD**, India has the **world's lowest property tax collection rate (property tax to GDP ratio)**.

➢ **Decline in Grants:** Experts argue that **GST not only ended octroi** but also **severely impacted the businesses** of many small entrepreneurs, resulting in a **significant decline in tax revenue** for urban local bodies.

○ Previously **almost 55% of the total revenue** expenditure of urban centres was met by octroi which has now significantly reduced.

➢ **Other Issues:**

○ **Census Data Concerns**: The absence of **updated census data (since 2011)** poses a challenge in accurately assessing the urban population and its needs.

● This outdated data **affects evidence-based fiscal devolution** planning, crucial for addressing the dynamic urbanisation trends, including migration to Tier-2 and 3 cities.

○ **Policy Distortions**: Parallel agencies and schemes, such as **MP/MLA Local Area Development Funds**, undermine the financial autonomy of local governments, distorting the **intended federal structure** and complicating urban governance and service delivery.

○ **Lesser Functional Autonomy:** During the **pandemic**, the leaders at national, state and district level were seen taking a call on **disaster mitigation strategies**, however, the **heads of municipal corporations were not included in this group.**

● The **old approach** of treating local governments as adjuncts of State governments continues to **dominate the policy paradigm.**

○ **Structural Issues:** Some of the urban local governments do not have **basic infrastructure and human resources**. While in some states regular elections are not conducted for the local bodies. This affects their functioning and delivery of services.

### *What are the Major Terms of Reference for the 16th Finance Commission?*

➢ **About:**

○ The **Finance Commission in India** is a **constitutional body** established under **Article 280** of the Indian Constitution.

- Its primary function is to recommend the **distribution of financial resources** between the central government and the state governments.
  - The **Fifteenth Finance Commission** was constituted in 2017. It made recommendations **covering the period of six years** commencing on 1st April, 2020 through its Interim and Final Reports.
    - The recommendations of the Fifteenth Finance Commission are **valid up to the financial year 2025-26.**
- Terms of Reference:
  - **Division of Tax Proceeds:** Recommending the distribution of taxes between the Union Government and the States under Chapter I of the **Constitution.**
    - This includes the allocation of shares among the States from these tax proceeds.
  - **Principles for Grants-in-Aid:** Establishing the principles governing **grants-in-aid** to the States from the **Consolidated Fund of India.**
    - This encompasses determining the amounts to be provided to the States as grants-in-aid, specifically under **Article 275** of the Constitution.
  - **Enhancing State Funds for Local Bodies:** Identifying measures to enhance the Consolidated Fund of a State.
    - This is aimed at supplementing the resources available to **Panchayats and Municipalities** within the State, based on recommendations made by the State's own Finance Commission.
  - **Evaluation of Disaster Management Financing:** The Commission may review the current financing structures related to Disaster Management initiatives.
    - This involves examining the funds created under the **Disaster Management Act, 2005,** and presenting suitable recommendations for improvements or alterations.

**Assam Government Makes Appointment to State Finance Commission**

- The **Government of Assam** has constituted the **Seventh Assam State Finance Commission** with **Lieutenant General Rana Pratap Kalita (Retd)** as its **Chairman** and six other members.

- The State Finance Commission (SFC), formed by the **73rd and 74th Constitutional Amendments**, aims to **streamline fiscal relations** at the state and sub-state levels in India, with appointments governed by **Article 243-I and 243-Y** of the Indian Constitution.
  - **Article 243 I:** Mandates State Governor to **constitute a Finance Commission every five years.**
  - **Article 243Y:** Finance Commission constituted under article 243 I shall also **review the financial position of the Municipalities** and make recommendations to the Governor.

## What are the Steps Needed for Better Urban Finance?

- **Strengthening Municipal Revenue:** All **Finance Commissions** have recognised the need to augment property tax revenue to improve municipal finances. For example:
  - The 12th Finance Commission encouraged the use of the **Geographical Information System** (GIS) and digitisation to improve property tax administration.
  - The **14th Finance Commission** recommended that municipalities be enabled to levy **vacant land tax.**
- **Modernise Tax Administration:** Outdated systems lead to inefficiencies and leakages. Local bodies can **implement digital platforms for property tax** assessment, e-filing, and online payments.
  - This **improves transparency**, convenience for citizens, and boosts collection rates.
- **Explore User Charges for Specific Services:** Instead of a blanket tax structure, some services can have user charges. This can **apply to parking, waste collection** for bulk generators, or recreation facilities.
  - The key is to ensure the fees are fair and reflect the cost of providing the service. Cities like Bengaluru have successfully implemented **user charges for solid waste management.**
- **Strategic Property Management:** Local bodies often hold **underutilised properties.** These can be monetised through **public-private partnerships (PPP)** for developing commercial spaces, markets, or parking lots.
  - This generates rental income and economic activity within the local body's jurisdiction. The **World Bank** recommends PPPs as a tool for local governments to access financing and expertise for infrastructure development.

Note:

➢ **Promote Local Businesses and Economic Development:** A thriving local economy translates to **higher tax revenue for local bodies**. Initiatives can include streamlining business licences, offering tax breaks for startups, or creating innovation hubs.

❍ The city of Austin, Texas, in the US, is known for its supportive environment for entrepreneurs, leading to a booming local economy.

➢ **Explore Social Stock Exchange (SSE):** These exchanges **allow social enterprises,** which focus on **social impact alongside profit generation**, to raise capital. Local bodies can explore the feasibility of creating an SSE or partnering with an existing one.

❍ This could **attract investment towards initiatives** that address local social needs while generating revenue for the local body.

➢ **Implement Value Capture Mechanisms:** This involves capturing a portion of the increased value of private properties **resulting from public infrastructure projects.**

❍ **Hong Kong** is a prime example of a city that **effectively uses land value** capture for infrastructure projects.

# Allahabad HC on Religious Conversions

## *Why in News?*

The **Allahabad High Court (HC)** recently addressed the issue of **religious conversions in India** highlighting the potential demographic impact on the majority population.

➢ Allahabad HC made these remarks while rejecting the bail application of an individual booked under **Uttar Pradesh Prohibition of Unlawful Conversion of Religion Act, 2021** and (kidnapping or abduction with intent secretly and wrongfully to confine a person) of the **Indian Penal Code.**

➢ This case underscores the court's stance on the constitutional boundaries of religious propagation and the urgent need to curb unlawful conversion activities.

## *What are the Allahabad High Court Observations on Religious Conversions?*

➢ The court stated that **Article 25 of the Indian Constitution,** which guarantees freedom of religion, **does not provide for conversions but allows for the propagation of religion.**

❍ The court clarified that **"propagation" means to promote a religion, but it does not entail converting** individuals from one religion to another.

➢ Court expressed concern that if such conversions continue unchecked, **the majority population in India could become a minority** and stressed the need to prevent the majority population from potentially becoming a minority due to these conversions.

➢ The court noted that unlawful conversions, particularly targeting **Scheduled Castes(SC)/Scheduled Tribes(ST)** communities and economically disadvantaged individuals, are occurring at a rampant pace throughout Uttar Pradesh**.**

➢ The court recommended that religious congregations where conversions are taking place should be immediately stopped.

## *What are the Key Constitutional Provisions Related to Religious Conversion?*

➢ **Article 25:** Guarantees freedom of conscience and the **right to freely profess, practice, and propagate religion**, subject to public order, morality, and health. The state can regulate or restrict any economic, financial, political, or other secular activity associated with religious practice.

❍ It also allows for the regulation of secular activities associated with religious practice and the throwing **open of Hindu religious institutions to all classes and sections of Hindus.**

➢ **Article 26:** Entitles every **religious denomination to manage its own religious affairs,** subject to public order, morality, and health.

➢ **Articles 27 to 30:** Guarantee freedom to manage religious affairs, contribute monetarily to any religion, and set up and administer educational institutions.

| **Uttar Pradesh Prohibition of Unlawful Conversion of Religion Act, 2021** |
|---|
| ➢ It aims to **regulate religious conversions and prohibit conversions achieved by misrepresentation, force, undue influence, coercion, allurement, or any fraudulent means.** |
| ➢ Illegal conversion carries standard punishment of 1-5 years imprisonment and a minimum fine of Rs. 15,000. Enhanced punishment of 2-10 years imprisonment and a minimum fine of Rs. 25,000 applies if the victim is a woman, a minor, or belongs to a Scheduled Caste or Scheduled Tribe. |

Note:

> ➢ In mass conversion cases, the punishment is 3-10 years of imprisonment and a minimum fine of Rs. 50,000.
> ➢ Repeat offenders may face up to double the relevant punishment. **Any marriage conducted for the purpose of unlawful conversion is declared void.**

## How has the Supreme Court Interpreted Religious Conversions?

➢ *Rev. Stainislaus Vs. State of Madhya Pradesh, 1977*: Upheld anti-conversion laws, ruling that Article 25(1) does not grant the right to convert others , but rather the right to transmit or spread one's religion through the exposition of its principles.

➢ *Sarla Mudgal Vs. Union of India, 1995 and Lilly Thomas Vs. Union of India, 2000*: Held that **conversions to Islam solely for practicing polygamy were invalid.**

➢ *M Chandra Vs. M Thangamuthu & Another, 2010*: Established the need for evidence of both conversion and acceptance into the new community.

➢ *Graham Staines Case, 2011*: Stated there is no justification for converting someone through force, provocation, or incitement.

➢ *Right to Privacy Case, 2017*: Emphasised the **constitutional right to freedom of religion,** including the ability to choose and express faith, asserting that state interference must be proportionate.

**Note:** The Supreme Court has yet to **provide a definitive ruling on the legal interpretation of "propagate" under Article 25.**

## What are the Anti-Conversion Laws in India?

➢ **About:** Anti-conversion laws in India are regulations that **seek to prevent individuals from converting from one religion to another** through means such as force, fraud, inducement, or allurement.
  ○ These laws aim to ensure that religious **conversions are voluntary and not coerced,** protecting individuals from being pressured or misled into changing their faith.

➢ **Historical Context of Anti-Conversion Laws:**
  ○ **Pre-Independence Era:** Before India gained independence, several princely states enacted **anti-conversion laws to restrict missionary activities** and conversions to Christianity.

  • **Examples:** Raigarh State Conversion Act (1936), Patna Freedom of Religion Act (1942), Sarguja State Apostasy Act (1945), and Udaipur State Anti-Conversion Act (1946).

  ○ **Post-Independence Attempts:** Efforts to pass central legislation on religious conversion have repeatedly failed.

  • **Indian Conversion (Regulation and Registration) Bill (1954)**, Backward Communities (Religious Protection) Bill (1960), and All India Freedom of Religion Bill (1978).

  • Despite these failures, **several states have enacted their own anti-conversion laws** over the years.

  ○ **State-Level Anti-Conversion Laws:**

  • **Odisha (1967): First State to enact a law restricting religious conversions,** prohibiting forceful conversions and fraudulent means.

  • **Madhya Pradesh (1968):** Introduced the Madhya Pradesh Dharma Swatantraya Adhiniyam, requiring notification to the District Magistrate for any conversion activities under penalty of law.

  • Arunachal Pradesh (1978), Gujarat (2003), Chhattisgarh (2000 and 2006), Rajasthan (2006 and 2008), Himachal Pradesh (2006 and 2019), Tamil Nadu (2002-2004), Jharkhand (2017), Uttarakhand (2018), Uttar Pradesh (2021), and **Haryana (2022).**

➢ These states have enacted laws prohibiting various forms of religious conversions, with enhanced penalties for conversions involving SCs, STs, minors, and women.

  ○ **Centre's Stand:** The Union Ministry of Home Affairs stated in an affidavit to the Supreme Court that the **right to religion does not include the right to convert others, especially through fraudulent or coercive mean**s.

  • They referred to the **Supreme Court's** interpretation of Article 25 and emphasised that fraudulent conversion affects an individual's freedom of conscience and can disrupt public order.

  • The Centre has not clarified if it will introduce a special law on religious conversions as requested in the petition.

Note:

### *What are the Challenges to Anti-Conversion Laws in India?*

➢ **Constitutional Concerns:** The primary challenge to anti-conversion laws in India revolves around their constitutionality, particularly concerning **fundamental rights** guaranteed under the Indian Constitution.
  ○ Critics argue that these laws infringe upon the rights to **freedom of religion, expression, and privacy**, as enshrined in **Articles 19, 21, and 25.**
  ○ In 2012, the Himachal Pradesh High Court ruled certain provisions of the state's 2006 anti-conversion law as unconstitutional. It **upheld the right to privacy, stating that the requirement of giving a month's notice to the district magistrate violated this right.**
  ○ In 2021, Gujarat High Court stayed the provisions of the **Gujarat Freedom of Religion Act, 2003**, which were amended to **include marriage as grounds for prohibiting conversions.**
    ● The court upheld the right to choice of an individual, stating that the **Act gave the impression that inter-faith marriages followed by conversion could be deemed illegal.**

➢ **Burden of Proof:** Anti-conversion laws often shift the burden of proof onto the accused to demonstrate that **conversions were not carried out through prohibited means.**

➢ **Impact on Interfaith Marriages:** Recent state law amendments declare marriages null if they involve conversion solely for the purpose of marriage.
  ○ Critics argue that these provisions interfere with individuals' rights to freely marry and choose life partners regardless of religious differences.

➢ **Allegations of Misuse and Targeting:** Critics argue that anti-conversion laws are often misused to **target religious minorities and dissenting voices,** leading to concerns about exacerbating communal tensions and discriminating against vulnerable groups such as Dalits, Adivasis, and women.

# High Court Upholds Hijab Ban in Colleges

### *Why in News?*

Recently, the **Bombay High Court** dismissed a plea by 9 students who have challenged the **college's new dress code** that banned the wearing of hijabs, burqas, niqabs, and any other religious identifiers inside the college premises.

➢ The court held that the dress code was decided in the **"larger academic interest"** of the students.

> **Note:**
> ➢ Recently, **Tajikistan** has officially **banned hijabs** for women despite over **95%** of the population being Muslim.
> ➢ It is also banned in Germany, Australia, Austria, Bosnia, Herzegovina, France, Canada, Kazakhstan, Kosovo, Kyrgyzstan, Russia, and Uzbekistan **with varying degrees of restrictions.**
> ➢ Iran Hijab Movement:
>   ○ Iranian women have a long history of fighting for choice regarding the hijab. After the **1979 revolution**, mandatory hijab sparked protests. Women have continuously resisted through various acts, with major events like the **"Girl of Enghelab Street"** (where a women tied her white headscarf to a stick and waved it in the air, a silent act of defiance against compulsory hijab) and **Mahsa Amini's death** fueling protests. Despite government enforcement, the movement persists, with many Iranians, both men and women, **opposing compulsory hijab**.
>   ○ The new **law** in Iran has made it **mandatory** for **Iranian women to wear the hijab**, enforcing this dress code with **fines and imprisonment** for those who do not comply.

### *What were the Key Arguments and Court's Ruling?*

➢ **Arguments of Students:**
  ○ Students argued that the **college dress code** infringes on their **religious freedom and right to education.** They believe the college doesn't have the authority to impose such restrictions, especially since it hinders access to education for minority communities.
    ● They claim the restrictions violate specific articles of the constitution **Article 19(1)(a)** (Right to Freedom of Expression) and **Article 25** (Right to Freedom of Religion).
    ● They also claimed the decision was in violation of **University Grants Commission (Promotion of Equity in Higher Educational Institutions)**

**Regulations, 2012** meant to increase access to higher education for SC,ST, OBC and minority communities.

➢ **Arguments of College Administration:**

○ The college administration, however, argued that the **dress code was applicable to all students, across religious and community lines**. It said that the objective behind the rules was to **not reveal students' religion**.

● They relied on the **2022 judgement of Karnataka High Court** which stated that **donning the hijab or niqab was "not an essential religious practice"** for women professing Islam.

● The college also said that this was an **internal matter**, and **a part of its right to maintain discipline**.

● It held that the dress code, which prescribed **"any Indian/western non-revealing dress"** for girls, was **applicable to all students across religious and community** lines.

➢ **Bombay High Court's Ruling:**

○ The Bombay HC **rejected the students' argument** that wearing the hijab is an **"essential religious practice"** emphasising the **dress code was applicable uniformly to all students,** irrespective of their "caste, creed, religion or language" which did **not violate the UGC regulations** on promoting equity in higher education.

○ It held that between the **competing rights of a student's choice of dress** and the **institution's right to maintain discipline**, the **"larger rights" of the college must prevail**, as students are expected to attend the institution for academic advancement.

○ The court relied on and expressed **"full agreement" with the 2022 judgement of the Karnataka High Court (HC)** on *Resham v. State of Karnataka, 2022* which had **validated the state government's ban on hijabs in government colleges**.

➢ **Challenged in Supreme Court:**

○ However, the **Karnataka HC judgement on hijab ban** is itself currently **under challenge in the Supreme Court**, where a 2-judge bench delivered a split verdict in **October 2022**. The case has now been referred to a larger bench of the Supreme Court.

● This Bombay HC verdict is also likely to be contested in the **Supreme Court.**

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**Karnataka Government on Hijab Ban**

➢ In 2022, the **Karnataka government passed an order** prohibiting the wearing of **hijab (headscarf)** in government educational institutions.

➢ The order cited **Section 133(2) of the Karnataka Education Act, 1983**, which grants the state powers to issue directives for government schools to follow.

➢ In 2013, the state used this provision to **make uniforms compulsory.** The latest order states that the **hijab is not an essential religious practice for Muslims** that can be protected under the Constitution.

*How Have Courts Ruled so far on the Issue of a Hijab?*

➢ **Bombay High Court, 2003:**

○ In *Fathema Hussain Sayed v Bharat Education Society*, the court held that the *Quran* does not prescribe the wearing of a headscarf, and a **girl student not wearing a headscarf cannot be seen as violating Islamic injunctions.**

➢ **2015 Kerala High Court Cases:**

○ Two petitions challenged the dress code for the **All India Pre-Medical Entrance,** which prescribed light clothes with half sleeves and slippers instead of shoes.

○ The **Central Board of School Education (CBSE)** argued that the dress code was to prevent unfair practices.

● The Kerala HC directed the CBSE to implement additional measures for students wishing to wear religious attire.

➢ **Amna Bint Basheer v CBSE, 2016:**

○ The Kerala HC ruled that **wearing a hijab is an essential religious practice but upheld the CBSE dress code**, allowing additional measures and safeguards as in 2015.

➢ **Kerala High Court, 2018:**

○ In *Fathima Thasneem v State of Kerala,* the court ruled in favour of a Christian missionary school's decision **to deny permission to wear headscarves,** stating that the **"collective rights" of the school must take precedence** over individual student rights.

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Note:

➢ **Supreme Court Split Verdict on Hijab Ban:**

## Divergent views
### A look at what was emphasised by the two verdicts on the hijab ban

**DELIVERED BY**
**JUSTICE HEMANT GUPTA**

"Secularism is applicable to all citizens, therefore, permitting one ... community to wear their religious symbols would be antithesis to secularism."

**SCHOOL AND RELIGION:** Religion has no meaning in a secular school run by the state. "Students are free to profess their religion and carry out religious activities other than when they're attending a classroom."

**UNIFORM, EQUALITY:** "... Uniform fosters a sense of 'equality' amongst students- instills a sense of oneness, diminishes individual differences..."

**DELIVERED BY**
**JUSTICE SUDHANSHU DHULIA**

"Wearing hijab should be simply a matter of choice. It may or may not be a matter of essential religious practice, but it still is, a matter of conscience, belief, expression."

**CLASSROOM IS DIFFERENT:** Though discipline is required in educational institutions, they can't be put on par with a jail or a military camp, as was cited by HC while describing schools as "qualified public spaces"

**TICKET TO EDUCATION:** "If it is worn as a matter of her choice, as it may be the only way her conservative family will permit her to go to school... her hijab is her ticket to education"
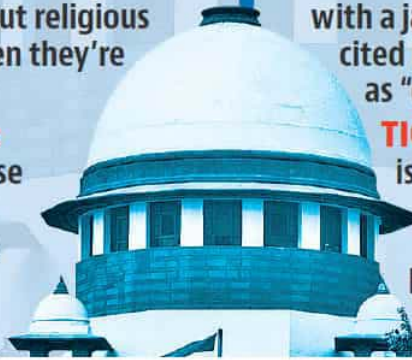
### What is the Constitutional Framework for Religious Freedom in India?

➢ **Right to Freedom of Religion: Articles 25-28** of **Part-3 (Fundamental Rights)** of the Constitution confers the right to freedom of religion to all persons.

○ **Article 25(1):** This article grants the **"freedom of conscience and the right to freely profess, practice, and propagate religion."** It establishes a negative liberty, wherein the state cannot obstruct the exercise of this right.

○ **Article 26:** This article provides the **"freedom to manage religious affairs"** subject to public order, morality, and health.

● It allows **religious denominations to establish and maintain institutions** for religious and charitable purposes.

○ **Article 27:** This article **prohibits the state from compelling any citizen to pay taxes for the** promotion or maintenance of any particular **religion**. It upholds the principle of secularism.

○ **Article 28:** This article deals with the **freedom to attend religious instruction or worship in certain educational institutions.**

● It allows the state to **provide religious instruction in state-recognized or state-funded educational institutions**.

➢ Further, **Articles 29 and 30 of the Constitution** deal with the protection of the interests of minorities.

## Nine Years of Digital India Initiative

### Why in News?

Recently, the Prime Minister emphasised the substantial impact of **Digital India initiatives,** marking its

Note:

successful **nine-year journey.** He characterised Digital India as a symbol of **national empowerment, elevating living standards and fostering transparency.**

### *What is the Digital India Initiative?*

➤ **About:**

- ○ Digital India, was launched on **1st July 2015 by the Indian Government.**

- ○ This program builds upon earlier **e-governance** efforts that began in the **mid-1990s** but lacked cohesion and interactivity.

➤ **Objective:**

- ○ **Narrowing the Digital Divide:** The initiative works to lessen the disparity between tech-savvy individuals and those with limited digital access.

- ○ **Promoting Digital Participation:** It strives to ensure equitable access to **digital technology** benefits for all citizens, encompassing areas like education, healthcare, and government services.

- ○ **Stimulating Economic Development:** By tapping into technological advancements and innovative solutions, Digital India aims to drive **economic growth** across the country.

- ○ **Elevating Living Standards:** The program seeks to enhance citizens' overall quality of life through the strategic application of technology in various aspects of daily living.

➤ **Nine Pillars of Digital India Initiative:**

- ○ **Broadband Highways:** Focus on building extensive **high-speed broadband networks** nationwide to boost connectivity and digital empowerment.

- ○ **Universal Access to Mobile Connectivity:** Extend mobile coverage to remote areas, enabling all citizens to engage with mobile services and participate in the digital economy.

- ○ **Public Internet Access Programme:** Establish **Common Service Centres** in underserved areas to provide affordable internet access, addressing the digital divide and promoting digital literacy.

- ○ **E-Governance, Utilize Technology to Streamline Government Services:** Improving accessibility, efficiency, and transparency while enhancing citizen engagement.

- ○ **E-Kranti:** Platforms such as **MyGov.in** facilitate the electronic delivery of government services to citizens, prioritizing accessibility and operational efficiency.

- ○ **Information for All:** Digitise government records for online accessibility and promote **open data initiatives to fuel innovation and development.**

- ○ **Electronics Manufacturing:** Encourage local electronics manufacturing to reduce **imports, create jobs, and support digital economic growth** through manufacturing clusters and investment incentives.

- ○ **Information Technology (IT) for Jobs:** Enhance youth **IT skills to meet growing industry demands** through programs like **Digital Literacy Mission and Skill India**, focusing on skill enhancement and IT sector employment.

- ○ **Early Harvest Programs:** Include specific projects addressing immediate digital needs, such as online access to school certificates, **digital attendance, and Wi-Fi in public spaces.**



Nine Pillars of Digital India
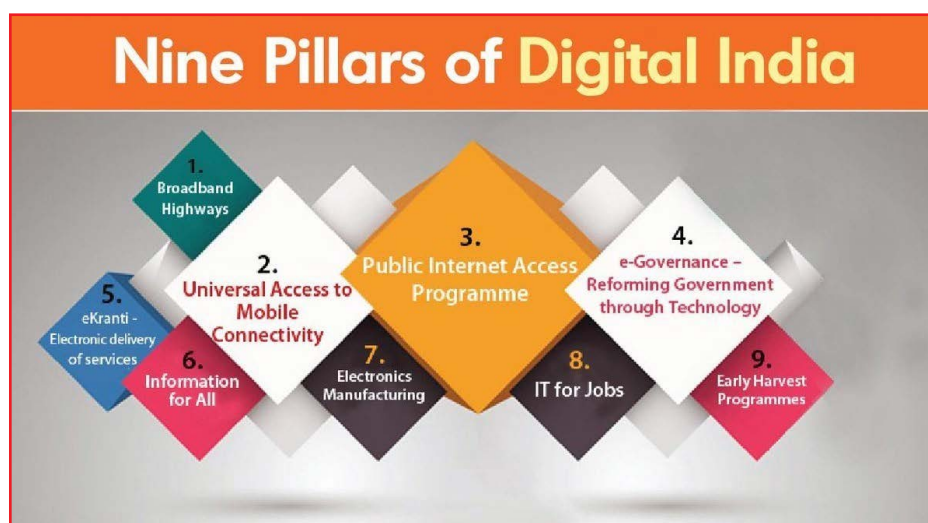
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### What are the Various Digital India Initiatives Taken for Digital India?

➢ **Aadhaar**: A biometric identification system that assigns unique **12-digit identity numbers** to residents.

➢ **BharatNet:** A project aimed at providing high-speed broadband connectivity to villages, **enabling digital services in rural areas**.

➢ **Startup India**: An initiative to promote entrepreneurship and support startups through incentives, funding, and mentoring.

➢ **e-NAM:** An online trading platform that connects agricultural markets, facilitating efficient sale of produce.

➢ **Digital Locker:** A cloud-based platform for securely storing and accessing important documents digitally.

➢ **BHIM UPI**: A digital payment system that enables secure peer-to-peer transactions using smartphones.

➢ **eSign Framework:** Allows online signing of documents using digital signatures.

➢ **MyGov:** A citizen engagement platform that facilitates participation in governance and policy discussions.

➢ **e-Hospital:** Digitised hospital services, including online registration and access to health records.

➢ **SWAYAM**

➢ **UMANG App**

➢ **Smart Cities Mission**

➢ **Digital India Act (DIA), 2023:** The proposed act aims to **replace** the outdated **IT Act of 2000**, adapting to India's growing internet user base, technological advancements, and new digital challenges. The DIA provides **guidelines for responsible adoption of emerging technologies like AI and blockchain**, encouraging innovation while maintaining ethical standards.

### What are the Challenges and Way Forward Concerning Digital India?

| Challenges | Way Forward |
|---|---|
| ➢ **Digital Divide: As of 2021**, India's internet penetration rate was about **47%,** leaving over half the population without access. **Rural areas lag** particularly behind, with only **32% rural internet penetration compared to 67%** in urban areas.<br>➢ While **BharatNet** has made progress, only about **1.7 lakh out of 2.5 lakh gram panchayats** were connected by optical fiber as of 2021, indicating infrastructure gaps in rural areas. | ➢ **Bridging the Digital Divide:** Implement initiatives like the **PM-WANI scheme** to establish public Wi-Fi networks, **targeting 2 million hotspots by 2024.**<br>➢ Invest in 5G infrastructure, aiming for 40% population coverage by 2025. |
| ➢ **Digital Literacy:** Low digital literacy remains a hurdle. **A 2021 report** by IAMAI **Internet and Mobile Association of India (IAMAI)** Kantar, revealed that only **34%** of India's population is considered digitally literate. | ➢ **Enhancing Digital Literacy:** Scale up the **Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)** to reach its target of training 60 million rural households by 2023.<br>➢ **Integrate** digital literacy programs in **school curricula,** aiming to increase the digitally literate population from 34% to 50% by 2025. |
| ➢ **Cybersecurity And Data Privacy Concerns:** According to **CERT-In,** India faced over **1.1 million cybersecurity incidents in 2020**.<br>➢ The India **Digital Personal Data Protection Act 2023 (DPDPA**) is a landmark legislation that aims to safeguard the privacy of individuals in the digital age | ➢ **Strengthening Cybersecurity:**<br>➢ Implement the **National Cyber Security Strategy**, targeting a 50% reduction in cybercrime incidents by 2026 through strong legislation and robust privacy mechanisms. |
| ➢ **E-Governance Challenges:** While e-governance initiatives have improved, issues like **digital identity verification** and service delivery in remote areas persist. | ➢ **Enhancing e-Governance:**<br>➢ Implement a **unified digital identity system** for all government services by 2024. Increase the number of services available through **the UMANG app from 1,251 to 2,500 by 2025.** |

Note:

> ➤ **Skills Gap:** The **NASSCOM FutureSkills report** suggests that 20% of Indian tech professionals lack the relevant digital skills needed for future jobs.

> ➤ **Addressing the Skills Gap:** Focus on a national digital skills program, aiming to upskill professionals in emerging technologies. According to a private survey report, India will need **30 million digitally skilled** professionals by 2026.

# Debate Around Education as a 'State Subject'

## Why in News?

Recently, controversies surrounding exams like **NEET-UG** and **UGC-NET** have **reignited the debate** on whether **education** should be **transferred back to the state list.**

## What is the Status of the Education System in India?

➤ **History:**
  ○ The **'Gurukul'** was a type of education system in ancient India with **shishya (students) living with the guru** in the same house.
  ○ **Nalanda**, possessing the world's oldest university system, drew students globally to Indian knowledge traditions.
  ○ **British Government** brought **various reforms** in the education system through **Macaulay Committee** recommendations, **Woods' Despatch**, Hunter Commission Report, and Indian University Act, 1904 which had a profound impact on society.

➤ **Current Status of Education in India:**
  ○ India's **overall literacy rate of 74.04%** is below the world average of 86.3%. A significant number of states in India fall within the average range, just slightly above the national literacy level.
  ○ The **gender gap in literacy** in India began narrowing in 1991, with an accelerated pace of improvement. However, the current female literacy rate (65.46%-Census 2011) in India still significantly lags behind the global average of 87%, as reported by **UNESCO** in 2015.

➤ **Different Legal and Constitutional Provisions:**
  ○ **Legal Provisions:**
    ● The government has implemented the **Sarva Shiksha Abhiyan (SSA)** as part of the **Right to Education (RTE) Act, 2009** for primary level (6-14 years).

● At the secondary level (age group 14-18), the government has extended the SSA to secondary education through the **Rashtriya Madhyamik Shiksha Abhiyan.**

● Higher education, encompassing undergraduate (UG), postgraduate (PG), and MPhil/PhD levels, is addressed by the government through the **Rashtriya Uchhattar Shiksha Abhiyan (RUSA)** to meet the requirements of higher education.

➤ All these schemes have been subsumed under the umbrella scheme of **Samagra Shiksha Abhiyan.**
  ○ Constitutional Provisions:
    ● Initially, **Article 45** of the **DPSP** aimed to provide free and compulsory education for children up to 14 years, later amended to include early childhood care, and eventually **made a fundamental right(Article 21A)** through the **86th Constitutional Amendment Act of 2002** due to unfulfilled objectives.
    ● **Entry 64 and 65 of the Union List** in the **Schedule 7** of the constitution lists Institutions for scientific or technical education financed by the Government of India, professional, vocational or technical training etc.

➤ **Education as a 'State' Subject:**
  ○ The **Government of India Act, 1935**, created a **federal structure**, placing education under the **provincial list.**
  ○ In post-independence India, education remained a state subject.
  ○ However, during the **emergency**, the **Swaran Singh Committee** recommended moving education to the concurrent list, implemented through the **42ⁿᵈ constitutional amendment** in 1976.
  ○ The **44th constitutional amendment** was an attempt to correct the changes to a certain extent.

### Government Initiatives Related to Educational Reforms

➢ National Education Policy, 2020
➢ National Programme on Technology Enhanced Learning
➢ Sarva Shiksha Abhiyan
➢ PRAGYATA
➢ Mid-Day Meal Scheme
➢ Beti Bachao Beti Padhao
➢ PM SHRI Schools
➢ Samagra Shiksha Scheme 2.0

### International Practices to Govern Education System

➢ **United States:** State and local governments set educational standards, while the federal department focuses on financial aid and equal access.
➢ **Canada:** Education is managed by the provinces.
➢ **Germany:** Legislative powers for education rest with the Länder (states).
➢ **South Africa:** Two national departments govern education, with provincial departments handling local implementation.
➢ **Finland's Model of Governance:** Unlike many countries, Finland doesn't rely on standardized tests. The system emphasises collaboration among schools, teachers, and students, fostering a supportive learning environment.

## Why Should Education be on the State List?

➢ **Original Constitution Design**: Education was initially placed on the State List by the framers of the Constitution, recognising that **local governments are better equipped** to handle educational needs.

➢ **42$^{nd}$ Amendment Impact**: The **unilateral shift** of education to the Concurrent List during the Emergency **undermined the federal structure**.
  ○ Allowing states to have exclusive control over education would **restore the balance** of power envisioned by the framers of the Constitution.

➢ **State-Specific Policies**: States can **tailor their educational policies** to their unique **cultural, linguistic, and socio-economic contexts**. This ensures that education is relevant and responsive to the needs of the local population and can be crucial **for improving literacy rates** and educational outcomes.
  ○ For example under **Article 350A endeavour** should be made to provide **primary education in the mother tongue.**

➢ **Divergent Policies**: The central government's policies, such as the **National Education Policy (NEP)** and **National Eligibility cum Entrance Test (NEET)**, often conflict with state policies, leading to **inefficiencies and disenfranchisement.**

➢ **Resource Allocation**: States that invest significantly in their **educational infrastructure** should have the **authority to regulate** and benefit from their investments without interference from the central government.
  ○ The Ministry of Education's 2022 report indicates that states bear the majority of educational expenditure (85%).

➢ **Merit Determination**: Centralised entrance exams like NEET **do not necessarily reflect the merit or potential** of students from diverse educational backgrounds.
  ○ States should have the flexibility to design admission criteria that better assess and foster student potential.
  ○ The **Tamil Nadu Admission in Professional Educational Institutions Act 2006**, upheld by the Madras **High Court** and the **Supreme Court**, supports the argument that common entrance exams do not determine merit.
  ○ In the case of *Neil Aurelio Nunes and others Vs Union of India and others*, the Supreme Court observed that marks are not the determining factor of merit.

➢ **Issue of Accountability:** If the significant institutes are brought under the ambit of the state, it would result in **better accountability of the state with respect to quality education.**

## Why Should Education Not be on the State List?

➢ **Poor Status of Primary Education:** As per the **ASER 2023 Report**, most rural kids of 14-18 can't do Class 3 math while over 25% can't read. This reflects the poor governance of education in the states.

➢ **National Integration and Mobility:** The **Kothari Commission (1964-66)** emphasized the importance of a **common educational framework** across states to **foster national integration** and cultural exchange.
  ○ A concurrent list allows the Centre to set core national standards while states can adapt them to local contexts, **promoting both unity and diversity.**

➢ **Ensuring Minimum Standards and Equity:** The **Right to Education Act (RTE), 2009,** guarantees a **minimum level of education** across India.

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drishti

○ Keeping education concurrent allows the Centre to monitor implementation, ensuring disadvantaged sections have access to quality education irrespective of their state.

➢ **Standardisation of Skills and Employability:** Reports by **FICCI (Federation of Indian Chambers of Commerce and Industry)** highlight the need for a standardised national curriculum to ensure graduates have the skills required by a pan-India job market.

○ A concurrent list facilitates this by establishing a common framework while allowing states to tailor vocational training.

➢ **Regulation of National Institutions and Accreditation:** Keeping education concurrent allows the Centre to maintain oversight and ensure quality standards in these institutions, **which cater to students from across the country.**

➢ **Addressing National Concerns and Emergencies:** The **National Education Policy (NEP) 2020** outlines strategies for areas of national importance like **digital literacy** and **artificial intelligence.**

○ New national challenges like **climate change** also require a unified educational approach.

○ A concurrent list allows the Centre to develop national curricula that address these emerging issues while accommodating state-specific concerns.

# Regulating Facial Recognition Technology in India

## *Why in News?*

Recently, the **NITI Aayog,** the premier public policy think-tank of the Government of India, has called for **comprehensive policy and legal reforms** to **regulate the use of Facial Recognition Technology (FRT)** in the country.

➢ This step is considered a major development amid growing worries about **privacy, transparency,** and **accountability.**

## *What are the Proposals to Regulate the Use of FRT in India?*

➢ **Status of Regulation in India:**

○ Currently, there is **absence** of any comprehensive legal framework present to regulate the use of Facial Recognition Technology (FRT) in India.

➢ **Need For Regulating FRT:**

○ **Multifaceted Challenges:** FRT presents distinct challenges compared to other technologies due to its **ability to capture and process sensitive biometric data remotely.** Existing regulations might not adequately address these specific concerns.

○ **Ensuring Responsible Development:** The objective is to create a comprehensive **governance framework that can ensure the responsible development and deployment of FRT in India.**

● This is crucial to mitigate the risks and ethical concerns associated with the use of FRT, such as privacy violations, algorithmic bias, and abuse of surveillance powers.

○ **International Thought Leadership**: Proactive regulation will **allow India to emerge as a global thought leader on FRT governance,** shaping international discourse and policies.

○ **Promoting Public Trust:** Effective regulation will build public trust in the technology and facilitate its widespread adoption across various sectors.

○ **Balancing Innovation and Safeguards:** The reforms seek to strike a balance between **promoting FRT innovation and putting in place necessary safeguards** to protect individual rights and societal interests.

➢ **Key Proposals:**

○ **Standardising Liability:**

● Establishing a **legal framework** that **imposes liability** and **defines the extent of damages** for harms caused by FRT malfunctions or misuse. This would incentivise responsible development and deployment.

○ **Ethical Oversight:**

● Creating an **independent ethical committee** with diverse expertise to oversee FRT implementation. This committee would **address issues of transparency, accountability, and potential bias** within the algorithms.

○ **Transparency in Deployment:**

● Mandating **clear and transparent guidelines** on the **deployment of FRT** systems. This would include informing the public about the use of FRT in **specific areas** and obtaining consent where necessary.

Note:

- **Legal Compliance:**
  - Ensuring FRT systems comply with the Supreme Court's established legal principles in its judgement given in *Justice K. S. Puttaswamy (Retd) Vs Union of India* **case.**
  - These principles include **legality** (adherence to existing laws)**, reasonability** (proportionality to the objective), and **proportionality** (balancing the need for security with individual rights).

## *What is Facial Recognition Technology?*

- **About:**
  - Facial recognition is an **algorithm-based technology** which creates a **digital map of the face** by identifying and mapping an individual's facial features, which it then **matches against the database** to which it has access.
  - In the **Automated Facial Recognition System (AFRS)**, the large database (containing photos and videos of peoples' faces) is used to match and identify the person.
  - Image of an unidentified person, taken from CCTV footage, is compared to the existing database using **Artificial Intelligence technology,** for pattern-finding and matching.

- **Working:**
  - The facial recognition system works primarily by **capturing the face & its features** through the camera and then using various kinds of **software to reconstruct those features.**
  - The captured face along with its features is **stored into a database**, which can be integrated with any kind of software that may be used for security purposes, banking services, etc.

- **Uses:**
  - **Verification:**
    - The facial map is obtained for the purpose of matching it against the person's photograph on a database to authenticate their identity. For example, it is used to **unlock phones.**
  - **Identification:**
    - The facial map is obtained from a photograph or video and then matched against the entire database to identify the person in the photograph or video. For example, law enforcement agencies usually procure FRT for identification.
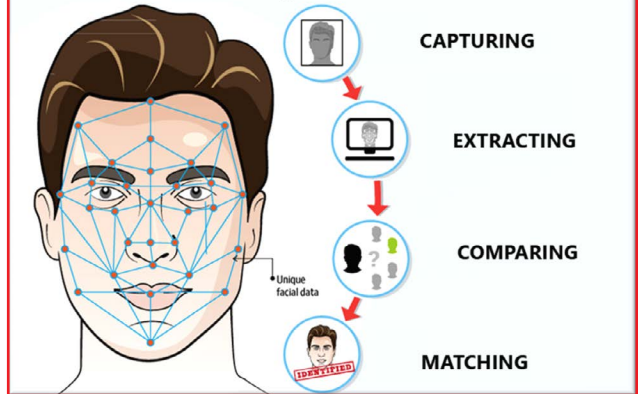


## *What are the Concerns Regarding the Use of FRT Technology?*

- **Inaccuracy, Misuse and Privacy Concerns:** FRT's limitations include **misidentification**, particularly across racial and gender demographics. This can lead to **wrongful disqualification** of legitimate candidates.
  - The widespread use of FRT for **surveillance and data collection** can clash with the objectives of **data privacy and protection**, even in the presence of a legal framework.

- **Racial and Gender Biases:** Studies reveal disparities in FRT accuracy based on race and gender, potentially excluding deserving candidates and reinforcing societal biases.

- **Exclusion from Essential Services:** Failures in biometric authentication, such as **under the Aadhaar system,** have led to the **exclusion of individuals from accessing essential government services**.

- **Absence of Data Protection Laws:** The lack of comprehensive data protection laws makes FRT systems **vulnerable to misuse, with inadequate safeguards for the collection, storage, and use of biometric data.**

- **Ethical Concerns:** It also raises ethical questions about the balance between public safety and individual rights, as well as the potential for misuse and abuse of the technology. There are **concerns about the erosion of anonymity** and the potential for FRT to be **used for social control and suppression of dissent.**

Note:

| FRT Regulation in Other Countries |
|---|
| ➢ **European Union (EU):** Apart from the **General Data Protection Regulations (GDPR)** and the **Data Protection Directive**, the EU has an **AI Act** which aims to create a risk-based compliance framework, categorising FRT systems as **"high risk"** and subjecting them to the strictest compliance requirements. |
| ➢ **UK, US, Canada, and Australia:** In these countries, the regulation of FRT is mainly governed by their **respective data protection and privacy laws.** |

# Uncertainty Regarding India's Next National Census

## Why in News?

Recently, the deadline to **freeze administrative boundaries for the Census expired** without a new date announced. Thus, creating uncertainty around the timing of the Census exercise.



## What are the Recent Updates Regarding the Census Exercise in India?

➢ **Deadline Extensions:** The deadline for freezing administrative boundaries necessary

for the Census has been extended **nine times since December 2020**.

➢ **Impact of Recent Extensions:**
  ○ **On Census Timeline:**
    ● This extension effectively postpones the commencement of the Census to at least **1st October 2024** as it typically takes three months to prepare enumerators for the task. This lack of clarity adds to the uncertainty surrounding the Census schedule.
  ○ **On Women's Reservation Act:**
    ● The implementation of the **women's reservation,** which **reserves 33% of seats in Parliament and State Assemblies for women,** hinges on the completion of the Census and subsequent **delimitation exercises.**
    ● **Delimitation based on the new Census data** is necessary before the reservation can be enacted.
➢ **Additional Considerations:**
  ○ Few political **parties** has demanded the **inclusion of a caste census in the upcoming Census exercise.** This demand underscores broader discussions on social categorisation and representation within Indian society.

Note:

## What is the Census?

➢ **Historical Context and Frequency:**
- ○ India's first synchronised census occurred in 1881 under **W.C. Plowden**, **the then Census Commissioner of India.** Since then, it has been conducted every decade without interruption.
- ○ While the **Census of India Act of 1948** provides the legal framework, it doesn't specify a mandatory frequency.
  - The decennial pattern is a convention rather than a constitutional requirement.
  - The **Office of the Registrar General and Census Commissioner of India,** operating under the **Ministry of Home Affairs,** oversees the responsibility of conducting this decadal enumeration exercise.

➢ **Objective:**
- ○ The Census provides a **snapshot of the nation's population**, serving as a foundation for reviewing progress, evaluating government schemes, and planning future initiatives.

➢ **Methodology:** The Census is conducted in **two main phases:**
- ○ **Houselisting/Housing Census:** This initial phase records details of all structures, including their type, amenities, and assets.
- ○ **Population Enumeration:** This more comprehensive phase collects detailed information about each individual in the country, regardless of nationality.

➢ **Global Perspective:**
- ○ While India follows a 10-year cycle, similar to countries like the US and UK, some nations like **Australia, Canada, and Japan conduct their censuses every five years.**

### Census Data 2011

➢ **Population:** Grew by **17.7% to 1.21 billion**, with female growth outpacing male growth.

➢ **Literacy: Rose to 73%**, with women's literacy improving more than men's.

➢ **Population Density**: Increased to **382 people per square** kilometer.

➢ **Sex Ratio:** Improved to 940 females per 1000 males.

➢ **Religious Demographics:** Hindus at 79.8%, Muslims at **14.23%** of population.

➢ **New Category:** "No religion" option introduced, with 0.24% identifying as such.

# New Criminal Laws Come into Force

## Why in News?

Recently enacted three new criminal laws **Bharatiya Nyaya Sanhita (BNS), Bharatiya Nagarik Suraksha Sanhita (BNSS)**, and **Bharatiya Sakshya Adhiniyam (BSA)** are set to take effect from 1st July 2024, replacing the colonial-era **Indian Penal Code (IPC), Code of Criminal Procedure (CrPC)** and **Indian Evidence Act.**

## What are the Key Highlights of the New Criminal Laws?

➢ **Objective:** The new laws aim to **replace colonial-era punishments** with a justice-focused approach, integrating **technological advancements** in police investigations and court procedures.

➢ **New Offences**: New offences include **terrorism**, **mob lynching**, **organized crime**, and enhanced punishments for crimes against women and children.

➢ **Steps for Smooth Transition:**
- ○ States are free to bring in their own amendments to some provisions of the **Bharatiya Nagrik Suraksha Sanhita (BNSS).**
- ○ The **Bharatiya Nyaya Sanhita (BNS)** may also be amended soon to incorporate a section on **sexual crimes** against men and transgender persons.
  - For the time being police officers are being asked to invoke **other allied sections** under the BNS, such as wrongful confinement and physical hurt, if they get such complaints until an amendment is brought to correct this anomaly.
- ○ The IPC and CrPC will **run concurrently along with the new laws** as several **cases are still pending** in courts and some crimes that took place before 1st July 2024 that are reported later will have to be registered under the IPC.
- ○ **First information reports (FIRs)** can now be filed online through the **Crime and Criminal Tracking Network Systems (CCTNS)**, allowing **e-FIRs and zero FIRs** in multiple languages without needing to visit a police station.
- ○ **Training and hand-holding** have been done for all States to help them adapt to the new system.

Note:

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○ While the Home Ministry is testing **eSakshya**, a mobile app for police to record and upload crime scene evidence, various states have developed their own systems based on their capabilities.

● For example, the **Delhi Police** have developed an **e-pramaan application.**

➢ **Key Points in New Laws:**

○ Introduces **community service** as punishment for petty offences.

○ A **terrorist act** **defined** as one intending or likely to threaten India's unity, integrity, sovereignty, security, or economic security, or acts intended or likely to strike terror among the people.

○ **Mob lynching** **now punishable** by death or life imprisonment **if committed by five or more** on grounds such as race, caste, community, sex, place of birth, language, personal belief.

○ There will be **trial in absentia** of fugitive criminals.

○ **Summary trials** now cover cases where the **punishment is up to 3 years**, aiming to resolve more than 40% of cases in sessions courts.**m**

○ **Videography compulsory** during search and seizure. No charge sheet valid without such recording.

○ A **first-time offender** who has served a third of the jail term will be **released on bail by the court.**

○ **Forensic experts** should be used in every case where the punishment includes seven or more years in jail.

➢ **Bharatiya Nyaya Sanhita, 2023:**

# BHARATIYA NYAYA SANHITA (BNS), 2023

*BNS 2023 replaced Indian Penal Code 1860, incorporating 358 sections (511 in IPC), maintaining most of the IPC provisions, introducing new offences, eliminating court-struck-down offences, and enhancing penalties for various offences.*

## New Offences

- **Promise to Marry:** Criminalising "deceitful" promises to marry
- **Mob Lynching:** Codify offences linked to mob lynching and hate-crime murders
- Ordinary criminal law now covers **Organized Crime** and **Terrorism**, including a broader scope for terror financing in BNS compared to UAPA
- **Attempt to Suicide:** Criminalises attempts to commit suicide with intent to compel or restrain any public servant from discharging official duty
- **Community Service:** Added as possible form of punishment

## Other Modifications

- **Fake News:** Criminalisation of publishing false and misleading information
- **Sedition:** Introduced under a new name 'deshdroh' with wider definition
- **Mandatory Minimum Sentence:** In several provisions, mandatory minimum sentences prescribed which may limit scope for judicial discretion
- **Damage to Public Property:** Carry a graded fine (i.e. fine corresponding to the amount of damage caused)
- **Death by Negligence:** Elevates punishment for causing death by negligence from two to five years (for doctors - 2 yrs imprisonment)

## Deletions

- **Unnatural Sexual Offences:** Section 377 of the IPC, which criminalised homosexuality among other "unnatural" sexual activities repealed completely
- **Adultery:** Offence of adultery omitted in consonance of apex court judgement
- **Thugs:** Section 310 of IPC fully omitted
- **Gender Neutrality:** Some laws dealing with children modified to bring gender neutrality

## Key Issues

- **Criminal Responsibility Age Discrepancy:** Criminal responsibility starts at seven, extendable to 12 based on maturity, potentially conflicting with global recommendations
- **Inconsistencies in Child Offense Definitions:** It sets child age below 18, but age criteria for offenses like rape differ, causing inconsistency
- **Retention of IPC Provisions on Rape and Sexual Harassment:** Maintains IPC provisions on rape and sexual harassment, omitting **Justice Verma Committee's 2013** suggestions for gender-neutral rape and recognizing marital rape as an offense.

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Note:

➢ **Bharatiya Sakshya Act, 2023:**

# BHARATIYA SAKSHYA ACT, 2023 ↙

*The Bharatiya Sakshya Act, 2023 has 170 sections, altering 24, adding two, and repealing six of 167 sections of the Indian Evidence Act 1872.*

## Retained Provisions

- Parties involved in a legal proceeding can only present admissible evidence
- Court accepts proven facts if evidence supports reasonable action in the given circumstances
- Police confessions generally inadmissible unless recorded by a Magistrate

## Key Changes

- Electronic records hold equivalent legal status to traditional paper documents
  - Electronic records encompassing data stored in memory and communication devices
- Allows oral evidence to be given electronically
  - Electronic records are categorised as secondary evidence
- A joint trial means trying more than one person for the same crime
  - A trial of multiple persons, where an accused has not responded to an arrest warrant, will be treated as a joint trial

## Key Issues

- **Electronic Records:**
  - Concerns regarding tampering of electronic records during the search, seizure and investigation process
  - Usually, Electronic records must be authenticated by a certificate to be admissible as documents
    - The Act classifies electronic evidence as documents (which may not need certification), creating a contradiction
- **Exclusion of Suggestion of SC and Law Commission**
  - Concerns about duress and torture as Act kept a rule allowing information from someone in police custody to be used if it's directly related to a discovered fact
  - Exclusion of the presumption of police responsibility for injuries to someone in custody

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Note:

➢ **Bharatiya Nagarik Suraksha Sanhita, 2023:**

# BHARATIYA NAGARIK SURAKSHA SANHITA (BNSS), 2023

*BNSS replaces CrPC 1973 and consists of 531 sections with 177 sections revised, 9 new sections added, and 14 sections repealed.*

## Key Provisions

- **Hierarchy of Courts:** Eliminated distinction and role of Metropolitan Magistrates
- **Mandated Use of Electronic Mode:** At stages of investigation, inquiry, and trial
- **Detention of Undertrials:** Restriction on release on personal bond for accused persons (a) charged with life imprisonment or (b) facing multiple proceedings
- **Alternative to Arrest:** An accused doesn't have to be arrested; instead, the police can take a security bond for their appearance before a Judicial Magistrate
- **Community Service Defined:** 'Work which the Court may order a convict to perform as a form of punishment that benefits the community, for which he shall not be entitled to any remuneration'
- **Substitution of Terminology:** "Mental illness" replaced by "unsoundness of mind" in majority of provisions
- **Documentation Protocols:** Searches with/without warrants require mandatory audio-video documentation with recorded material promptly submitted to Magistrate

- **Timelines for Procedures:** Prescribes timelines for various procedures
  - E.g. Issuing verdict within 30 days post-argument
- **Medical Examination:** Can be requested by any police officer in certain cases
- **Sample Collection:** Magistrate can compel individuals to submit signature specimens, handwriting samples etc. even if they haven't been arrested
- **Forensic Investigation:** Mandated for offences punishable with ≥7 years of imprisonment
- **New Procedures w.r.t. FIR Registration:**
  - After filing a **Zero FIR**, relevant police station must transfer it to the jurisdictionally appropriate station for further investigation
  - **FIRs can be electronically registered**, and the information will be officially recorded upon the person's signature within 3 days
- **Rights of Victim/Informant:**
  - Police after filing charge sheet obligated to supply police report and other documents to victim
  - Witness protection scheme to be laid down by State Governments

## Key Issues

- **Permitted 15 days of police custody** within initial 40 or 60 days
- **Doesn't mandate investigating officer to provide reasons** when seeking police custody
- **Allows use of handcuffs during arrests**, contradicting SC rulings and NHRC guidelines
- Scope of **mandatory bail limited** in case of multiple charges
- **Limits plea bargaining in India** to sentence bargaining

- Restricting bail, and limiting scope for plea bargaining could **deter decongesting of prisons**
- **Power to seize property expanded** to immovable property apart from movable property
- Several provisions **overlap** with existing laws
- **BNSS retains CrPC provisions** related to public order, raising the question of whether laws governing trial procedure and public order maintenance should be unified or treated separately, considering their distinct functions

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| Related Initiatives Taken by Government |
|---|
| ➢ **National Mission for Justice Delivery and Legal Reforms** |
| ➢ **AI Portal SUPACE** |
| ➢ **Modernisation of Police Scheme** |
| ➢ **Bharatiya Nyaya (Second) Sanhita, 2023** |
| ➢ **Bharatiya Nagarik Suraksha (Second) Sanhita, 2023** |
| ➢ **Bharatiya Sakshya (Second) Bill, 2023** |
| ➢ **National Mission for Justice Delivery and Legal Reforms** |

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Note:

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# Economic Scenario

## Highlights

- *India's Pharmaceutical Industry*
- *Boosting Lighthouse Tourism in India*
- *Push for Hybrid Electric Vehicles*
- *India's Ambitious Airport Expansion Plan*
- *Women's Representation in Corporates*
- *Employment Rate Rises Significantly in FY24*
- *Financial Stability Report June 2024*
- *Cooperatives and Their Evolution in India*
- *India's Balance of Payments*

- *Annual Survey of Unincorporated Enterprises (2022-23)*
- *Social Security for Gig Workers*
- *India Grants Record Patents*
- *CCPA and Pendency of Cases*
- *Project Nexus of BIS*
- *Amendments Proposed in MSME Act*
- *Revised Currency Swap Framework for SAARC*
- *Revamping Buffer Stock*
- *Climate Resilient Agriculture*

## India's Pharmaceutical Industry

### Why in News?

Recently, around 36% of **pharmaceutical manufacturing** units inspected by the **Indian drug regulator** were **shut down for non-compliance with quality standards** following risk-based inspections by the **Central Drug Standards Control Organisation (CDSCO)** since December 2022.

### What are the Incidents Highlighting Quality Control Failures?

➢ According to a report by Indian Pharmaceutical Alliance and McKinsey & Company in 2023, the **US Food and Drug Administration (FDA)** classified 13% of its 145 inspections of Indian facilities as Official Action Indication (OAI), which is lower than the global average of 15% OAIs.

 ○ **Data integrity** issues were prevalent, including falsified data, improper cohort distribution, questionable sample reanalysis practices, and poor systemic quality management.

➢ In October 2022, the **World Health Organisation (WHO)** issued an alert linking four products from India's Maiden Pharmaceuticals to acute kidney injury and 66 child deaths in Gambia, due to contamination with toxic chemicals **diethylene glycol** and **ethylene glycol.**

➢ In December 2022, the **CDSCO** initiated a probe in connection with the death of 18 children in **Uzbekistan** allegedly linked to a cough syrup manufactured by Indian firm Marion Biotech.

 ○ Recently, US Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (USFDA) **raised concerns** over a **drug-resistant bacteria** strain allegedly linked to eye drops imported from India.

➢ In January 2020, 12 children in Jammu died after consuming contaminated medicine that was found to contain **diethylene glycol,** which led to kidney poisoning.

| How Drugs are Regulated in India? |
|---|
| ➢ **The Drugs and Cosmetics Act,1940:** <br> ○ The Drugs and Cosmetics Act, 1940 and Rules 1945 have **entrusted various responsibilities** to central and state regulators for regulation of drugs and cosmetics. |

Note:

- ❍ It provides the regulatory guidelines for issuing licenses to manufacture Ayurvedic, Siddha, Unani medicines.
- ➢ **Central Drugs Standard Control Organisation (CDSCO):**
  - ❍ **Prescribes standards and measures** for ensuring the safety, efficacy and quality of drugs, cosmetics, diagnostics and devices in the country.
  - ❍ Regulates the **market authorisation** of new drugs and clinical trials standards.
- ➢ **Drugs Controller General of India:**
  - ❍ DCGI is the **head of the department of the CDSCO** of the Government of India responsible for the approval of licences of specified categories of drugs such as blood and blood products, IV fluids, vaccines and sera in India.
  - ❍ DCGI also **sets standards for manufacturing**, sales, import, and distribution of drugs in India.

### What is the Status of the Indian Pharmaceutical Industry?

- ➢ **Current Scenario:** India is one of the **biggest suppliers of low-cost vaccines** in the world and is the **largest provider of generic medicines** globally, occupying a 20% share in global supply by volume.
  - ❍ India accounts for **60% of global vaccine production** making it the largest vaccine producer in the world.
  - ❍ The Pharmaceutical industry in India is the **3rd largest in the world** in terms of volume and **14th largest in terms of value.**
    - ● The Pharma sector currently contributes to around 1.72% of the country's **Gross Domestic Product (GDP).**
- ➢ **Market Size & Investments:** India is among the **top 12 destinations** for biotechnology worldwide and **3rd largest destination for biotechnology** in **Asia Pacific.**
  - ❍ The Indian pharmaceutical industry has seen a massive expansion over the last few years and is expected to reach about 13% of the size of the global pharma market while **enhancing its quality, affordability, and innovation.**
  - ❍ Up to 100%, **Foreign Direct Investment (FDI)** has been allowed **through automatic routes for Greenfield pharmaceuticals projects**.
    - ● For Brownfield Pharmaceuticals projects, FDI allowed is up to 74% through automatic route and beyond that through government approval.

- ❍ The Indian pharmaceutical market is estimated to touch **USD 130 billion in value by the end of 2030**.
- ➢ **Exports:** Pharmaceutical is **one of the top ten attractive sectors for foreign investment in India.** The pharmaceutical exports reached more than 200 nations around the world, including highly regulated markets of the USA, West Europe, Japan, and Australia.
  - ❍ India's drugs and pharmaceuticals exports stood at USD 22.51 billion in FY24 (April-January) r**ecording a strong year-on-year growth** of 8.12% during the period.

| Greenfield vs Brownfield Investment |
| --- |

- ➢ **Greenfield Project:** It refers to **investment in a manufacturing,** office, or other physical company-related structure or group of structures in an area **where no previous facilities exist.**
- ➢ **Brownfield investment:** The projects which are modified or upgraded are called brownfield projects. The term is used for purchasing or leasing **existing production facilities to launch a new production activity.**

### What are the Major Challenges with India's Pharma Sector?

- ➢ **Violation of IPR Rules:** Indian pharmaceutical companies have faced allegations of violating **Intellectual Property Rights (IPR) laws**, resulting in legal disputes with multinational pharmaceutical companies.
  - ❍ One such case involved Swiss pharmaceutical company Roche and Indian drug manufacturer Cipla in 2014.
    - ● Roche claimed Cipla copied its cancer drug Tarceva, leading to a **legal fight** where Cipla was found guilty and ordered to compensate Roche.
- ➢ **Pricing and Affordability:** India is known for its **generic drug manufacturing** capabilities, which have contributed to affordable healthcare globally.
  - ❍ However, ensuring medicines in India are **affordable** while maintaining pharmaceutical companies' **profitability** is **challenging.**
  - ❍ Additionally, quality problems in generic drugs could harm the reputation of the industry, which supplies **more than 90% of US prescriptions.**
- ➢ **Healthcare Infrastructure and Access:** Despite India's strong pharmaceutical industry, **access to healthcare remains a challenge** for a significant portion of the population.

Note:

- Issues such as inadequate healthcare infrastructure, uneven distribution of healthcare facilities, and low health insurance coverage pose barriers to accessing medicines.

➢ **Overdependence on Imports:** The Indian pharma sector relies heavily on imports for **Active Pharmaceutical Ingredients (APIs)**, the raw materials for drugs. Disruptions in the global supply chain can lead to shortages and price hikes.

| Related Government Initiatives |
|---|
| ➢ **Production Linked Incentive (PLI) Scheme for Pharmaceuticals** |
| ➢ **Promotion of Bulk Drug Parks Scheme** |
| ➢ **Strengthening Pharmaceuticals Industry Scheme** |
| ➢ **National Medical Devices Policy, 2023** |

# Boosting Lighthouse Tourism in India

### Why in News?

Union Minister of Ports, Shipping & Waterways announced plans to **boost lighthouse tourism** under **Maritime India Vision (MIV) 2030** and **Maritime Amrit Kaal Vision 2047** in India during a stakeholders meeting organised by the **Directorate General of Lighthouses and Lightships** in Vizhinjam, Kerala.

### What is a Lighthouse?

➢ **About:** A lighthouse is a tower, building, or other type of structure designed to emit **light from a system of lamps and lenses** and used as an **aid to navigation for mariners and local fisherman.** Lighthouses mark dangerous coastlines, hazardous shoals, reefs, safe entries to harbours.

- Currently, India has established & **maintaining 194 lighthouses** along the coastal line & Islands of Indian waters.

➢ Historical Role:

- **Ancient India:** The **Rigveda and Satapatha Brahmana** mention navigation in the Purva (East) and Paschima (West) Samudra. The Rigveda also describes sea voyages by Varuna and Vashistha.
  - **Mythological Connections:** The story of 'Manu,' being rescued from a flood, highlights early Indian knowledge of sea and navigation.
  - In the **7th century A.D., Pallava king Narasimhavarman-I** established a lighthouse at *Mamallapuram (Mahabalipuram),* using log fires to guide ships.

➢ This lighthouse offers stunning views of the shore temple complex, a **UNESCO World Heritage Site.**

- **Significant Modern Marvels:**

| Lighthouse | Description | Image |
|---|---|---|
| Tangasseri Lighthouse, Kollam, Kerala | The **tallest lighthouse in Kerala**, constructed by the British. It is painted in white and red bands, making it a fascinating sight. | |
| Mahabalipuram Lighthouse, Tamil Nadu | An **old lighthouse from the colonial period**, built next to an ancient lighthouse commissioned by Mahendra Pallava of the Pallava dynasty. Though non-functional, it is open for visitors to explore. | |

Note:

| | | |
|---|---|---|
| Kaup Beach Lighthouse, Udupi, Karnataka | The existing lighthouse was constructed by the British in 1901 and has undergone various improvements over the years, including the installation of different lighting equipment. |  |
| **Vizhinjam Lighthouse, Kovalam, Kerala** | A lighted beacon was established in nearby Kolachal in 1925, and a day mark beacon was provided at Vizhinjam in 1960. A major lighthouse was completed in 1972 it is One of the oldest and most picturesque lighthouses in India. . |  |
| **Fort Aguada Lighthouse, Goa** | A well-preserved **Portuguese structure** and one of Goa's prime attractions. It offers dreamy sea views, making it a must-visit spot. |  |
| **Chandrabhaga, Odisha.** | Chandrabhaga lighthouse, located near Konark **temple**, has endured severe cyclones like the Super Cyclone (1999), Phailin (2013), and Fani (2019). |  |

**Note:** In the 3ʳᵈ century B.C., **Ptolemy II built the famous Pharos of Alexandria (Lighthouse of Alexandria), one of the seven wonders of the ancient world.**

➢ The tower, made of high-quality kedan stone bricks embedded in molten lead, was operated for 1600 years. In the 13ᵗʰ century AD, it collapsed due to a severe earthquake.

## *What is the Role of Modern Lighthouses in India?*

➢ Modern lighthouses continue to guide ships, mark ports, and send signals, serving as valuable backups to **GPS technology.**

➢ After the **2008 Mumbai terror attacks,** lighthouses were equipped with **state-of-the-art radars for coastal surveillance.**

➢ The Indian government established the **Automatic Identification System (AIS)** to facilitate communication between fishermen and lighthouses.

➢ The **Marine Aids to Navigation Act of 2021** aimed to promote the historical and cultural value of lighthouses.

➢ Events like the **Indian Lighthouse Festival in Goa** showcase the heritage and tourism potential of these structures. Many lighthouses are now tourist attractions, offering historical insights and stunning views.

| Modern Navigational Aids |
|---|

➢ **Light Vessels**: These floating aids mark isolated shoals or submerged dangers used where lighthouse construction is impractical. Equipped with lanterns and optical equipment, they neutralise vessel inclinations due to waves.

➢ **Buoys**: Buoys provide navigational directions to mariners. Initially using acetylene gas, they now operate on electric lights powered by solar photovoltaic modules.

➢ **M.F Radio Beacons**: Installed between 1955-60, these were replaced by the Differential Global Positioning System (DGPS) for improved accuracy in maritime positioning.

➢ **Racons**: These radar transponder beacons return a distinctive code signal to ship radar, providing range, bearing, and identification data.

## What are the Benefits of Boosting Lighthouse Tourism in India?

➢ **Cultural Heritage:** Lighthouses offer historical and cultural value, making them educational hubs and events like **India's First Lighthouse Festival "the Bharatiya Prakash Sthamb Utsav",** held at the historic Fort Aguada in Goa celebrates India's rich maritime heritage, promoting awareness and appreciation of historical lighthouses that have been largely ignored.

  ❍ Under the **Marine Aids to Navigation Act, 2021,** certain lighthouses may be designated as heritage sites, expanding their roles beyond navigation aids to cultural and educational purposes.

  ❍ Visiting a lighthouse offers a glimpse into their **centuries-long role in trade, conquest, and travel.** Lighthouses provide unique vantage points for enjoying seaside sunsets and learning about maritime history.

➢ **Economic Development:** The **Directorate General of Lighthouses and Lightships** has identified 75 lighthouses for potential investment in tourism development, promising economic benefits to surrounding areas.

  ❍ This initiative highlights investment potential through **Public-Private Partnerships (PPP),** encouraging private entities to invest in developing these sites as tourist destinations.

  ❍ Increased tourism can lead to higher footfall in coastal areas, benefiting local vendors, restaurants, and service providers.

➢ **Environmental Awareness:** The focus on heritage lighthouses promotes eco-friendly tourism practices that can protect coastal environments while drawing visitors.

  ❍ The initiative aims to transform lighthouses into multifaceted tourist destinations, offering diverse experiences beyond traditional beach tourism.

| Directorate General of Lighthouses and Lightships |
|---|

➢ The Directorate General of Lighthouses and Lightships, under the Ministry of Ports, Shipping and Waterways, provides aids to **marine navigation along the Indian coast.** It is **headquartered in Noida**, with regional headquarters in nine districts (Gandhidham, Jamnagar, Mumbai, Goa, Cochin, Chennai, Visakhapatnam , Kolkata and Port Blair).

➢ The aim is to ensure **safe and secure navigation in Indian waters** through visual aids such as lighthouses, light vessels, buoys, and beacons, as well as radio aids like DGPS and RACONs.

➢ The Directorate also provides **Vessel Traffic Service for interactive navigation control.** It is responsible for maintaining general aids to marine navigation as per the **Lighthouse Act 1927,** while local aids are maintained by **Maritime State Government organisations.**

  ❍ The **Directorate offers technical support for maintenance of local lights** and may take over maintenance if international standards are not met due to financial constraints or lack of technical personnel.

## What is the Maritime India Vision (MIV) 2030?

➢ Maritime India Vision 2030 is a ten-year blueprint for the maritime sector in India, released by the Prime Minister at the **Maritime India Summit in November 2020.** It aims to boost waterways, shipbuilding industry, and cruise tourism.

➢ The Maritime India Vision 2030 highlights essential themes for India to secure its position in the global maritime sector. It will supersede the **Sagarmala initiative** and aims to boost waterways and encourage cruise tourism in India.

  ❍ MIV 2030 has identified key interventions in 4 areas: **brownfield capacity augmentation, developing world-class Mega Ports, development of transhipment hub in Southern India, and infrastructure modernisation.**

Note:

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○ India aims to achieve a **5% share in world exports in the next 5 to 10 years**, requiring aggressive growth in exports. To achieve this, Indian Ports need to improve maritime capabilities and **Ease of Doing Business (EoDB).** Key interventions include creating a **National Logistics Portal (Marine),** digitising processes across maritime stakeholders, implementing digital-led smart ports, and monitoring port performance through system-driven approaches.

- **Enhance logistics efficiency and cost competitiveness** through 200+ port connectivity projects, mechanisation, technology adoption, evacuation time reduction, cost reduction, coastal shipping promotion, and portland industrialization.

○ MIV 2030 aims to **improve governance mechanisms**, amend existing laws, strengthen the **Maritime and Coastguard Agency (MCA),** and promote PPP, fiscal support, and financial resilience to support sustainable growth in the maritime sector.

○ India aims to become the leading seafaring nation by focusing on education, research, and training. Currently contributing **10-12% of the world's seafarers,** India faces increasing competition from countries like the Philippines.

- Key interventions include promoting research and innovation, improving education and training, and creating a favourable environment for seafarers and port capability development.

○ India aims to achieve 40% of its national energy from renewable sources by 2030 and its **ports need to align with the International Marine Organization's goals for safe, efficient, and sustainable ports**.

- The MIV 2030 has identified key interventions to enhance India's position as a leader in safe, sustainable, and green ports, including increasing renewable energy usage, reducing air emissions, optimising water usage, improving waste management, implementing a **Zero accident safety program, and establishing a centralised monitoring system.**

# Push for Hybrid Electric Vehicles

### Why in News?

Recently, the state government of Uttar Pradesh announced the **waiver of registration fees** for **strong hybrid** and **plug-in hybrid electric vehicles (EVs)**.

➢ This move aligns Uttar Pradesh with **Tamil Nadu and Chandigarh**, which also offer incentives to promote cleaner alternatives to petrol and diesel vehicles.

### What is a Hybrid Electric Vehicle (HEV)?

➢ **About Electric Vehicle:**

○ An Electric Vehicle (EV) is defined as a vehicle that can be **powered by an electric motor** that **draws electricity from a battery** and is **capable of being charged from an external source**.

➢ **Types of Elective Vehicles (EVs):**

○ **Battery Electric Vehicle (BEV):** These are **fully powered by electricity**. These are more efficient compared to hybrid and plug-in hybrids.

○ **Fuel Cell Electric Vehicle (FCEV):** Electric energy for EVs is produced from **chemical energy**. For Example, a Hydrogen FCEV.

○ **Hybrid Electric Vehicle (HEV):** It is also called **Strong Hybrid EV**. The vehicle **uses both** the **internal combustion (usually petrol) engine** and the **battery-powered motor powertrain**.

- The petrol **engine is used both to drive and charge** when the battery is empty. These vehicles are not as efficient as fully electric or plug-in hybrid vehicles.
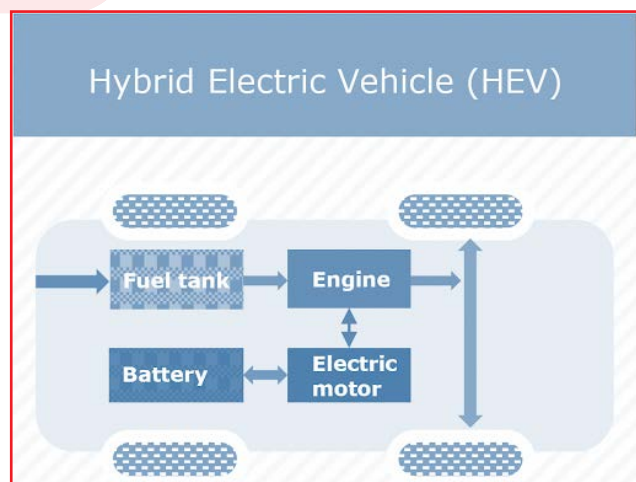


○ **Plug-in Hybrid Electric Vehicle (PHEV):** These use **both** an **internal combustion engine** and a **battery charged from an external socket (they have a plug)**.

- Vehicle's battery can be **charged with an external electricity source only** and not by engine.

- PHEVs are more efficient than HEVs but less efficient than BEVs.

- PHEVs can run in at least 2 modes:
➢ **All-electric Mode**, in which the motor and battery provide all the car's energy.
➢ **Hybrid Mode**, in which both electricity and petrol/diesel are employed.



Plug-in Hybrid Electric Vehicle (PHEV)
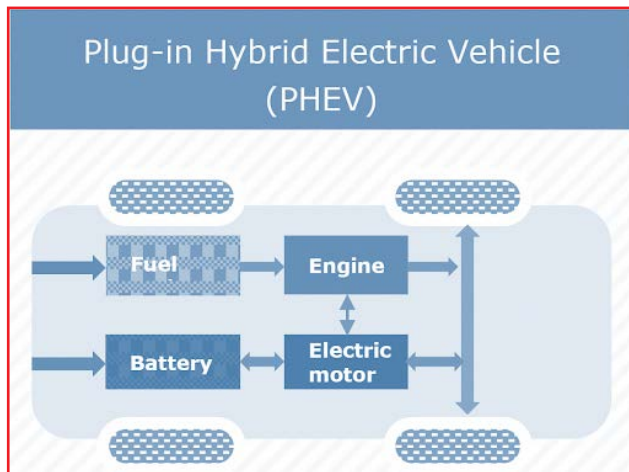
➢ **Significance of Hybrid EVs:**
  ❍ **Practicality in the Medium Term (5-10 years):** Since they do not require an external charging infrastructure, hybrids are seen as a practical and viable option for the medium term as India gradually moves towards full electrification of its vehicle fleet. This transition is expected to take **5-10 years.**
  ❍ **Cost of Ownership Perspective:** Hybrids are considered **cost-effective** as several state governments are giving waivers on registration fees, RTO fees etc.
    - For Example, UP government has announced a 100% waiver on registration fees for strong hybrids, potentially saving buyers up to Rs 3.5 lakh.
    - Hybrid cars have **better fuel economy** compared to conventional fuel cars leading to cost savings for drivers over time.
  ❍ **Critical for Decarbonisation Drive:** Hybrid vehicles play a role in India's **decarbonisation** efforts. Hybrid vehicles have lower total (well-to-wheel, or WTW) carbon emissions than both electric and traditional ICE vehicles for similarly sized vehicles.
    - **Hybrids** emit **133 g/km of $CO_2$,** while EVs emit 158 g/km. This translates to hybrids being **16% less polluting** than the corresponding EV.

- These are 176 g/km for petrol and 201 g/km for **diesel vehicles**.

**Note:**
➢ In February 2023, the **Tamil Nadu government** announced incentives in the form of road tax, registration, and permit fee exemptions for strong hybrids.
➢ The **Chandigarh administration** also offers road tax rebate on strong hybrid vehicles priced below Rs 20 lakh.

| What are Government of India's Initiatives to Promote EV Adoption? |
|---|

➢ **Faster Adoption and Manufacturing of Electric Vehicles (FAME) Scheme II**
➢ **National Electric Mobility Mission Plan (NEMMP)**
➢ **National Mission on Transformative Mobility and Battery Storage**
➢ **Go Electric Campaign**
➢ **Production Linked Incentive (PLI) scheme:** Incentives for the manufacturing of EVs and components
➢ **Ministry of Power's Revised Guidelines on Charging Infrastructure:** At least one charging station to be present in a grid of 3 km and at every 25 km on both sides of the highways.
➢ **Amendment to Model Building Bye-laws, 2016 (MBBL):** Mandatory to set aside 20% of the parking space for EV charging facilities in residential and commercial buildings.
➢ India's support to the global **EV30@30 campaign**

## What are the Challenges in Adoption of Electric Vehicles in India?

➢ **Higher Cost:** High upfront cost is a primary barrier for electric vehicles compared to conventional internal combustion engine (ICE) vehicles. The c**ost of batteries, which is a significant portion of an EV's price, remains high**, making EVs less affordable for many consumers, especially in a price-sensitive market like India.
➢ **Lack of Clean Energy:** Much of India's electricity is generated from burning coal, thus relying on coal to generate power for all the EVs would defeat the purpose of reducing carbon emissions through EV adoption.
➢ **Supply Chain Issues:** Global supply chain issues for lithium-ion batteries are significant, with over 90% of lithium production concentrated in countries like Chile, Argentina, Bolivia, Australia, and China.

Note:

○ India's demand for these batteries is expected to grow over 30% annually until 2030, requiring over 50,000 tonnes of lithium for EV battery production. This reliance makes India heavily dependent on imports from a few countries.

➢ **Underdeveloped Charging Infrastructure:** India's current charging infrastructure is not sufficient for the increased demand for EVs, with only **12,146 public EV charging stations** mostly in urban areas, it lags far behind China, which has 1.8 million electric charging stations.

○ An analysis by the **World Bank (WB)** has found that investing in charging infrastructure is between four and seven times more effective in ensuring EV adoption compared with providing upfront purchase subsidies.

➢ **Suboptimal Battery Technology:** Current EV batteries have **limited capacity and voltage**, which hinders driving range. This, along with limited charging stations, aerodynamic drag, and vehicle weight, makes it difficult for drivers to travel long distances without recharging.

➢ **Persistent Resistance to Change:** Indian consumers persistently resist adopting EVs due to lack of awareness and general reluctance to embrace new technologies, especially in rural areas, despite the long-term economic and environmental benefits.

**Upsurge in Hybrid Vehicle Sales:**

➢ Sales data reveals a significant increase in HEV adoption in India. Strong hybrids grew from **0.5% to 2.2%** of the total market share between FY23 and FY24.

➢ This trend aligns with global observations. Hybrid sales are surging internationally, particularly in the US and Europe, where they are outpacing BEV growth.

# India's Ambitious Airport Expansion Plan

### *Why in News?*

India plans to double its number of **operational airports to 300 by 2047,** driven by an **eightfold increase in passenger traffic.** This ambitious expansion involves developing existing airstrips and constructing new airports across the country.

### *What are the Factors Driving this Expansion?*

➢ **Development of Existing Airstrips:** The **Airports Authority of India (AAI)** plans to develop 70 airstrips into airports capable of handling narrow-body aircraft like A320 or B737.

○ **Existing airstrips** at Mandavi (Gujarat), Sultanpur (Uttar Pradesh), Tura (Meghalaya), and Chhindwara (Madhya Pradesh) can be upgraded for small aircraft. Nearly 40 airstrips are slated for development to accommodate smaller aircraft.

○ New airports will be built if existing airstrips cannot be developed or if there is no civilian airport within 50 km.

○ New **greenfield airports** may be constructed in Kota (Rajasthan), Parandur (Tamil Nadu), Kottayam (Kerala), Puri (Odisha), Purandar (Maharashtra), Car Nicobar, and Minicoy (Andaman and Nicobar Islands).

Note:

➢ **Projected Passenger Traffic Growth:** Passenger traffic is expected to increase eightfold, from **376 million to 3-3.5 billion annually by 2047.** International traffic may constitute 10-12% of this growth.

 ❍ The plan is part of **Vision 2047,** aiming to accommodate this massive increase in air travel demand.

**Passenger Growth**

(In Millions)

| | |
|---|---|
| Domestic Passengers | 87.42 |
| | 112.86 |
| International Passengers | 32.94 |
| | 45.99 |

Jan-Sept 2022
Jan-Sept 2023
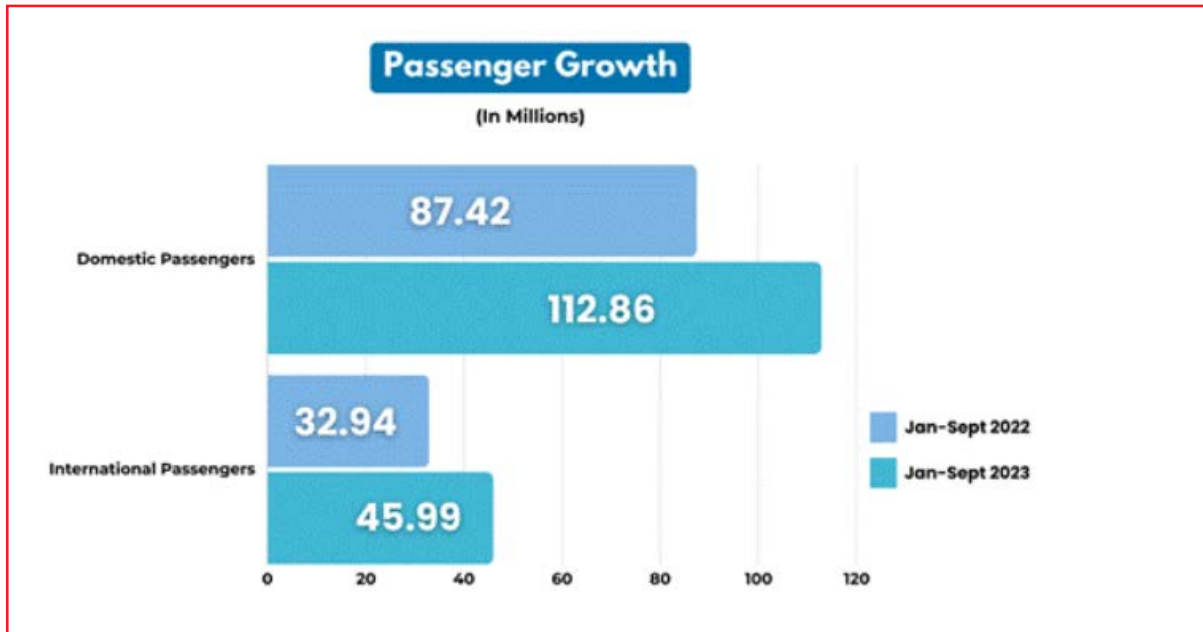
➢ **UDAN Scheme Implementation:** Improving connectivity to tier-II and -III cities through schemes like **UDAN (Ude Desh ka Aam Nagrik).**

 ❍ In 2014, there were 74 operational airports, which has now increased to 148. Under the UDAN scheme, 68 underserved/unserved destinations, including 58 airports, 8 heliports, and 2 water aerodromes, have been connected. It has provided air connectivity to over 29 states/union territories.

 ❍ India's aviation infrastructure is the **overcrowding of airports. With the surge in air travel demand**, major airports across the country are operating beyond their designed capacities.

**RCS-UDAN**

Regional Connectivity Scheme – Ude Desh ka Aam Nagrik

➤➤ ₹4500 crore allocated for airport development; ₹3751 crore utilized so far.

➤➤ 517 RCS routes connect 76 airports, including 9 heliports & 2 water aerodromes.

➤➤ More than 1.30 crore people have availed of the benefits of the scheme.

**Number of Airports in India**

2x Growth

| 2014 | 2023 |
|---|---|
| 74 | 148 |
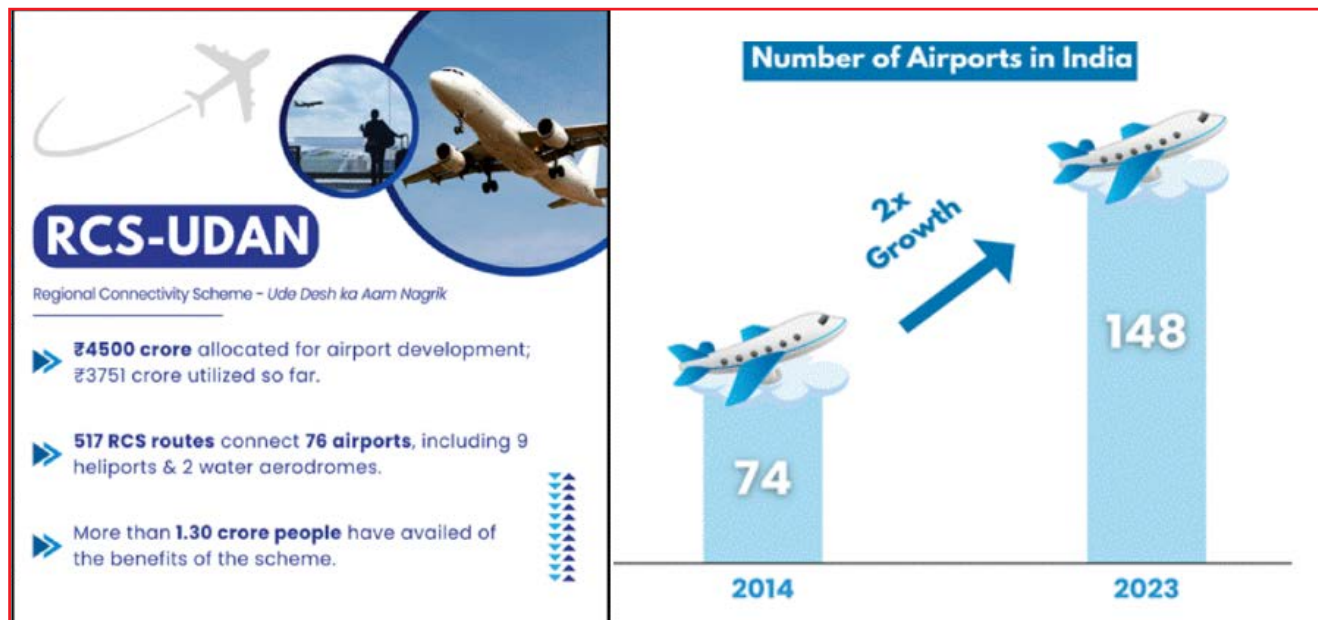
Note:

- ➤ **Rising Income Levels:** India's economy is projected to grow substantially by 2047, with per capita income expected to reach USD 18,000-USD 20,000. This economic growth is a crucial factor driving aviation expansion.
  - ○ Higher disposable incomes make air travel more affordable for a larger segment of the population.
  - ○ A **growing middle class is likely to choose air travel over other modes** of transportation for both business and leisure.
  - ○ Increased business activities and tourism resulting from economic growth will further boost demand for air travel.



**THE UNSTOPPABLE RISE OF INDIA'S MIDDLE CLASS**

AVERAGE INCOME OF MIDDLE CLASS (WEIGHTED MEAN)
₹13 lakh
₹4.4 lakh
2012-13    2022-23

FUTURE OF MIDDLE CLASS
Average Income to Rise to **50 lakh by 2047**

MIDDLE CLASS'S SHARE IN POPULATION
31% — 2021
61% — 2047 (Predicted rise)
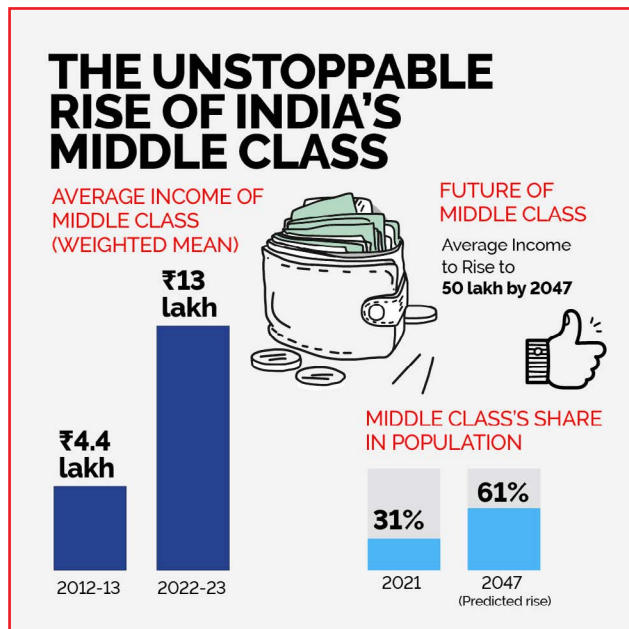
- ➤ **Anticipated Growth in Air Cargo:** While passenger traffic is a primary focus, the expansion also considers the growing air cargo sector.
  - ○ E-commerce growth is driving demand for efficient air freight services.
  - ○ India aims to become a major player in the global air cargo market.
  - ○ New and expanded airports will have enhanced cargo-handling capabilities.
- ➤ **Development of Major International Hubs:** India aims to position its major airports as international hubs, competing with established hubs in the **Middle East and Southeast Asia.**
  - ○ This aspiration is driving the expansion and modernization of existing airports, as well as the development of new ones to attract more

international airlines and passengers, increase transit traffic, and **boost tourism and business travel to India.**

- ➤ **Under-Penetration of Air Travel:** India's aviation market is **one of the largest in the world,** but **air travel penetration is still low compared to developed countries.**
  - ○ The AAI's assessment provides interesting comparisons with other major markets: China (2019): 0.47 trips per capita per annum (GDP per capita: USD 10,144), USA: 1.2-1.3 trips per capita per annum (GDP per capita: USD 20,000) and India's projection for 2047: 1 trip per capita per annum (Estimated GDP per capita: USD 18,000-USD 20,000)
  - ○ This creates a huge growth opportunity as income levels rise and air travel becomes more accessible, there is expected to be a surge in demand.
  - ○ The expansion plan is designed to anticipate and prepare for this expected growth in air travel adoption.

| **Airports Authority of India (AAI)** |
| --- |
| ➤ The AAI is a **statutory body** under the **Directorate General of Civil Aviation,** Ministry of Civil Aviation, Government of India. It was formed in 1995, by merging the **National Airports Authority and the International Airports Authority of India.** |
| ➤ It also provides **Air Traffic Management Services** over Indian airspace and adjoining oceanic areas. |
| ➤ The functions of AAI include airport development, airspace control, passenger and cargo terminal management, and provision of communication and navigation aids. |
| ➤ AAI provides air navigation services over **2.8 million square nautical miles of air space.** |

## *What are the Challenges for the Expansion of Airports in India?*

- ➤ **Land Scarcity:** Increasing **urbanization** is exacerbating the land shortage, particularly in larger towns and cities. The cost and availability of land may impact the viability of many airport projects.
- ➤ **Massive Investment Requirements:** India needs more than **USD 40 billion in airport development by 2047.**
  - ○ Total expenditure could reach USD 70-80 billion when including upgrades to airspace infrastructure and ground transportation.

➤ **Infrastructure Constraints:** Many existing airports are reaching or have reached saturation, including critical hubs like Mumbai. Several cities urgently need new airports or significant expansions of existing ones; this can hinder the development process of new airports.

➤ **Air Navigation Services (ANS) Infrastructure:** Significant investments (possibly up to USD 6-7 billion) are needed in ANS technology, people, and training.

➤ **Surface Transportation:** Investment required in ground transportation to/from airports could be almost as much as that in the airports themselves.

○ Lack of adequate surface connectivity could impact the viability and convenience of new airports.

➤ **Environmental Concerns:** Airport expansions often face opposition due to potential environmental impacts, including noise pollution and habitat disruption.

# Women's Representation in Corporates

## *Why in News?*

Recently, a report by the **National Council of Applied Economic Research (NCAER)** has revealed that women's representation in top management and company boards in India has increased but still lags behind the global average.

➤ In another study by the **World Bank**, it has been highlighted that India needs to assign a **specific priority sector tag** for **women-led rural enterprises** for easier access to credit.

| National Council of Applied Economic Research (NCAER) |
| --- |
| ➤ It is India's leading **independent economic research institute.** Founded in **1956**, it **focuses on practical economic analysis** through **surveys and data collection**. |
| *Priority Sector Lending* |
| ➤ The RBI mandates banks to **lend a certain portion of their funds to specified sectors**, like agriculture, **Micro, Small and Medium Enterprises (MSMEs),** export credit, education, housing, social infrastructure, and renewable energy among others. |
| ○ All **scheduled commercial banks** and **foreign banks** (with a sizable presence in India) are mandated to set **aside 40%** of their Adjusted Net Bank Credit (ANDC) for lending to these sectors. |

○ **Regional rural banks, cooperative banks** and **small finance banks** have to allocate **75%** of ANDC to PSL.

➤ The idea behind this is **to ensure that adequate institutional credit reaches some of the vulnerable sectors of the economy,** which otherwise may not be attractive for banks from the profitability point of view.

*What are the Key Findings of the NCAER on Women's Representation in Indian Corporates?*

➤ **The share of Women in Top Management Positions** increased from **nearly 14%** in FY14 to about **22%** in FY23.

**STATUS CHECK**
**% share of women**

Line chart showing "in top management" rising from 13.8 (2014) to 21.8 (2023), and "on boards" rising from 5.1 (2014) to 15.7 (2023).

**% of women on boards of top 10 firms by mcap** (100%)

| Firm | Value |
| --- | --- |
| Infosys | 17.9 |
| ICICI | 16.7 |
| TCS | 13.0 |
| HDFC Bank | 12.9 |
| Bharti Airtel | 10.4 |
| HDFC Ltd | 8.7 |
| SBI | 8.0 |
| RIL | 8.0 |
| HUL | 6.9 |
| ITC | 4.4 |

Note: Data as of March 2023
Globally 33% women hold middle and senior management roles
Source: NCAER study: "Female Leadership in Corporate India: Firm Performance and Culture"

➤ **The share of Women on Company Boards in India** increased from **around 5%** in FY14 to **nearly 16%** in FY23.

➢ **The share of Women in Middle and Senior Management Roles in India** is only **20% with a** global average of 33%**.**

➢ Share of Women Representation in NSE Listed Firms:

  ❍ Almost **60%** of the firms studied, including **5 of the top 10** NSE-listed firms by market capitalization, **did not have any women** in their top management teams as of March 2023.

  ❍ About **10%** of the firms had **just one woman**.

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**Note:**

➢ As per the World Bank data, **women's global Labour Force Participation Rate (LFPR)** is slightly **above 50%, while men's is at 80%.**

➢ **Labour Force Participation Rate (LFPR)** is the ratio between the total labour force divided by the total working-age population. The working age population refers to people aged 15 to 64.

  ❍ Women's LFPR in India has increased from 23% in 2017 to around 37% in 2023.

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### What are the Key Recommendations of the World Bank on Boosting Employment Opportunities for Women in India?

➢ **Assign Priority Sector Tag for Women-led Rural Enterprises:** The **World Bank** study found that loans to women's micro-enterprises are not prioritised separately.

  ❍ It suggests creating a **new sub-category** within the micro-enterprise sector to cater specifically to women-owned ventures with high growth potential.

➢ **Bridging the Digital Divide:** The report emphasised the need to **equip women entrepreneurs with digital literacy,** with **training programs for digital bookkeeping** and **payment systems** to enhance their **financial management capabilities.**

➢ **Graduation Programs for Sustainable Growth:** The report suggests **implementing graduation programs** to help micro-loan borrowers transition to mainstream commercial finance.

  ❍ It also advocates for the **strategic use of district-level data analytics** by stakeholders, including banks, to **make informed decisions and effectively promote women's entrepreneurship** in rural India.

➢ **Strengthening the Institutional Ecosystem:** The report recommends **decentralising incubation centres in rural areas** for mentorship and business support.

  ❍ It also suggests developing **women's entrepreneur associations** to foster community and peer learning.

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# Employment Rate Rises Significantly in FY24

### Why in News?

Recently, the **Reserve Bank of India (RBI)** data revealed a significant rise in **India's employment rate,** growing by 6% in FY24 from 3.2% in FY23, reflecting positive trends in the labour market.

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**Note:**

➢ The latest quarterly bulletin of **Periodic Labour Force Survey (PLFS)** released by the **Ministry of Statistics and Programme Implementation (MoSPI)** in May 2024 shows that the **unemployment rate (UR)** in urban areas decreased.

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### What does the RBI Data Reveal About Job Growth in India?

➢ **Overall Employment Rate**: The RBI's India **KLEMS [Capital (K), Labour (L), Energy (E), Material (M) and Services (S)]** database showed that in the year 2022-23, **employment in the country was 57.75 crore, compared to 56.56 crore in 2021-22.**

  ❍ The database covers 27 industries and provides estimates at the broad sectoral levels and all-India levels. It includes measures of **Gross Value Added, Labour Employment, Capital Stock, and inputs such as Energy, Material, and Services.**

➢ **Female Unemployment:** The female unemployment rate showed a notable decline, **dropping from 9.2% in January–March 2023 to 8.5%** in January–March 2024.

  ❍ The female **worker population ratio (WPR)** in urban areas increased from **20.6% in January – March 2023 to 23.4% in January – March 2024,** indicating a general upward trend in WPR.

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**Periodic Labour Force Survey Quarterly Bulletin (January-March 2024)**

➢ The PLFS gives **estimates of Key employment and unemployment Indicators** like, the Labour Force Participation Rates (LFPR), Worker Population Ratio (WPR), Unemployment Rate (UR), etc **and the Activity Status**- 'Usual Status' and 'Current Weekly Status'.

➢ Unemployment Rate **(UR) in urban areas decreased from 6.8% to 6.7% during January–March 2023 to January–March 2024** for persons of age 15 years and above.

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Note:

➢ **Female UR decreased from 9.2%** in January–March 2023 to 8.5% in January–March 2024.

➢ **Labour Force Participation Rate (LFPR) in urban areas has shown an increasing** trend from 48.5% to 50.2% during January – March 2023 to January – March 2024 respectively for persons of age 15 years and above.

➢ **Female Labour Force Participation Rate in urban areas rises** from 22.7% to 25.6% during January –

March 2023 to January – March 2024, reflecting overall increasing trend in LFPR.

➢ **Increasing** trend in **Worker Population Ratio (WPR)** for persons of age 15 years and above **from 45.2% in January – March 2023 to 46.9%** in January – March 2024.

➢ **Female Worker Population Ratio in urban areas rose** from 20.6% to 23.4% during January – March 2023 to January – March 2024, reflecting overall increasing trend in WPR.

**Note:**

➢ The National Sample Survey Office (NSSO) launched PLFS in April 2017 to **estimate employment and unemployment indicators in urban areas** within a short time interval. It also aims to **estimate these indicators in both rural and urban areas annually**.

| Indicator | Definition |
|---|---|
| Labour Force Participation Rate (LFPR) | Percentage of persons in the labour force (i.e., working or seeking or available for work) in the population. |
| Worker Population Ratio (WPR) | Percentage of employed persons in the population. |
| Unemployment Rate (UR) | Percentage of persons unemployed among the persons in the labour force. |
| Activity Status - Usual Status | Determined based on the activities pursued by the person during the last 365 days preceding the date of the survey. |
| Activity Status - Current Weekly Status (CWS) | Determined based on the activities pursued by the person during the last 7 days preceding the date of the survey. |

# Financial Stability Report June 2024

## *Why in News?*

The Reserve Bank of India (RBI) bi-annual **Financial Stability Report (FSR) for June 2024** underscores India's robust financial resilience amid global uncertainties while **highlighting concerns over the proliferation of digital personal loans** and their impact on financial stability measures.

## *What are the Key Highlights of the FSR for June 2024?*

➢ **Global Macrofinancial Risks:** The report states that the global economy and financial system are exhibiting resilience amidst heightened risks and uncertainties.

○ The **International Monetary Fund (IMF)** projects global growth to remain steady at 3.2% in 2024, while the **World Bank** forecasts a lower rate of 2.6%.

○ Near-term prospects are improving, but risks remain from the last mile of **disinflation, high public debt**, stretched asset valuations, **economic fragmentation,** geopolitical tensions, **climate disasters,** and **cyber threats.**

○ **Emerging market economies (EMEs)** remain vulnerable to external shocks and spillovers.

➢ **Domestic Macrofinancial Risks:** Strong macroeconomic fundamentals and a sound and stable financial system have supported the sustained **expansion of the Indian economy.**

○ Moderating **inflation,** a strong external position, and ongoing fiscal consolidation are anchoring business and consumer confidence.

○ Domestic financial conditions are strengthened by **healthy balance sheets** across financial institutions, marked by strong **capital buffers**, improving asset quality, adequate provisioning, and robust earnings.

➢ **Improved Asset Quality:** The **GNPA ratio** of **scheduled commercial banks (SCBs)** has moderated to 2.8% in March 2024, the lowest in 12 years. The **net non-performing assets (NNPA) ratio** has also improved to a record low of 0.6%.

   ● Under the baseline stress scenario, the GNPA ratio is expected to improve further to 2.5% by March 2025.

   ○ If the macroeconomic environment worsens significantly, the GNPA ratio could rise to 3.4%.

   ○ The GNPA ratio for Public Sector Banks (PSBs) may increase from 3.7% in March 2024 to 4.1% in March 2025 under a severe stress scenario.

   ○ Agriculture continued to have the highest GNPA ratio at 6.2%, while personal loans at 1.2%. Yet **RBI** remains concerned about **potential financial issues arising from** individual borrowers, particularly those accessing **personal loans through digital apps.**

➢ **Deposits and Credit Growth:** Deposit growth picked up in the second half of FY24, reaching 13.5% in the quarter ending March 2024.

   ○ **Private sector banks saw the highest deposit growth at 20.1%**, followed by foreign banks at 15.1% and PSU banks at 9.6%.

   ○ Overall credit growth remained healthy at 19.2%, though slightly lower than the previous half-year.

   ○ Consumer loans moderated due to RBI regulations, but still remained the largest component of the lending portfolio at 32.9%.

➢ **Capital Adequacy and Profitability:**

   ○ SCBs maintain strong capital buffers, with **capital to risk-weighted assets ratio (CRAR)** remaining stable at 16.8%, with PSBs seeing an improvement and private/foreign banks witnessing a slight decline.

   ● CRAR is a measure of a **bank's available capital as a percentage of its risk-weighted credit exposures**. It is used to ensure that banks have enough capital to handle potential losses and avoid insolvency.

○ **Return on assets (RoA)** and **Return on Equity (RoE)** are close to decadal highs at 1.3% and 13.8%, respectively.

   ● **ROA is a profitability ratio** that measures how well a company uses its assets to generate profit. It's calculated by **dividing a company's net income by its total assets** and is expressed as a percentage.

   ● ROE is a key metric for assessing a company's **financial health** calculated as the company's net income divided by equity financing. It helps in understanding how efficiently shareholder equity has been used to generate profits.

➢ **Stress Test Results:** Banks have shown substantial resilience to stress, with SCBs well-capitalised to handle macroeconomic shocks in both medium and extreme stress scenarios.

   ○ A stress test is an analytical tool used by RBI to assess how a bank or financial system can withstand adverse economic scenarios.

**Note:** The FSR is a biannual publication by the RBI. It reflects the collective assessment of the **Sub-Committee of the Financial Stability and Development Council (FSDC),** which is headed by the Governor of the RBI. The report evaluates the resilience of the Indian financial system and identifies risks to financial stability

## *What are Non-Performing Assets?*

| Category | Description |
|---|---|
| **Definition** | ➢ An asset becomes NPA when it **ceases to generate income for the bank.** It is usually a **loan or advance** where the principal or interest payment remains overdue for a certain period of time. **For most loans, this period is 90 days.** <br> ➢ For agricultural loans, short-duration crop loans will be treated as NPA if the principal or interest instalment remains overdue for two crop seasons. Long-duration crop loans will be treated as NPA if the principal or interest instalment remains overdue for one crop season. |

Note:

| Types of NPAs | ➤ **Sub-standard Assets:** NPAs for a period less than or equal to 12 months. |
| | ➤ **Doubtful Assets:** An asset is classified as doubtful if it stays in the substandard category for 12 months. A doubtful loan shares the same weaknesses as substandard assets. |
| | ➤ **Loss Assets:** Uncollectible assets with little or no hope of recovery, requiring full write-off. |
| Gross NPA (GNPA) | ➤ The total amount of NPAs without deducting the provisional amount. |
| | ○ Banks set aside a percentage of the loan amount as a provision. In Indian banks, the standard rate of provisioning for loans ranges from 5 to 20%, based on the business sector and borrower's repayment capacity. For NPA, 100% provisioning is required according to **Basel-III standards.** |
| Net NPA | ➤ Gross NPA minus the provision amount. |
| NPA Ratios | ➤ It gives an idea of how much of the total advances are not recoverable. |
| | ○ GNPA ratio is the ratio of the total GNPA of the total advances. |
| | ○ NNPA ratio uses net NPA to determine the ratio to the total advances. |

## *Why are Digital Personal Loans a Concern?*

➤ **Rise of Digital Personal Loans:** Personal loans disbursed via digital apps have the highest share of overdue accounts, raising alarms for financial stability.

 ○ Up until the mid-2010s, banks frequently **lent massive loans to big industries.** However, many of these loans turned sour, with **bad loans peaking at 10% in 2017.**

 ○ Following 2017, banks reduced lending to industries and **increased focus on the retail sector, including personal loans, credit card receivables, and housing loans.**

 ○ The implementation of the **Insolvency and Bankruptcy Code, 2016,** helped banks recover bad loans, contributing to their improved health.

 ○ The mid-2010s saw a proliferation of **instant loan apps, targeting younger, digitally savvy consumers and leading to a potential debt trap.**

 ○ In the past 11 years, the digital lending market has grown significantly, reaching an **estimated USD 350 billion by 2023.**

➤ **Impact on Banking Sector:** The share of **retail loans has grown significantly, surpassing both industrial and service loans** in outstanding amounts.

 ○ The alarming growth of retail loans prompted the **RBI to implement regulatory measures,** although the overall GNPA ratio for personal loans has been consistently reducing, reaching 1.2% in March 2024.

 ○ The proliferation of instant loan apps has led to a **debt trap for many consumers**. These apps often tempt users to take more loans than they can manage, leading to financial distress.

➤ **RBI's Concerns:** Slippages, or fresh additions of bad loans, from retail loans (excluding home loans) have been increasing rapidly, forming **40% of fresh NPAs in FY24.**

 ○ Delinquency levels, especially for personal loans below Rs 50,000, remain high. Many of these loans were sanctioned by NBFC-Fintech lenders through digital apps.

 ○ The delinquency rate is highest among borrowers under **25 years at 5%. For the 26-35 age segment,** it is 3%, 36-45 years at 2%, and over 45 years at 1%. Urban and rural areas both report a 3% delinquency rate, while metro and semi-urban areas have a 2% rate.

| **Digital Personal Loans** |
| --- |
| ➤ These are loans offered through mobile applications or online platforms. Unlike traditional banks, these **lenders leverage technology for a streamlined application process**, often with minimal paperwork and near-instantaneous approvals. |
|  ○ This ease of access caters to a wider population, including those who might not have easy access to traditional banking services. |
|  ○ Digital lending platforms reach unbanked or underbanked populations, promoting financial inclusion, a key government objective in India. |

## *What can be Done to Recover Digital Personal Loans?*

➤ **Financial Technology:** Encourage Fintech companies to develop recovery tools such as **automated repayment plans** and debt consolidation options.

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○ Continuously monitor loan performance and identify potential delinquencies early.

➢ **Creditworthiness Assessment:** Explore alternative **credit scoring models** that consider factors beyond traditional credit history, like income stability and **financial behaviour patterns.**

➢ **Improved Efficiency:** Digital NPA recovery processes can be streamlined compared to traditional methods. **Automating tasks like communication and data analysis frees up resources for other areas.**

➢ **Legal Recourse:** Utilise Debt Recovery Tribunals (DRT) to facilitate the recovery of dues. And leverage legal frameworks like **Lok Adalat and SARFAESI ACT, 2002 for efficient recovery.**

# Cooperatives and Their Evolution in India

## Why in News?

Recently, the **Union Home Minister** and Minister of Cooperation addressed the **'Sahkar se Samriddhi' (Prosperity through Cooperation)** program organised on the occasion of the **102nd International Day of Cooperatives** in Gujarat.

## How did Cooperatives Evolve in India?

➢ **About Cooperatives:**
  ○ **These are people-centred enterprises** owned, controlled, and run by and for their members to realise their **common economic, social, and cultural needs** and aspirations.

  ○ India has one of the **world's largest cooperative networks**, with over 800,000 cooperatives spread across various sectors like agriculture, credit, dairy, housing, and fisheries.

  ○ The cooperative sector's significant contributions include 20% in agricultural loans, 35% in fertilizer distribution, 31% in sugar production, 13% in wheat purchase, and 20% in paddy purchase.

**Note:**
➢ **International Day of Cooperatives** is celebrated on 6th July every year.
  ○ The Theme for the year 2024 is **"Cooperatives Building a Better Future for All".**
  ○ The theme aligns well with the objectives of the upcoming **UN Summit of the Future** whose theme is **"Multilateral solutions for a better tomorrow".**
  ○ The 2023 UN Secretary-General Report on Cooperatives in Social Development acknowledged that **cooperatives have a track record of promoting the economic and social development** of all people including marginalised groups.
  ○ This day will build the momentum towards the **2025 International Year of Cooperatives.**



**7 Cooperative Principles**

1. VOLUNTARY AND OPEN MEMBERSHIP
2. DEMOCRATIC MEMBER CONTROL
3. MEMBER'S ECONOMIC PARTICIPATION
4. AUTONOMY AND INDEPENDENCE
5. EDUCATION, TRAINING AND INFORMATION
6. COOPERATION AMONG COOPERATIVES
7. CONCERN FOR COMMUNITY

Note:

- ➢ **Cooperatives in Pre-Independence Era:**
  - ○ **First Cooperative Act in India: Indian Famine Commission (1901)** led to the enactment of the first Cooperative Credit Societies Act in 1904 followed by the (amended) Cooperative Societies Act, 1912.
  - ○ **Maclagan Committee:** In 1915, a committee headed by Sir Edward Maclagan, was appointed to study and report whether the cooperative movement was proceeding on economically and financially sound lines.
  - ○ **Montague-Chelmsford Reforms:** Through the **Montague-Chelmsford Reforms of 1919**, co-operation became a provincial subject which gave further impetus to the movement.
  - ○ **Post Economic Depression, 1929:** Various committees were appointed in Madras, Bombay, Travancore, Mysore, Gwalior, and Punjab **to examine the possibilities of restructuring** the Cooperative societies.
  - ○ **Gandhian Socialist Philosophy:** Cooperation according to **Gandhiji** was necessary for the creation of a socialistic society and complete decentralisation of power.
    - ● He was of the opinion that cooperation was one of the important means to empower people.
    - ● In South Africa, **Mahatma Gandhi instituted the 'Phoenix Settlement'** as a cooperative in a socialistic pattern.
    - ● He established the **Tolstoy Farm as a rehabilitation cooperative settlement** for the families affected by the South African freedom struggle during the period.
- ➢ **Cooperatives in Post- Independence India:**
  - ○ **First Five-Year Plan (1951-56):** Highlighted the promotion of cooperatives for comprehensive community development.
  - ○ **Multi-State Co-operative Societies Act, 2002:** Provides for the formation and functioning of multi-state co-operatives.
    - ● **Multi-State Co-operative Societies (Amendment) Act, 2022** introduced the **Co-operative Election Authority** to oversee board elections in multi-state co-operative societies.
  - ○ **97th Constitutional Amendment Act of 2011:** Established the right to form cooperative societies as a **fundamental right (Article 19).**
    - ● Introduced a new Directive Principle of State Policy on Cooperative Societies **(Article 43-B).**
    - ● Added a new Part IX-B to the Constitution titled "The Co-operative Societies" **(Articles 243-ZH to 243-ZT).**
    - ● Empowered Parliament to enact laws governing **multi-state cooperative societies (MSCS)** and delegated authority to state legislatures for other cooperative societies.
  - ○ **Establishment of Union Ministry of Cooperation (2021):** Assumed responsibility for cooperative affairs, previously overseen by the Ministry of Agriculture.
- ➢ **Impact of Cooperatives:**
  - ○ **Empowering Marginalised Communities:** The **Amul Dairy Cooperative in Gujarat**, with over 3.6 million milk producers (many from small & marginal farms), empowers **rural communities by providing** fair prices for milk and fostering economic independence, particularly for women.
  - ○ **Boosting Agricultural Productivity and Marketing: Indian Farmers Fertiliser Cooperative Limited (IFFCO)** is the world's largest fertiliser producer. Cooperatives like IFFCO provide farmers with **essential agricultural inputs** like fertilisers, seeds, and credit at competitive prices, leading to increased productivity and farm incomes.
  - ○ **Facilitating Access to Essential Services: Kerala State Milk Marketing Federation (Milma),** a dairy cooperative, procures milk from farmers and supplies it to consumers in Kerala at affordable prices. This ensures **market access for producers** and provides essential dairy products to the population.
  - ○ **Promoting Inclusive Growth and Job Creation:** A **NITI Aayog** report highlights that **sugar cooperatives in Maharashtra** provide employment to over 5 lakh people (direct and indirect), contributing significantly to rural job creation and income generation.

**Government Initiatives to Strengthen Cooperatives**

- ➢ **Umbrella Organization for UCBs:** RBI has accorded approval to the National Federation of Urban Co-operative Banks and Credit Societies Ltd. (NAFCUB) for the formation of an Umbrella Organization (UO) for the UCB sector, which will provide necessary IT infrastructure and operation support to around 1,500 UCBs.

Note:

> **Ensuring Transparency and Sustainability:**
> ○ **Model Bye-Laws** for PACS making them multipurpose, multidimensional and transparent entities.
> ○ **World's Largest Decentralised Grain Storage Plan (2023)** in the Cooperative sector.
> ○ The government aims to ensure **every panchayat has a PACS by 2029**, fulfilling Prime Minister Modi's vision of 'Sahkar se Samriddhi' (Prosperity through Cooperation).
> **Other Initiatives:**
> ○ National Cooperative Database for authentic and updated data repository.
> ○ Issuance of Rs 2000 crore bonds by **National Cooperative Development Corporation (NCDC)** for cooperative welfare.
> ○ Inclusion of Cooperatives as 'buyers' on the GeM portal.
> ○ Expansion of NCDC to increase its range and depth.
> ○ **National Cooperative Organic Limited (NCOL)** was established to promote organic farming and ensure fair pricing.
> ○ Launch of **Bharat Organic Atta**.

## *What are the Challenges Faced by the Cooperatives?*

> **Governance Challenges:** Cooperatives struggle from the challenges of lack of transparency, accountability, and democratic decision-making processes.
> ○ Limited member participation, inadequate representation of marginalised communities, and concentration of power within a few individuals can undermine the inclusive nature of cooperative enterprises.
> **Limited Access to Financial Resources:** Many cooperatives, particularly those serving marginalised communities, face challenges in accessing financial resources. They often lack collateral or formal documentation required by traditional financial institutions, making it difficult to obtain loans.
> **Socio-economic Disparities and Exclusion:** Cooperatives often face issues related to lack of inclusivity, existence of structural inequalities etc.
> **Infrastructural Constraints:** Infrastructural constraints and lack of connectivity affects their efficiency and effectiveness leading to limited outreach.

> **Lack of Technical and Managerial Capacities:** Lack of training and skill development initiatives is another challenge that leads to outdated human resources.
> **Social and Cultural Factors:** Lack of awareness about the cooperative model and its benefits among potential members limits their participation.
> ○ In some cases, social hierarchies and caste-based divisions create barriers for equitable participation and representation within cooperatives.

# India's Balance of Payments

## *Why in News?*

Recently, the **Reserve Bank of India (RBI)** data revealed that **India's current account registered a surplus** in the fourth quarter (Jan-Mar) of the 2023-24 financial year. This was the first surplus in 11 quarters.

> This achievement underscores the significance of India's **Balance of Payments (BoP),** highlighting its impact on currency exchange rates, sovereign ratings, and overall economic health.

## *What is Balance of Payments?*

> **About:** The BoP serves as a crucial **economic indicator,** detailing all financial transactions between India and the rest of the world.
> ○ This comprehensive ledger tracks the inflow and outflow of money where inflows are marked positive and outflows negative, reflecting the country's economic interactions globally.
> ○ It measures the **relative demand for the rupee against foreign currencies,** crucially influencing exchange rates and economic stability.
> **Constituents of BoP:**
> ○ Current Account:
> ● **Trade of Goods:** Tracks physical imports and exports, indicating the **balance of trade.** A deficit suggests higher imports than exports.
> ● **Trade of Services (Invisibles):** Includes sectors like IT, tourism, and **remittances**, contributing positively to India's current account surplus despite trade deficits.
> ● The **net of these two components determines the current account balance.** In Q4 of 2023-24, India registered a surplus on the current account, with a surplus in invisible but a deficit in the trade account.

Note:

## Understanding India's Balance of Payments

| (In $ billion) | | | Q4 FY24 | FY24 | FY23 | FY21 | FY25# |
|---|---|---|---|---|---|---|---|
| Current account* | | | 6 | -23.3 (0.7% of GDP) | -67 (2% of GDP) | 24 (0.9% of GDP) | -39 (1% of GDP) |
| | Trade of Goods | | -51 | -242 | -265 | -102 | -268 |
| | Trade of Services (Invisibles) | | 57 | 218 | 198 | 126 | 229 |
| | | Services | 43 | 163 | 143 | 89 | 171 |
| | | Transfers | 29 | 106 | 101 | 74 | 106 |
| Capital account* | | | 25 | 86 | 59 | 63 | 77 |
| | Foreign investment | | 13 | 54 | 23 | 80 | 52 |
| | | FDI | 2 | 10 | 28 | 44 | 20 |
| | | FII | 11 | 44 | -5 | 36 | 32 |
| | Loans | | 2 | 2 | 8 | 6 | 10 |
| | Banking Capital | | 7 | 41 | 21 | -21 | 15 |
| | Other Capital | | 3 | -10 | 7 | -2 | 0 |
| Balance of Payments* | | | 31 | 64 | -9 | 87 | 38 |
| Change in Forex** | | | -31 | -64 | 9 | -87 | |

*A minus sign is deficit; ** A minus sign shows increase in India's foreign exchange reserves; # Forecast by ICICI Securities
Source: RBI, ICICI Securities, Indian Express Research

- ○ **Capital Account:**
  - ● Captures investments such as **Foreign Direct Investment (FDI)** and **Foreign Institutional Investments (FII),** essential for economic growth and stability. The capital account flow reflects factors such as commercial borrowings, banking, investments, loans, and capital.
- ➤ In Q4 of 2023-24, India showed a net surplus of USD 25 billion on the capital account.
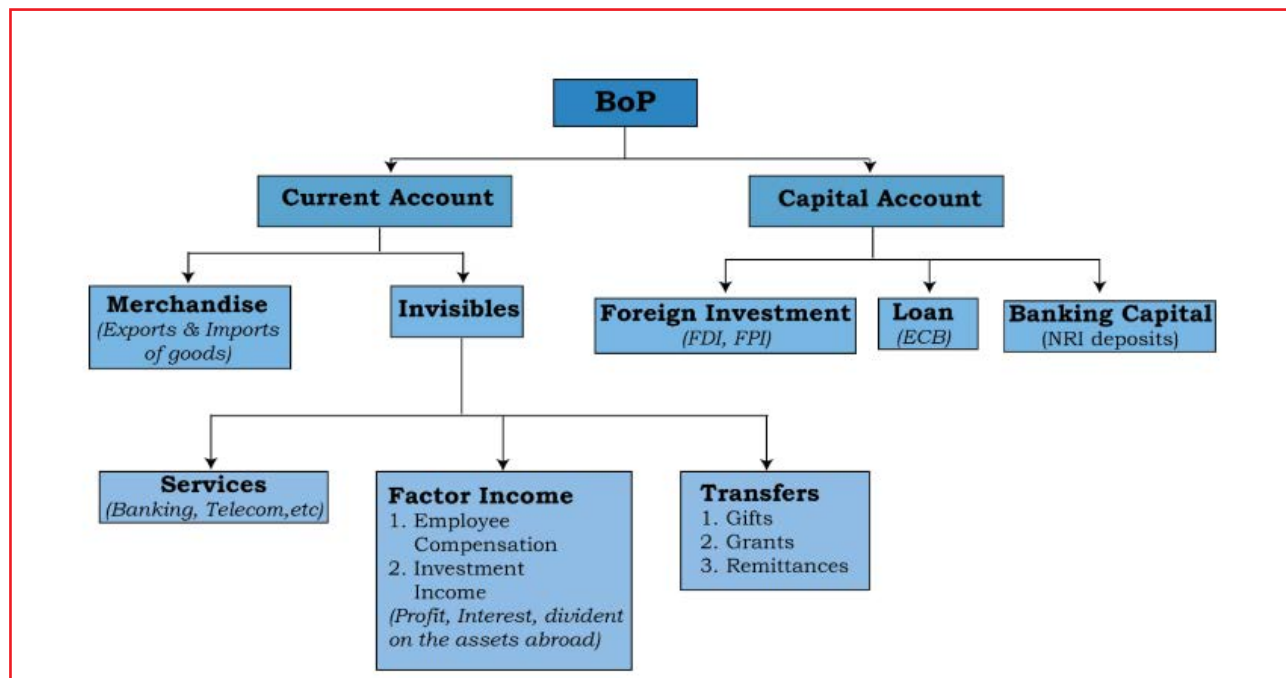


- ➤ **Disequilibrium:** A disequilibrium in the balance of payment means its condition of Surplus or deficit.

Note:

○ A BoP surplus occurs when a **country's earnings from exports, services, and investments exceed its expenditures on imports and external obligations.**

○ Conversely, a deficit indicates higher expenditures than earnings, necessitating external financing or asset sales to cover the shortfall.

➤ **Challenges:** BoP calculations **include errors and omissions** due to complexities in recording international transactions accurately.

○ **Persistent deficits can strain a nation's economic stability,** potentially requiring external borrowing or assistance from international financial institutions like the **IMF.**

○ Contrary to popular perception, **deficits aren't inherently negative nor surpluses unequivocally positive**. A deficit can signify strategic investments, while a surplus may stem from reduced imports rather than robust economic health.

➤ **Managing BoP:**

○ **Foreign Exchange Reserves:** RBI manages BoP fluctuations by adjusting foreign exchange reserves through market interventions and by using tools such as **adjusting interest rates, open market operations** and influencing borrowing and spending.

○ **Policy Interventions:** Governments implement trade policies and regulatory measures to stabilise BoP dynamics, ensuring sustainable economic growth.

● Deflation is the deliberate reduction of money supply or aggregate demand. It can result in **lower domestic prices, which may make exports more competitive, and reduced consumption,** including of imports. However, it also poses risks such as economic slowdown or recession and increased unemployment.

○ **Foreign Investment Promotion:** Promoting foreign investment to enhance the capital account by offering tax incentives, improving infrastructure, business environment, and streamlining regulations for foreign businesses.

● This can attract foreign capital and technology, leading to potential improvement in export capacity.

# Annual Survey of Unincorporated Enterprises (2022-23)

***Why in News?***

Recently, the **Ministry of Statistics and Programme Implementation (MoSPI)** has released the **Annual Survey of Unincorporated Enterprises for 2022-23**.

***What is the Scenario of Informal Workers According to the Survey?***

➤ As per the survey, **Uttar Pradesh, West Bengal and Maharashtra** had the highest share of **informal sector** enterprises in both **rural and urban** areas in **2022-23**.

➤ The share of informal sector enterprises decreased in the post-pandemic year 2022-23 in states such as **Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Tamil Nadu and West Bengal.**

➤ The state of **Uttar Pradesh** topped among major states with an increase in the number of **unincorporated non-agricultural enterprises**.

➤ Share of Informal Sector Enterprises (in 2022-23 as compared to 2021-22):

○ **Uttar Pradesh:** Increased by **0.84**% (from 12.99% to 13.83% of total informal sector enterprises(TISE)).

○ **West Bengal:** Decreased by **0.27**% (from 12.31% to 12.04% of TISE).

○ **Maharashtra:** Increased by **0.56**% (from 8.81% to 9.37% of TISE).

○ **Delhi:** Increased by **0.79**% (from 0.64% to 1.43% of TISE).

➤ **Informal sector workers (in 2022-23 as compared to 2021-22):**

○ **Uttar Pradesh:** Increased by **0.27 crore** from 1.30 crore).

○ **West Bengal:** Increased by **0.03 crore** from 1.02 crore)

○ **Maharashtra:** Increased by **16.19 lakh**

➤ Total Workers in Unincorporated Non-Agricultural Sector:

○ **During 2022-23:** Increased by **1.17 crore** workers (from 9.79 to 10.96 crore).

○ **Urban Workers:** Increased by **0.69 crore** workers (from 5.03 to 5.72 crore).

○ **Rural Workers:** Increased by **0.48 crore** workers (from 4.76 to 5.24 crore).

## STATES WITH HIGHEST SHARE OF INFORMAL SECTOR ENTERPRISES

| | 2022-23 | 2021-22 |
|---|---|---|
| Uttar Pradesh | 13.83% | 12.99% |
| West Bengal | 12.04% | 12.31% |
| Maharashtra | 9.37% | 8.81% |
| Tamil Nadu | 6.50% | 6.80% |
| Bihar | 5.69% | 5.25% |
| Gujarat | 5.37% | 6.17% |
| Karnataka | 5.34% | 5.72% |
| MP | 5.03% | 5.35% |
| AP | 4.93% | 4.87% |
| Odisha | 4.53% | 4.08% |

*Total includes data for 13 other regions; Source: Annual Survey of Unincorporated Enterprises 2022-23 & 2021-22

# Social Security for Gig Workers

### *Why in News?*

Recently, **Karnataka** became the **second state** after **Rajasthan** to come up with legislation for **Gig Workers**.

➢ Through a draft version of the law (**Karnataka Platform-based Gig Workers (Social Security and Welfare) Bill)**, the **Karnataka** government aims to regulate the **social security and welfare** of platform-based gig workers in the state by creating a **board, welfare fund, and grievance cell** among the mechanisms.

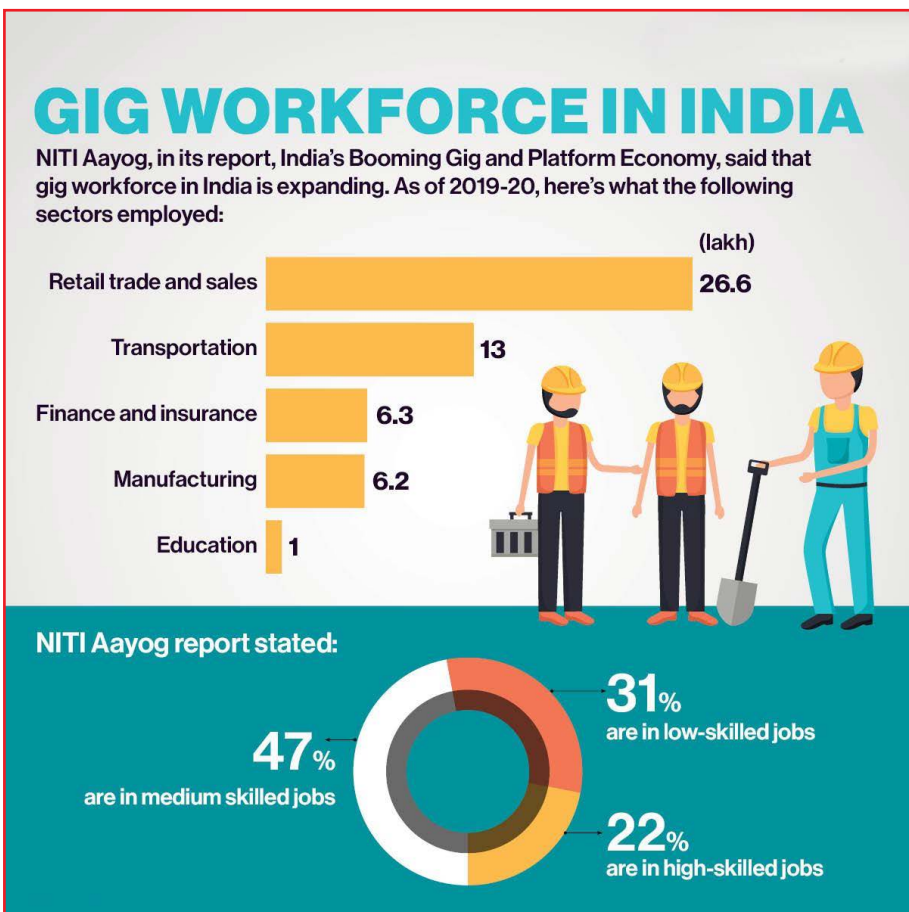| Gig Workers Union Demands National Disaster Status for Heatwave |
|---|
| ➢ **The Union of gig workers in Telangana** have sought **National Human Rights Commission (NHRC)** to consider the effect of the heatwave on gig workers. |
| ➢ The Union is demanding that the heatwave be treated as a **national disaster** and **support systems be created for workers.** |
| ➢ The set of 10 demands including **intervention of the State government** in terms of **providing clean drinking water, oral rehydration, accessible toilets, seating areas with shade, a mandatory break** with **flexible working hours** during extreme heat conditions has been put forward. |

Note:

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### What are the Key Highlights of the Karnataka Bill?

➢ **Creation of Welfare Board:** Board comprising Karnataka labour minister, two aggregator officials, two gig workers, and one civil society member to be formed.

   ○ A **two-level grievance redressal** mechanism for workers, and more transparency with regards to the automated monitoring and decision-making systems deployed by platforms has been envisaged by the draft bill.

➢ **Timely Payment:** The draft mandates aggregators to make payments at least every week and to inform the worker about the reasons for any payment deductions.

➢ **Unique ID:** Gig workers can apply to receive a **Unique ID** applicable across all platforms upon registration with the board.

➢ **Social Security and Grievance Redressal:** Access to general and specific **social security schemes** based on contributions along with a grievance redressal mechanism for gig workers.

➢ **Autonomy and Contractual Rights:** The Bill aims to provide greater autonomy to the gig workers to terminate contracts and resist being over worked by employers.

   ○ The aggregator shall **not terminate** a worker without giving valid reasons in writing and prior notice of **14 days.**

➢ **Work Environment and Safety:** There is a mandate for aggregators to maintain a safe working environment for gig workers.

➢ **Welfare Fund:** Proposed fund financed by a welfare fee from aggregators along with state and worker contributions.

➢ **Penalties:** Basic penalty of **Rs 5,000** extendable up to **Rs 1 lakh** for aggregators violating conditions under the Bill.

### Who are Gig Workers?

➢ **Gig Workers:** As per the **Code on Social Security 2020,** a **gig worker** is a person who performs work or participates in a gig work arrangement and earns from such activities outside of traditional **employer-employee relationship**.

➢ **Gig Economy:** A **free market system** in which temporary positions are common and organisations contract with independent workers for short-term engagements.

   ○ A 2022 **NITI Aayog** report estimates that India will have **23.5 million gig workers** by 2029-30.



**GIG WORKFORCE IN INDIA**

NITI Aayog, in its report, India's Booming Gig and Platform Economy, said that gig workforce in India is expanding. As of 2019-20, here's what the following sectors employed:

(lakh)
- Retail trade and sales: 26.6
- Transportation: 13
- Finance and insurance: 6.3
- Manufacturing: 6.2
- Education: 1

NITI Aayog report stated:
- 31% are in low-skilled jobs
- 47% are in medium skilled jobs
- 22% are in high-skilled jobs

### What is the Need to Provide Social Security Benefits to Gig Workers?

➢ **Frequent Termination:** The instances of **blacklisting workers or terminating** them from work without hearing out their side have increased.

➢ **Economic Security:** The sector depends on **demand** which leads to **job insecurity and income uncertainty**, highlighting the necessity of providing social security

Note:

benefits such as **unemployment insurance, disability coverage, and retirement savings programs**.

➢ **Health Insurance:** Lack of access to employer-sponsored **health insurance** and other healthcare benefits leaves gig workers **vulnerable to unexpected medical expenses.** Prioritising their health and well-being will create a healthier and more productive workforce.

➢ **Level Playing Field:** Exemption from traditional employment protections creates disparities where gig workers face **exploitative working conditions and inadequate compensation**. Providing social security benefits will level the playing field.

➢ **Long-term Financial Security:** Without **employer-sponsored retirement plans**, gig workers may struggle to save enough for their future like for post retirement needs.

### *What are the Main Challenges in Providing Social Security Benefits to Gig Workers?*

➢ **Classification and Excess Flexibility:** The **gig economy** is characterised by its **flexibility**, allowing workers to choose when, where, and how much they work.

  ○ Designing **social security** benefits that accommodate this flexibility and meet the diverse needs of gig workers is a complex task.

➢ **Funding and Cost Distribution:** Traditional **social security** systems depend on employer and employee contributions, with employers typically bearing a significant portion of the costs.

  ○ In the gig economy, where **workers are often self-employed**, identifying appropriate funding mechanisms becomes complex.

➢ **Coordination and Data Sharing:** Efficient **data sharing and coordination** among **gig platforms, government agencies, and financial institutions** are necessary to accurately assess gig workers' earnings, contributions, and eligibility for various social security programs.

  ○ However, as gig workers often work for multiple platforms or clients, it becomes challenging to coordinate and ensure proper coverage.

➢ **Education and Awareness:** Many gig workers may not fully understand their **rights and entitlements** regarding social security benefits.

  ○ **Raising awareness** and providing education about the importance of social security, eligibility criteria, and the application process is a challenging task.

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**Government's Initiatives Related to Gig Workers**

➢ The **Code on Social Security 2020**, contains a separate section on 'gig economy' and imposes an obligation on gig employers to **contribute to a Social Security Fund to be handled by a government-led board.**

➢ The **Code on Wages 2019**, provides for universal minimum wage and floor wage across organised and unorganised sectors, including gig workers.

➢ The **Rajasthan** Assembly recently passed a bill aimed at extending **social security** benefits to gig workers.

### *What can be done to Ensure Social Security of Gig Workers?*

➢ **Implementing Code on Social Security, 2020:** Although the **Code on Social Security, 2020**, contains provisions for gig workers, the **rules are yet to be framed by the States** and not much has moved in terms of instituting the Board. These should thus be taken up expeditiously by the government.

➢ **Expanding Employer Responsibilities: Strong support** for gig workers should come from the gig **companies that themselves benefit from this agile** and low-cost work arrangement.

  ○ The practice of classifying gig workers as **self-employed or independent** contractors needs to be eliminated.

  ○ Companies must be provided equal benefits as that of a regular employee.

➢ **Education and Training:** The government should invest in **education and training programs** for gig workers to improve their skills and increase their earning potential.

➢ **Government Support: Collaboration between governments, gig platforms, and labour organisations** to establish fair and transparent mechanisms for sharing the responsibility of providing social security benefits.

  ○ Eg. Schemes similar to **Ayushman Bharat** should be extended to cover gig workers **with cost sharing with the employer.**

➢ **Adopting International Examples:** The **UK** has instituted a model by categorising gig workers as "workers," which is a category between employees and the self-employed.

  ○ This secures them a **minimum wage, paid holidays, retirement benefit plans, and health insurance.**

  ○ Similarly, in **Indonesia**, they are entitled to accident, health, and death insurance.

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➤ **Linking Women Empowerment with Gig Economy:** There is a need to build the right **physical and social infrastructure** that supports the engagement of women in the gig workforce.

# India Grants Record Patents

## *Why in News?*

Recently, the Union Minister of **Commerce and Industry** highlighted that India issued around **one lakh patents in 2024**, reflecting the **significant increase** in patent approval.

## *What is a Patent?*

➤ **About:**
  ○ A **patent** is a legal right to an invention given to a person or entity without interference from others who wish to replicate, use, or sell it.
  ○ Patent protection is a **territorial right and therefore it is effective only within the territory of India**. There is **no concept of global patent.**
  ○ The patent system in India is governed by the **Patents Act, 1970** with patent rules being regularly amended in consonance with the changing environment, the most recent being **Patents (Amendment) Rules, 2024.**

➤ **Criteria of Patentability:** An invention is patentable subject matter if it is novel, non-obvious, and capable of Industrial application.
  ○ Additionally, it **should not attract the provisions of section 3 and 4 of the Patents Act 1970.**

➤ **Patents Act, 1970:**
  ○ This principal law for patenting system in India came into force in the year 1972. It **replaced the Indian Patents and Designs Act 1911**.
  ○ The Act was **amended by the Patents (Amendment) Act, 2005**, wherein product patent was extended to all fields of technology including food, drugs, chemicals and microorganisms.
  ○ After the amendment, the provisions relating to Exclusive Marketing Rights (EMRs) have been repealed, and a **provision for enabling grant of compulsory license** has been introduced. The provisions relating to **pre-grant and post-grant opposition** have also been introduced.

➤ Key Changes Under Patents (Amendment) Rules, 2024:
  ○ **Reduced timeline for filing a Request for Examination (RFE):** From 48 months to 31 months from the priority date.
  ○ **Introduction of 'Certificate of Inventorship':** Acknowledge inventors' contributions by identifying them for their patented inventions.
  ○ **Frequency of filing statements:** Reduced from once a financial year to once every three financial years.
  ○ **Amendments in Pre-grant and Post-grant Opposition Procedures:** Time frame for submission of recommendations by an Opposition Board and the response time for applicants have been adjusted.

**Note:**

➤ In the **Global Innovation Index (GII) 2023** rankings by WIPO, **India secured the 40th position** out of 132 countries. This marks an improvement from the 46th position in 2021 and the 81st rank in 2015.

➤ According to the study released by the World Intellectual Property Organisation, India **sees record 31.6% rise in patent applications** in 2022; **ahead of China, U.K.**

### Section 3 and 4 of Patents Act, 1970

➤ **Under Section 3**, frivolous claims, **inventions against natural laws**, those contrary to public order or morality, discoveries of scientific principles or abstract theories, discoveries of natural living or non-living substances, etc are not considered inventions.

➤ **Section 4 pertains to Inventions** relating to atomic energy that are not patentable. According to Section 4, no patent shall be granted in respect of an invention relating to atomic energy falling within sub-section (1) of section 20 of the **Atomic Energy Act, 1962.**

## *What is the Significance of Granting Patents?*

➤ **Encouraging Innovation and Research:** Granting exclusive rights through patents incentivizes innovation.

➤ **Attracting Foreign Direct Investment (FDI):** Countries with robust intellectual property protection regimes tend to attract more **FDI.** A well-protected IP environment provides confidence to foreign investors that their innovations will be safeguarded, encouraging them to invest in India.

Note:

➢ **Creating a Knowledge-Based Economy:** Protection of <u>**copyrights and trademarks**</u> encourages the creation and commercialization of intellectual assets in fields such as literature, arts, music, and branding contributing to the development of a knowledge-based economy.

# INTELLECTUAL PROPERTY RIGHTS *(IPRs)*

*IP refers to intangible assets owned/legally protected by an individual/company from outside use or implementation without consent.*

**NEED FOR IPR**

⊕ Encourages Innovation    ⊕ Economic growth    ⊕ Safeguard rights of creators    ⊕ Enhances ease of doing business

**RELATED CONVENTIONS/TREATIES (INDIA SIGNATORY TO ALL)**

⊕ WIPO Administered (first recognised IPR under):
  ⊕ Paris Convention for the Protection of Industrial Property 1883 **(Patents, Industrial Designs)**
  ⊕ Berne Convention for the Protection of Literary and Artistic Works 1886 **(Copyrights)**
⊕ WTO - TRIPS Agreement:
  ⊕ Ensures adequate standard of protection
  ⊕ Argues for incentives for technology transfer to developing countries
⊕ Budapest Treaty 1977:
  ⊕ International recognition of the deposit of micro-organisms for the purposes of patent procedure
⊕ Marrakesh VIP Treaty 2016:
  ⊕ Facilitate access to published works by visually impaired persons and persons with print disabilities
⊕ IPR also outlined in **Article 27** (Universal Declaration of Human Rights)

**INDIA AND IPRS - INITIATIVES**

⊕ **National IPR Policy 2016:**
  ⊕ **Motto:** "Creative India; Innovative India"
  ⊕ Compliant with TRIPS Agreement
  ⊕ Brings all IPRs to single platform
  ⊕ Nodal Dept - Department of Industrial Policy & Promotion (Ministry of Commerce)
⊕ National (IP) Awareness Mission **(NIPAM)**
⊕ Kalam Program for Intellectual Property Literacy and Awareness Campaign **(KAPILA)**

*World Intellectual Property Day: 26th April*

| Intellectual Property | Protection | Law in India | Duration |
|---|---|---|---|
| Copyright | Expression of Ideas | Copyright Act 1957 | Variable |
| Patent | Inventions- New Processes, Machines, etc. | Indian Patent Act 1970 | 20 years Generally |
| Trademarks | Sign to distinguish business goods or services | Trade Marks Act 1999 | Can last Indefinitely |
| Trade Secrets | Confidential Business Information | Protected without Registration | Unlimited time |
| Geographical Indication (GI) | Sign used on specific geographical origin and possess qualities due to site of origin | Geographical Indications of Goods(R & P) Act, 1999 | 10 years (Renewable) |
| Industrial Design | Ornamental or aesthetic aspect of an article | Design Act, 2000 | 10 years |

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## What are the Challenges in the Patenting System?

➢ **Lengthy Approval Process:** Patent offices can **take months or even years** to examine applications. This can be problematic for inventors waiting to secure their rights.

➢ **Backlog of Patent Applications:** Patent offices often deal with a **high volume of applications**, leading to a backlog that can further extend approval times.

➢ **Limited Awareness & Education:** Many inventors, especially small businesses and individuals, **lack sufficient knowledge** about patents and the process. This can hinder their ability to effectively protect their inventions.

➢ **Resource Constraints:** The patenting process can be **expensive, involving patent attorney fees**, application fees, and potential maintenance fees. This can be a barrier for inventors with limited resources.

➢ **Stringent Patentability Criteria:** India has **specific provisions under Section 3** of the Patents Act that exclude certain inventions from patentability. This can be a hurdle for innovations in these areas.

➢ **Enforcement Issues:** Even with a patent, **enforcing patentee rights against infringers can be costly** and time-consuming, requiring legal action.

➢ **Biopiracy & Traditional Knowledge Issues:** Ensuring fair access to genetic resources and protecting traditional knowledge associated with them can be complex issues in the patent system.

## What are Steps Needed to Improve the Patenting System?

➢ **Simplifying Procedure:** Streamline **application process** with **online filing** and **user-friendly interfaces.**

Note:

○ Offer clear and accessible guidelines for patent drafting and prosecution.

➢ **Simplify Approval Process:** Increase **manpower and resources** in patent offices for faster examination.

○ Offer expedited examination options for critical inventions.

➢ **Clearing Backlog: Clear the backlog** through efficient case management and disposal strategies.

➢ **Creating Awareness: Integrate intellectual property (IP)** education in academic **curriculums (STEM fields).**

○ Establish IP support centers and pro bono legal services for small businesses.

➢ **Provision of Subsidies:** Introduce **government subsidies** and fee reductions for individual inventors and startups.

○ **Promote patent pools** and collaborative research to share costs.

➢ **Relaxing Patentibility Criteria: Review and harmonise patentability** criteria with international standards.

○ **Offer pre-filing consultations** to assess invention's patentability.

➢ **Strengthen Legal Mechanism: Strengthen IP enforcement mechanisms**, including specialised courts and faster adjudication.

○ **Promote alternative dispute resolution (ADR)** for cost-effective enforcement.

➢ **Protecting Traditional Knowledge: Implement stricter regulations** and effective enforcement against biopiracy.

○ Develop a **national database** of traditional knowledge for better protection.

# CCPA and Pendency of Cases

### *Why in News?*

Recently, the **Central Consumer Protection Authority (CCPA)** imposed a penalty of Rs. 3 lakh on an advertisement by an Edtech platform that was found to be **"false and misleading"** under Section 21 of the Consumer Protection Act.

### *What is the Central Consumer Protection Authority (CCPA)?*

➢ **About:**

○ CCPA is the **regulatory body** established under **Section 10** of the **Consumer Protection Act (CPA), 2019,** it regulates matters related to consumer rights violations and unfair trade practices.

● The act empowers the CCPA to **prevent false or misleading advertisements** and ensure consumer rights are protected.

○ It operates under the **Ministry of Consumer Affairs, Food and Public Distribution.**

➢ Section 21 of CPA Act:

○ **Section 21** of CPA, 2019 grants the CCPA the power to **issue directions and penalties** against **false or misleading advertisements**. It provides **definition of Misleading Advertisement**, **Powers of the CCPA and Penalties (**imprisonment of up to 2 years and a fine of up to **Rs. 10 lakh)**.

➢ Benefits to Consumers:

○ **Informed Consumers:** CCPA empowers informed consumer decisions by deterring deceptive marketing.

○ **Transparent Ads:** CCPA interventions promote truthful advertising practices.

○ **Trustworthy Claims:** CCPA discourages misleading claims, boosting consumer trust.

○ **Fair Competition:** It ensures competition based on product merit, not deceptive claims.

| Case Study |
|---|
| **Reducing Pendency in Consumer Courts through Suspension of Vacations:** |

➢ **National Consumer Disputes Redressal Commission (NCDRC)** and **state consumer commissions** have worked to clear the backlog of pending cases by suspending the traditional summer vacation practices.

➢ **Background:**

○ Since the **CCPA's inception (July 2020)**, **415,104 cases have been filed**, and **440,971 cases have been disposed of**, indicating a positive trend.

● However, **555,000 cases are pending** before consumer commissions **as of December 2022**.

➢ **Addressing the Backlog:**

○ In **2022**, the NCDRC started **suspending summer vacations for state consumer commissions**.

○ The NCDRC cited the provisions of the CCPA, which state that **all commissions must follow the holiday schedule prescribed by the state government**, and there is **no provision for a summer vacation in any state office**.
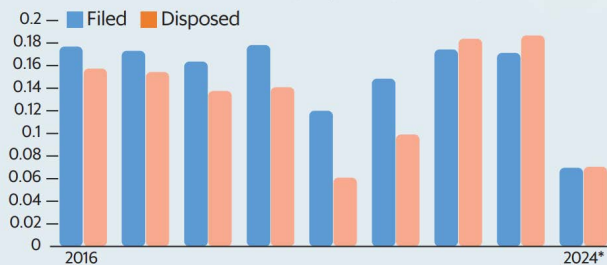
Note:

➢ **Impact and Outcomes:**
  ❍ In 2022, the NCDRC **received 3,420 cases** and **resolved 4,138 cases**, compared to 2,449 cases received and 2,011 cases resolved in 2021.
  ❍ In 2023, the NCDRC **received 5,276 cases** and **resolved 6,422 cases**, further reducing the backlog.
  ❍ As of May 2024, consumer commissions have **resolved 70,576 cases,** while **69,615 cases have been filed**, indicating a positive trend in clearing the backlog.
  ❍ The introduction of **e-courts** has also contributed to the increased efficiency of the consumer dispute redressal process.

## Backlog dips

Pendency of cases before consumer commissions has shrunk since NCDRC started suspending vacations of state units.

Number of consumer cases filed/disposed (in million)



*Data till 31 May 2024         Source: Ministry of Consumer Affairs

**Note:**

➢ Consumer forums are categorised into District, State, and National levels. According to the Consumer Protection Act, 2019, complaints can be filed based on the value of the claim.
  ❍ District Consumer Disputes Redressal Commission (DCDRC) for claims up to **Rs 50 lakh.**
  ❍ State Consumer Disputes Redressal Commission (SCDRC) for claims between **Rs 50 lakh and Rs 2 crore**
  ❍ National Consumer Disputes Redressal Commission (NCDRC) for claims **above Rs 2 crore.**

**What are the Initiatives for Consumer Protection?**

➢ **Consumer Welfare Fund**
➢ **Central Consumer Protection Council**
➢ **Consumer Protection Rules, 2021**
➢ **Consumer Protection (E-Commerce) Rules, 2020**
➢ **National Consumer Day**

# Project Nexus of BIS

## *Why in News?*

Recently, the **Reserve Bank of India (RBI)** has joined **Project Nexus**, a **multilateral international initiative** to enable **instant cross-border retail payments** by **interlinking domestic Fast Payments Systems (FPSs).**

## *What is Project Nexus?*

➢ **About:**
  ❍ **Project Nexus** is conceptualised by the Innovation Hub of the **Bank for International Settlements (BIS).**
  ❍ It seeks to **enhance cross-border payments** by connecting multiple global domestic instant payment systems (IPS).
  ❍ It is the **first BIS Innovation Hub project** in the payments area to move towards live implementation.

➢ **Members:**
  ❍ Project Nexus aims to connect the FPSs of four **Association of Southeast Asian Nations (ASEAN)** namely, Malaysia, Philippines, Singapore, Thailand, and India, who would be the **founding members and first mover countries** of this platform.
    ● **Indonesia** will also join the platform in the future.
  ❍ An agreement on this was **signed by the BIS and the central banks** of the founding countries in Basel, Switzerland.

➢ **Benefits:**
  ❍ Project Nexus aims to streamline how IPS connect globally, eliminating the need for custom connections with each new country **by centralising connections** through a single platform.
  ❍ This single connection **allows a fast payment system to reach all other countries on the network.**
    ● According to BIS, connecting IPS can enable cross-border payments from sender to recipient **within 60 seconds (in most cases).**
  ❍ While India and its partner countries continue to **benefit through bilateral connectivity of FPS**, a multilateral approach will provide further impetus to the RBI's efforts in expanding the international reach of Indian payment systems.
    ● The **Reserve Bank of India** has been collaborating bilaterally with various countries to link India's Fast Payments System (FPS) **UPI**, with their

respective FPSs for **cross-border Person to Person (P2P)** and **Person to Merchant (P2M) payments.** For example, Bhutan , UAE, France, Sri Lanka, Mauritius.

### Bank for International Settlements (BIS)

➢ **Established in 1930,** the **BIS** is **owned by 63 central banks,** representing countries from around the world that together account for about 95% of world GDP.

➢ Its head office is in Basel, Switzerland and it has two representative offices (Hong Kong SAR and Mexico City), as well as **Innovation Hub Centres** around the world.

➢ **Innovation BIS 2025,** is its **medium-term strategy** that leverages technology and new collaboration channels to serve the central banking community in the fast-changing world.

➢ The **Basel Banking Accords** are global rules set by the Basel Committee on Banking Supervision (BCBS), operating under the **Bank for International Settlements (BIS)** in Basel, Switzerland, providing guidelines for **best practices in banking.**

➢ It **provides central banks with:**
  ○ a forum for dialogue and broad international cooperation
  ○ a platform for responsible innovation and knowledge-sharing
  ○ in-depth analysis and insights on core policy issues
  ○ sound and competitive financial services

**Read More:** UPI Goes Global from Eiffel Tower, UPI Services in Sri Lanka and Mauritius,

# Amendments Proposed in MSME Act

### Why in News?

Recently, on the occasion of **International MSME Day (27th June), 2024,** the **Ministry of Micro, Small & Medium Enterprises (MSME)** organised the **'Udyami Bharat-MSME Day'** event and proposed amendment to **MSME Development Act, 2006** to improve dispute resolution for delayed payments and address the changing needs of the MSME sector.

➢ The event witnessed the launch of several initiatives by the Union Minister for MSME, including the proposed **upgradation of the Samadhan Portal, proposed**

amendments in the MSME Development Act, 2006, the **Team Initiative** and the **Yashasvini campaign.**

## What are the Key Facts About MSME?

➢ **About:**
  ○ MSME stands for **Micro, Small and Medium Enterprises.** These are businesses that **produce, process, and preserve goods and commodities.**

➢ **Classification:**



**Earlier and Revised Definition of MSMEs**

**Earlier MSME Classification**

Criteria: Investment in Plant & Machinery or Equipment

| Classification | Micro | Small | Medium |
|---|---|---|---|
| Manufacturing Enterprises | Investment < ₹ 25 lac | Investment < ₹ 5 cr. | Investment < ₹ 10 cr. |
| Services Enterprise | Investment < ₹ 10 lac | Investment < ₹ 2 cr. | Investment < ₹ 5 cr. |

**Revised MSME Classification**

Composite Criteria: Investment and Annual Turnover

| Classification | Micro | Small | Medium |
|---|---|---|---|
| Manufacturing & Services | Investment < ₹ 1 cr. & Turnover < ₹ 5 cr | Investment < ₹ 10 cr. & Turnover < ₹ 50 cr. | Investment < ₹ 20 cr. & Turnover < ₹ 100 cr. |

*Source: Ministry of Finance*

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➢ **MSME Regulation in India:**
  ○ The **Ministry of Small-Scale Industries** and the **Ministry of Agro and Rural Industries** were merged in 2007 to form the **Ministry of Micro, Small, and Medium Enterprises.**
    ● This ministry **develops policies, facilitates programs, and monitors implementation** to support MSMEs and aid in their growth.
  ○ The **Micro, Small, and Medium Enterprises Development Act of 2006** addresses various issues affecting MSMEs, establishes a **National Board for MSMEs,** defines the concept of **"enterprise,"** and empowers the Central Government to enhance MSME competitiveness.

➢ **Significance of the MSME Sector:**
  ○ **Global:**
    ● According to the **United Nations** data, MSMEs account for up to **90% of businesses,** over **60% to 70% of jobs** worldwide, and **half of global GDP.**

Note:

○ **India:**
  ● **GDP Contribution and Employment Generation**: MSMEs currently contribute approximately **30%** to **India's Gross Domestic Product (GDP)**, playing a crucial role in driving economic growth.

➢ As per the data of **Udyam registration** portal, more than **46 million MSMEs (**second only to China's 140 million**)** and o**ver 200 million jobs** are registered with the MSME Ministry.
  ● **Export Promotion:** Currently MSMEs contribute nearly **45% of India's total exports.**

➢ The **Indian handicraft sector,** which is dominated by small-scale artisans and enterprises, has a global market and generates significant export revenue for the country.
  ● **Contribution to Manufacturing Output:** MSMEs contribute significantly to the country's manufacturing output, particularly in sectors like **food processing**, **engineering, and chemicals.**
  ● **Rural Industrialization and Inclusive Growth**: MSMEs play a pivotal role in driving rural industrialisation and promoting inclusive growth.

➢ The **Khadi and Village industries sector,** consisting of small-scale units, has been instrumental in providing employment opportunities in rural areas and empowering local communities.
  ● **Innovation and Entrepreneurship:** The MSME sector fosters innovation and entrepreneurship, as it is **often easier for small businesses to adapt to changing market conditions** and introduce new products or services.

| **International MSME Day 2024** |
| --- |

➢ It is observed on **27ᵗʰ June** annually to recognise the significance of MSMEs and their contribution to the economy.

➢ **The theme of MSME Day 2024:**
  ○ The theme for MSME Day 2024 is **"Leveraging Power and Resilience of Micro-, Small and Medium-sized Enterprises (MSMEs) to Accelerate Sustainable Development and Eradicate Poverty in Times of Multiple Crises."**

➢ **History and Significance:**
  ○ In April 2017, the **United Nations** designated the 27ᵗʰ June as Micro, Small, and Medium-sized Enterprises Day.
  ○ The day aims to enhance national capacities for unleashing the full potential of MSMEs in achieving **Sustainable Development Goals.**

## What are the Key Amendments Proposed in MSME Development Act, 2006?

➢ **MSME Development Act, 2006:** It provides a **framework for the promotion and development of micro, small, and medium enterprises (MSMEs)** in the country.
  ○ Objectives:
    ● Facilitating the promotion and development of MSMEs.
    ● Enhancing the competitiveness of MSMEs.
    ● Providing easy access to credit, marketing assistance, and other support services.
    ● Promoting entrepreneurship and skill development.

➢ **Key Amendments Proposed:**
  ○ **Faster Payment Resolutions:** The Samadhan portal is proposed to upgrade from a grievance tracker to a **full-fledged online dispute resolution platform** for MSMEs.
    ● This empowers MSMEs to **file complaints, receive responses, and participate in mediation all online,** expediting payments.
  ○ **Strengthened MSME Representation:** The **National Board for MSME** will include **representatives from all State Secretaries**, fostering better policymaking that reflects ground realities and addresses MSME challenges across India.
  ○ **Modernising the Act:** The 2006 MSME **Act requires updates** to address contemporary issues like **persistent delayed payments and the evolving support needs of MSMEs**. Amendments aim to **create a more responsive legal framework** for their growth.

## What are the Key Initiatives Announced by the Ministry of MSME?

➢ **MSME Trade Enablement & Marketing (TEAM) Initiative:** It aims to facilitate the onboarding of **5 lakh micro and small enterprises** onto the **Open Network for Digital Commerce (ONDC)**.
  ○ The government will provide **financial assistance** for onboarding, cataloguing, account management, logistics, packaging material, and design.
  ○ **Half** of the beneficiary MSEs will be **women-owned enterprises**.

➢ **Yashasvini Campaign:** This is a series of **mass awareness campaigns** for **formalising women-owned informal**

Note:

**micro enterprises** and providing **capacity building, training, handholding, and mentorship to women-owned enterprises**.

○ The campaigns will be organised by the Ministry of MSME in collaboration with other Central Ministries/Departments, State Governments, and Women Industry Associations, focusing on Tier 2 and 3 cities.

➢ 6 Pillars for the Government's MSME Initiatives:

○ **Building a Stronger Foundation:** This pillar focuses on formalising businesses and ensuring easier access to credit, vital for the growth and stability of MSMEs.

○ **Expanding Market Reach:** The government aims to increase access to domestic and international markets for MSMEs, along with encouraging e-commerce adoption to expand their reach further.

○ **Technological Transformation:** This pillar emphasises leveraging modern technology to boost productivity and efficiency within the MSME sector.

○ **Skilling the Workforce:** Enhancing skill levels and promoting digitalisation in the service sector are crucial for MSMEs to keep pace with the evolving market.

○ **Going Global with Tradition:** The government will support traditional industries like **Khadi, Village, and Coir to help them compete in the global marketplace.**

○ **Empowering Entrepreneurs:** This pillar prioritises fostering enterprise creation among women and artisans, promoting inclusive growth within the MSME sector.

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**What are the Recent Government Initiatives Related to MSMEs?**

➢ **Raising and Accelerating MSME Performance (RAMP) Scheme**

➢ **Credit Guarantee Trust Fund for Micro & Small Enterprises (CGTMSE)**

➢ **Interest Subsidy Eligibility Certificate (ISEC)**

➢ **A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE)**

➢ **Credit Linked Capital Subsidy for Technology Upgradation (CLCSS)**

➢ **Zero Defect & Zero Effect (ZED)**

➢ **CHAMPIONS Portal**

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## What are the Challenges Faced by MSMEs?

➢ **Limited Access to Finance and Credit**: **MSMEs** often struggle to obtain **formal financing and credit facilities**, hindering their growth and expansion.

○ **Only 16%** of MSMEs have **access to formal credit**, leading many to rely on informal sources at higher costs.

➢ **Technological Deficiency**: There is a significant lack of technological advancements and limited digital infrastructure, which restricts their ability to innovate and compete effectively.

○ Limited access to research and development facilities and challenges in adopting **Industry 4.0 technologies** further hinder their competitiveness.

➢ **Market Access and Competition**: MSMEs face limited market access and intense competition from large-scale enterprises, which undermines their market share and profitability.

➢ **Skilled Labour Shortage**: Acquiring skilled labour and managing talent is a persistent issue, affecting the quality and efficiency of operations.

○ A report by **Assocham** estimates that India has a **skills gap of 23 million workers,** making it difficult for MSMEs to find qualified employees, which impacts productivity and innovation.

➢ **Economic Vulnerability**: MSMEs are particularly vulnerable to economic downturns and market fluctuations, which can significantly impact their stability and growth prospects.

○ During the **Covid-19** pandemic, around **21%** of MSMEs in India **permanently closed** due to the economic impact, making them more vulnerable to economic downturns.

➢ **Raw Material Shortage:** MSMEs struggle with **fluctuating raw material prices and limited financial capacity** for bulk purchasing.

○ This is particularly challenging for **small textile units**, which often face difficulties with cotton price volatility, impacting their profit margins and competitiveness.

➢ **Issues With Current Litigation System:** The expensive legal process makes it hard for small businesses to seek justice.

○ The current system **takes too long to resolve disputes**, worsening the financial difficulties of small businesses.

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Note:

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○ The **Samadhan portal** only provides information for analysis and does not help directly resolve disputes.

# Revised Currency Swap Framework for SAARC

## Why in News?

Recently, the **Reserve Bank of India (RBI)**, has decided to put in place a **revised framework** for currency swap arrangements for **SAARC (South Asian Association for Regional Cooperation)** countries for the **period 2024 to 2027.**



**SAARC**
*South Asian Association for Regional Cooperation*

- **Members: 8**    ● Estd. by signing **SAARC Charter in Dhaka** (Dec 1985)    ● **HQ:** Kathmandu, Nepal
- **9 Permanent Observers to SAARC:** Australia, China, EU, Iran, Japan, S. Korea, Mauritius, Myanmar and US
- Comprises **3% of the world's area, 21%** of the world's **population** and **3.8% of the global economy**
- Agreements under SAARC: **SAPTA, SAFTA, SATIS, SAARC University**

**AFGHANISTAN**
⊞ It is India's gateway to the oil and mineral-rich Central Asian republics.
⊞ Salma Dam in Afghanistan is aka Afghanistan-India Friendship Dam.
⊞ From 2002 to 2021. India spent USD 4 bn in development assistance in Afghanistan, building high-visibility projects (highways, hospitals, Parliament building, rural schools, and electricity transmission lines).
⊞ Afghanistan becoming a safe haven for terrorism is direct threat to India's national security.

**NEPAL**
⊞ Shares border with 5 Indian states (Uttarakhand, Uttar Pradesh, West Bengal, Sikkim and Bihar)
⊞ Bharat Gaurav Tourist Train connecting India's Ayodhya and Nepal's Janakpur
⊞ Major Issues: Territorial Disputes (Kalapani, Limpiyadhura and Lipulekh)
⊞ Military Exercise: Surya Kiran (Army)

**BHUTAN**
⊞ India is Bhutan's largest trade partner.
⊞ Mutually Beneficial Hydropower Cooperation: Mangdechhu, Kholongchhu, Chukha hydropower Projects.
⊞ India's grant assistance to Gyalsung Project.
⊞ Integration of Bhutan's DrukRen with India's National Knowledge Network

**PAKISTAN**
⊞ Indo-Pak diplomatic relations are quite limited with periodic attempts to improve relations often failing.
⊞ India revoked Pakistan's Most Favoured Nation (MFN) status following the Pulwama terrorist attack (2019).
⊞ Indus Water Treaty 1960 is often cited as one of the most successful intl. treaties in South Asia.
⊞ Major issues: Cross-border terrorism, Kashmir issue, CPEC affecting India's Sovereignty

**BANGLADESH**
⊞ Shares the longest border of over 4,096 km with India.
⊞ Largest trading partner in South Asia.
⊞ Water Sharing Agreements: Kushiyara river (2022), Ganga Water Treaty (1996).
⊞ Major Issues: Teesta River Water Dispute.
⊞ Military Exercises: SAMPRITI-X (Military Training). Bongosagar (Naval).

**MALDIVES**
⊞ India is Maldives 2nd largest trading partner.
⊞ Exercises with India - Ekuverin, Dosti, Ekatha and Operation Shield.
⊞ Greater Male Connectivity Project by an Indian company is the largest-ever infra project in Maldives.
⊞ Major Issues:
  ⊞ Maldives an important 'pearl' in China's String of Pearls.
  ⊞ Increasingly Maldivian drawn towards Pak-based terrorist groups.
  ⊞ India being projected as the bully and a big brother – 'India Out' Campaign

**SRI LANKA**
⊞ India is Sri Lanka's third largest export destination.
⊞ India is the first country to officially back Sri Lanka's debt restructuring programme at IMF.
⊞ Major Issue: Fishermen crossing maritime boundary.
⊞ Important Exercises: Mitra Shakti (Army), SLINEX (Naval)

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## What is a Currency Swap Agreement?

➢ **About:**
○ A **currency swap agreement** between two countries is a contract to exchange currencies with predetermined terms and conditions for liquidity support.

○ Central banks and Governments engage in currency swaps with foreign counterparts to **meet short-term foreign exchange liquidity** requirements or to ensure adequate foreign currency **to avoid the Balance of Payments (BOP)** crisis till longer arrangements can be made.

● These swap operations carry **no exchange rate** or other market risks as transaction terms are set in advance.

➢ **RBI's Framework for Swap Facilities for SAARC:**
○ The **SAARC currency swap facility** first came into operation on 15th November 2012, to provide a backstop line of funding for **short-term foreign exchange liquidity requirements** or balance of payment crises of the SAARC countries till longer-term arrangements are made.

○ The RBI can offer a swap arrangement within the overall **corpus of USD 2 billion.**

○ The swap can be made in **US dollars, euro or Indian rupees**. The framework provides **certain concessions** for swap in the Indian rupee.

○ The facility will be **available to all SAARC** member countries, subject to their signing the bilateral swap agreements.

Note:


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➢ **Changes in New Framework:**
   ○ Under the framework for 2024-27, a **separate INR (Indian Rupee) swap window** has been **introduced** with various concessions for swap support in Indian Rupee.
      ● The total corpus of the rupee support is **Rs. 250 billion.**
   ○ The RBI will continue to offer swap arrangements in USD and Euro under a separate US Dollar/ Euro swap window with an overall corpus of USD 2 billion.
➢ Other Bilateral Currency Swap Agreements:
   ○ India-Japan
   ○ India-Sri Lanka

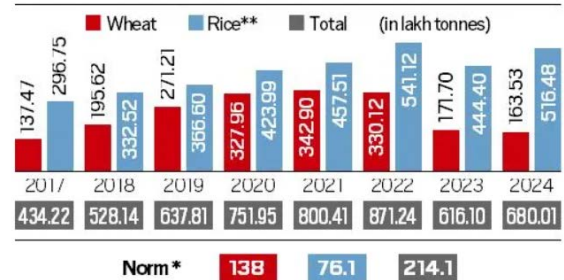| South Asian Association for Regional Cooperation (SAARC) |
|---|
| ➢ **Establishment:** SAARC was established with the signing of the **SAARC Charter** in Dhaka (Bangladesh) on 8th December 1985.<br>➢ **Member States:** Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.<br>➢ **Secretariat:** Kathmandu (Nepal)<br>➢ **Objective:** To promote the welfare of the **people of South Asia,** to improve their quality of life, and accelerate economic growth, among other things. |

# Revamping Buffer Stock

## Why in News?

Recently, **open market sales** of wheat and chana have **curbed soaring inflation** in cereals and pulses, highlighting the **rationale for expanding buffer stocks** to include other staples amidst rising climate-induced supply disruptions and price fluctuations.

## What is the Buffer Stock Policy of the Government of India?

➢ **Buffer stock** refers to a **reserve of a commodity** that is used to **offset price fluctuations** and unforeseen emergencies.
   ○ The concept of buffer stock was first introduced during the 4th **Five Year Plan** (1969-74).
➢ A buffer stock of food grains in the **Central Pool** is maintained by the Government of India (GOI) for:
   ○ meeting the **prescribed minimum** buffer stock norms for food security

   ○ monthly **release of food grains** for supply through **Targeted Public Distribution System (TPDS)** and **Other Welfare Schemes (OWS)**
   ○ **meeting emergency situations** arising out of unexpected crop failure, natural disasters, etc., and
   ○ **price stabilisation** or market intervention to augment supply so as to help moderate the open market prices.
➢ The **Cabinet Committee on Economic Affairs** fixes the minimum buffer norms on a quarterly basis.
   ○ The buffer stock figures are normally **reviewed after every five years.**



**STOCKS IN CENTRAL POOL ON JAN 1**

■ Wheat  ■ Rice**  ■ Total   (in lakh tonnes)

| Year | Wheat | Rice** | Total |
|---|---|---|---|
| 2017 | 137.47 | 296.75 | 434.22 |
| 2018 | 195.62 | 332.52 | 528.14 |
| 2019 | 271.21 | 366.60 | 637.81 |
| 2020 | 327.96 | 423.99 | 751.95 |
| 2021 | 342.90 | 457.51 | 800.41 |
| 2022 | 330.12 | 541.12 | 871.24 |
| 2023 | 171.70 | 444.40 | 616.10 |
| 2024 | 163.53 | 516.48 | 680.01 |
| Norm* | 138 | 76.1 | 214.1 |

*Minimum operational stock plus strategic reserve for January 1; **Includes rice equivalent of un-milled paddy; Source: Food Corporation of India

➢ The government has engaged the **National Agricultural Cooperative Marketing Federation of India Limited (NAFED)**, **Small Farmers Agri-business Consortium (SFAC), and Food Corporation of India (FCI)** to procure pulses for buffer stock.
➢ In addition to buffer norms, the Government has prescribed a **strategic reserve** of wheat (since 2008) and rice (since 2009).
   ○ In 2015, the government created a **buffer stock of pulses of 1.5 lakh tonnes to control the fluctuation of prices of pulses**.
➢ Presently, **stocking norms fixed by the Government comprise of:**
   ○ **Operational stocks:** for meeting monthly distributional requirements under TPDS and OWS.
   ○ **Food security stocks/reserves:** for meeting the shortfall in procurement.
➢ Food grains stock in the **Central Pool consists** of stock held by the **Food Corporation of India (FCI)**, states participating in the **Decentralised Procurement Scheme**, and the **state government agencies (SGAs)** for **both buffer and operational requirements**.

Note:

| Food Corporation of India (FCI) |
|---|
| ➢ FCI was set up in 1965 (under the **Food Corporation Act, 1964**) against the backdrop of a major shortage of grains, especially wheat, in the country. |
| ➢ FCI was mandated with **three basic objectives:**<br>❍ to provide **effective price** support to farmers<br>❍ to **procure and supply** grains to PDS for distributing subsidised staples to economically vulnerable sections of society<br>❍ keep a **strategic reserve** to stabilise markets for basic food grains. |
| ➢ FCI continuously **assesses and monitors the storage capacity** and based on the storage gap assessment, storage capacities are created/hired. |



Current Indian food-administration diagram
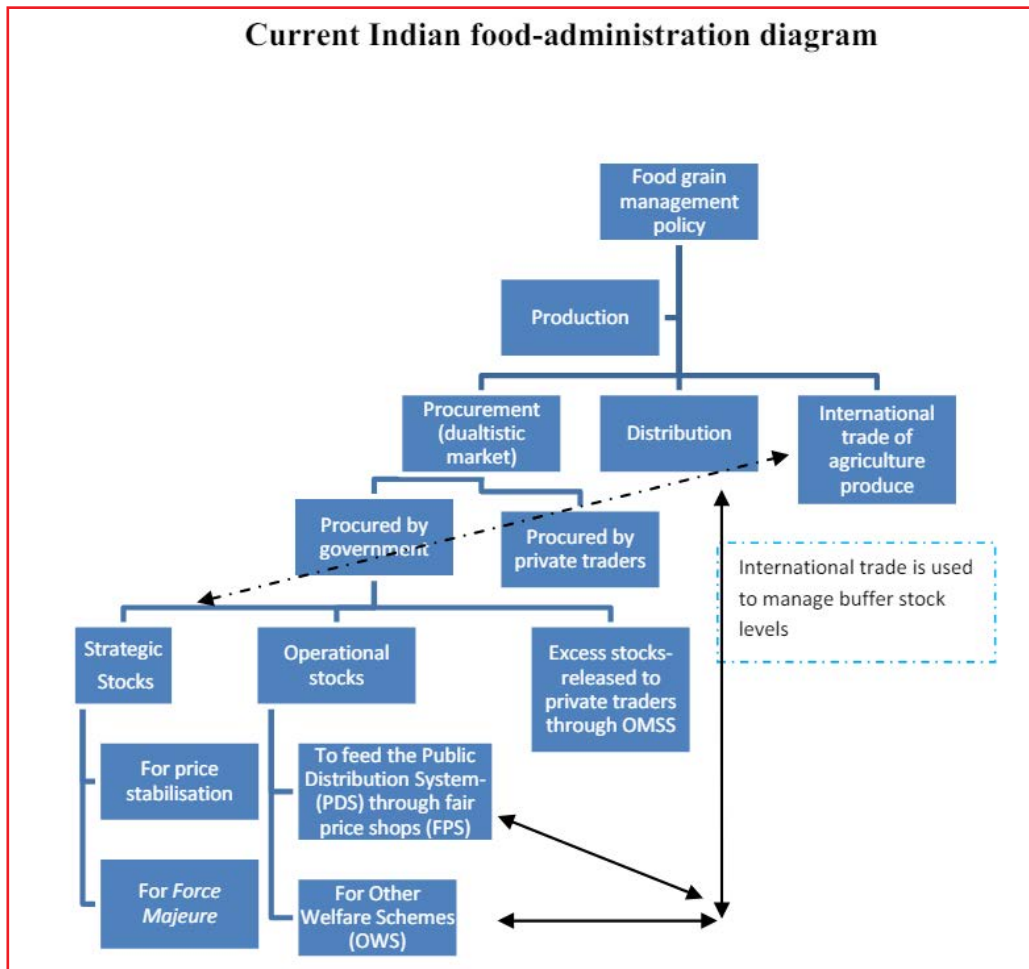
### *What are the Benefits and Challenges of Buffer Stocks?*

➢ **Benefits:**
  ❍ **Food Security**: To ensure the **availability of food grains** for the public, especially the vulnerable sections, during adverse conditions like droughts, floods, or other crises.
  ❍ **Price Stabilisation:** To maintain stable prices of essential food grains in the market by regulating supply.
    ● In 2022-23, the **Food Corporation of India (FCI)** released 34.82 lakh tonnes of wheat to boost market supplies.
    ● The FCI's open market sale **scheme significantly reduced retail inflation in cereals** and wheat.

- ❍ **Support to Farmers:** Assures farmers of a **minimum price** for their produce, which helps in stabilising their income and encourages continued agricultural production.
- ❍ **Disaster Management:** Provides **immediate relief during natural disasters** by supplying food grains without delay. E.g . **During Covid-19 supply of free ration.**
- ➤ **Challenges:**
  - ❍ **Storage Issues:** India faces significant challenges in terms of **inadequate storage facilities**, leading to wastage and spoilage of food grains.
  - ❍ **Procurement Imbalance:** There is often an **imbalance in the procurement** of different grains, leading to excess stocks of some and shortages of others.
  - ❍ **Financial Burden:** Maintaining large buffer stocks **entails high financial costs** related to procurement, storage, and distribution.
  - ❍ **Inefficiencies in Distribution:** The PDS often faces **issues like leakages, pilferage, and corruption**, which hinder the effective distribution of buffer stocks.
  - ❍ **Quality Concerns:** Ensuring the **quality of stored food grains** over extended periods is a significant challenge.

# Climate Resilient Agriculture

### *Why in News?*

Recently, the Union government is planning to **unveil a framework to promote climate-resilient agriculture** in 50,000 villages located in climatically-vulnerable districts.

### *What is Climate Resilient Agriculture (CRA)?*

- ➤ **About:**
- ➤ According to the **Food and Agriculture Organization (FAO)**, climate resilient agriculture is defined as "the **ability of an agricultural system** to anticipate and prepare for, as well as **adapt to, absorb and recover** from the impacts of changes in climate and extreme weather".
- ➤ **Impact of Climate Change on Agriculture:**
  - ❍ **National Innovations on Climate Resilient Agriculture (NICRA)**, a network project of the **Indian Council of Agricultural Research (ICAR)** studied the impact of climate change on agriculture and farmers.

- ❍ Studies indicate that in the absence of adaptation measures, climate change projections are likely to reduce irrigated rice yields by 3%, rainfed rice yields by 7 to 28%, wheat yield by 3.2-5.3%, maize yield by 9-10% and increased the soybean yield by 2.5-5.5% for the **period 2020-2039.**
- ❍ Extreme events like **drought affect food** and nutrient consumption, increase incidence of poverty, encourage outmigration, increase indebtedness and reduce farmers' capacity to adapt to **climate change.**
- ➤ **CRA Practices:**
  - ❍ **Agroforestry: Agroforestry** involves the **cultivation of trees** along with crops, which can help to improve soil health, reduce soil erosion, and enhance biodiversity.
    - ● This practice helps to **increase soil moisture retention**, and provide multiple benefits to farmers.
  - ❍ **Soil and Water Conservation:** Techniques such as **contour bunding, farm ponds, and check dams** can help to improve soil moisture retention, reduce soil erosion, and increase groundwater recharge.
    - ● These practices can also help farmers to **cope with droughts and water scarcity**, which are becoming more frequent due to climate change.
  - ❍ **Sustainable Agriculture:** Practices such as **crop diversification, organic farming, and integrated pest management** help to reduce the use of chemical inputs and improve soil health.
    - ● These practices also **reduce greenhouse gas emissions** and improve farmers' income and food security.
  - ❍ **Livestock Management: Livestock management** practices such as **stall-feeding** and **mixed cropping** can improve the productivity and resilience of livestock systems.
    - ● These practices also **reduce the pressure on natural resources** such as grazing lands, which are becoming scarce due to climate change.

### *What are Steps Taken by the Government for Climate Resilient Agriculture?*

- ➤ The Government is implementing the **National Action Plan on Climate Change (NAPCC)** which provides a **policy framework** for climate action in the country.

Note:

- ➤ **National Mission for Sustainable Agriculture (NMSA)** is one of the Missions within the NAPCC to make Indian agriculture more resilient.
  - ❍ NMSA was approved for three major components i.e. **Rainfed Area Development (RAD),** On Farm Water Management (OFWM) and **Soil Health Management (SHM).**
  - ❍ Subsequently, four new programmes were introduced namely **Soil Health Card (SHC)**, Paramparagat Krishi Vikas Yojana (PKVY), Mission Organic Value Chain Development in North Eastern Region (MOVCDNER) and **Per Drop More Crop.**
  - ❍ In addition, the restructured **National Bamboo Mission (NBM)** was launched in April 2018.
- ➤ **Indian Council of Agricultural Research (ICAR)** has launched a flagship network project namely **National Innovations in Climate Resilient Agriculture (NICRA)** in 2011 to promote climate resilient agricultural practices.
  - ❍ It is a **multi-sectoral, multi-location program** carrying the major mandate of addressing climate change and variability, and addressing a range of stakeholders needs across the country.
  - ❍ Research, demonstration and **capacity building are the three major components,** besides providing policy briefs on several aspects related to agriculture and climate change.
  - ❍ The salient achievements of ICAR on climate resilient agriculture includes development of 1888 **climate resilient crop varieties**, development of District Agriculture Contingency Plans (DACPs) for 650 Districts etc.
- ➤ Government has introduced flagship **yield based Pradhan Mantri Fasal Bima Yojana (PMFBY)** along with **Restructured Weather Based Crop Insurance Scheme (RWBCIS)** from Kharif 2016 to **protect the farmers** including small land-owners from climate hazards.
  - ❍ The scheme aims at **supporting sustainable production in agriculture sector by way of providing financial support** to farmers suffering crop loss/ damage due to unforeseen natural calamities, adverse weather incidence to stabilize income of farmers.

### Other Initiatives Related to Agriculture

- ➤ National Mission of Natural Farming (NMNF)
- ➤ Mission Organic Value Chain Development for North Eastern Region (MOVCDNER)
- ➤ National Mission on Sustainable Agriculture
- ➤ Paramparagat Krishi Vikas Yojana (PKVY)
- ➤ Sub-mission on AgroForestry (SMAF)
- ➤ Rashtriya Krishi Vikas Yojana
- ➤ AgriStack
- ➤ Digital Agriculture Mission
- ➤ Unified Farmer Service Platform (UFSP)
- ➤ National e-Governance Plan in Agriculture (NeGP-A)
- ➤ PM's 'NAMO Drone Didi' scheme

## *What are the Key Challenges Related to Climate Resilient Agriculture?*

- ➤ **Developing countries are more vulnerable** to climate risks since they rely mostly on agriculture, and lack the necessary technologies to manage the risk. For example in India **65% of the population** is engaged in agriculture and allied activities.
  - ❍ Due to the absence of **adequate mitigation and adaptation measures,** these poor farmers remain trapped in a cycle of low income, high debt, and poverty.
- ➤ The MSP regime currently focusses on few crops and **other crops are not assisted adequately** which results in lesser diversification of crops.
- ➤ Too much **reliance on groundwater particularly in northern India** negates the efforts done in the realm of sustainable agriculture.
- ➤ The agriculture sector contributes approximately 14% to the country's greenhouse gas emissions, with the **use of synthetic nitrogen fertilisers** significantly raising nitrous oxide emission rates.
- ➤ **India's agricultural productivity is relatively low** compared to other major producers, with an **average rice yield of about 2.5 tons per hectare**, whereas China averages about 6.5 tons per hectare.
- ➤ The most challenging political aspect of climate change policy is the **inadequate recognition by village Panchayats** or local self-governing bodies leading to lack of policy initiative at the ground level.

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Note:

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# International Relations

## Highlights

- *High Seas Treaty*
- *India-Austria Relations*
- *22nd India-Russia Annual Summit*
- *SCO Summit 2024*
- *Codex Alimentarius Commission*

- *FATF's Mutual Evaluation Report on India*
- *Developments in India-Bangladesh Relations*
- *Simla Agreement 1972*
- *Tibet-China Dispute*
- *30th Anniversary of ISA*

## High Seas Treaty

### Why in News?

Recently, India has decided to endorse and approve the **Biodiversity Beyond National Jurisdiction (BBNJ) Agreement** also called **High Seas Treaty**.

➢ This global agreement is designed to **safeguard high seas marine biodiversity** through collaboration at international level and it will **operate within the framework** of the **United Nations Convention on the Law of the Sea (UNCLOS)**.

### What are High Seas?

➢ **About:**
  - According to the **1958 Geneva Convention** on the High Seas, parts of the sea that are not included in the territorial waters or the internal waters of a country are known as the high seas.
  - It is the area **beyond** a country's **Exclusive Economic Zone** (that extends up to **200 nautical miles** from the coastline) and till where a nation has jurisdiction over living and non-living resources.
  - **No country** is responsible for the management and protection of resources on the high seas.

➢ **Significance:**
  - The high seas cover **over 64%** of the world's oceans and **50%** of the Earth's surface, making them vital for marine life.
  - They are home to around **270,000 known species**, with many yet to be discovered.
  - The high seas **regulate climate, absorb carbon, store solar radiation**, and **distribute hea**t, crucial for planetary stability and mitigating **climate change.**

  - They are essential for human survival, providing resources like **seafood, raw materials, genetic** and **medicinal resources**.

➢ **Threats:**
  - They absorb heat from the atmosphere and are affected by phenomena like the **El Nino,** and ocean **acidification** which is endangering marine flora and fauna.
    - Several thousand marine species are at risk of extinction by 2100 if current warming and acidification trends continue.
  - **Anthropogenic pressures** on the high seas include seabed mining, noise pollution, chemical and **oil spills** and fires, disposal of untreated waste (including antibiotics), overfishing, introduction of invasive species, and coastal pollution.
  - Despite these threats, **only about 1% of the high seas** are currently protected.

### What is the High Seas Treaty?

➢ **About:**
  - It is formally called the **Agreement on Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction**. In short, known as **BBJN** or **High Seas Treaty**.
  - It is a new **international legal framework** under **UNCLOS** for maintaining the ecological health of the oceans.
  - The treaty was **negotiated in 2023** and is meant to reduce pollution, and promote the conservation and sustainable use of biodiversity and other marine resources in ocean waters outside the national jurisdiction of any country.

➢ **Key Objectives:**
  - **Conservation and Protection of Marine Ecology:** This

Note:

includes the establishment of Marine Protected Areas (MPAs) where activities would be regulated to conserve the marine ecosystem.

- ❍ **Fair and Equitable Sharing of Benefits of Marine Resources**: The treaty aims to ensure that the benefits from commercially valuable ocean organisms, either through scientific research or commercial exploitation, are shared equally among all countries.
- ❍ **Mandatory Environmental Impact Assessments (EIA)**: The treaty makes it mandatory to conduct **prior EIA** for any activity that could potentially pollute or damage the marine ecosystem, **even if the activity is within a country's national jurisdiction** but the impact is expected in the high seas.
- ❍ **Capacity Building and Transfer of Marine Technologies**: This will help developing countries to fully utilise the benefits of the oceans while also contributing to their conservation.

➢ **Signing and Ratification:**
- ❍ Till June 2024, 91 countries have **signed** the treaty so far, with 8 of them having **ratified** it. It will become legally binding 120 days after 60 countries ratify it.
  - ● **Ratification** is the process by which a **country agrees to be legally bound to the provisions of an international law**, while signing indicates agreement without legal obligation until ratification occurs. The process for ratification varies by country.

## UN HIGH SEAS TREATY
### aka BBNJ (Biodiversity Beyond National Jurisdiction) Agreement

*For the first time, UN members have agreed on a unified (legally-binding) treaty to protect biodiversity in the high seas*

| | |
|---|---|
| **High Seas (HS)** | All the saltwater bodies across Earth that aren't part of territorial sea/internal waters of a state |
| **Background of Treaty** | Demand for an updated framework to protect marine life in the High Seas, is about 20 years-old |

**Need to Protect HS**
- Only 1.2% of HSs are currently protected
- 10% of global marine species at risk of extinction
- High exploitation due to commercial fishing, mining, acidification, pollution

*The last int'l agreement on ocean protection was UNCLOS signed in 1982*

*This treaty is the 3rd "implementing agreement" under UNCLOS*

| | |
|---|---|
| **KEY FEATURES** | • Create a new body to manage conservation of ocean life and establish marine protected areas in the high seas<br>• Estd. ground rules for conducting EIAs for commercial activities in oceans |
| **KEY PLAYERS** | EU, US, UK and China (in brokering the deal) |
| **SIGNIFICANCE** | • Achieving the 30x30 Target set at UN CBD COP15<br>• Legal protection of 2/3rd of the ocean (+ livelihoods of coastal communities)<br>• Comprehensive protection of endangered species/habitats on >40% of Earth's surface |
| **ROADBLOCK** | How to fairly share marine genetic resources (MGR) & eventual profits among developed/developing nations |

**Drishti IAS**

*Ocean ecosystems produce half the oxygen we breathe, represent 95% of the planet's biosphere and soak up $CO_2$ (world's largest carbon sink)*

## What is the Significance of the High Seas Treaty?

➢ **Addressing the "Global Commons" Challenge:**
- ❍ The high seas, covering **64%** of the ocean, are a global commons, leading to **resource overexploitation, biodiversity loss and environmental challenges**.
  - ● The UN estimates that approximately **17 million tonnes of plastics** were dumped into the oceans in **2021**, with this amount expected to increase in the coming years.
- ❍ This treaty has been compared to the **2015 Paris Agreement** on climate change. It could lead to the protection of the vast ocean and the sustainable use of marine resources.

➢ **Complementing UNCLOS:**
- ❍ BBJN is in line with the principles of the **UNCLOS**, which forms the overarching legal framework for the oceans.
  - ● **UNCLOS** sets general principles for equitable access, resource usage, and biodiversity protection in oceans but **lacks specific implementation guidelines**.

Note:

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- The **High Seas Treaty will address this gap,** serving as an **implementing agreement** under UNCLOS once it comes into force.
- It will provide a **legal mechanism** to create and manage marine protected areas in the high seas.
- It will ensure the **equitable and sustainable use of marine resources**, balancing the interests of developed and developing countries.

➢ **Combating Emerging Threats:**
  ❍ The treaty addresses emerging challenges such as deep-sea mining, ocean acidification, and plastic pollution, which pose grave threats to the health and resilience of the high seas ecosystems.

➢ **Strengthening International Cooperation:**
  ❍ By establishing a robust institutional framework and decision-making processes, the High Seas Treaty facilitates **greater international cooperation** and **coordination** in ocean governance.

➢ Contribution to Sustainable Development Goals (SDG):
  ❍ The successful implementation of this treaty will significantly contribute to the achievement of **SDG 14 (Life Below Water)**.

➢ **Significance for India:**
  ❍ **Global Leadership:** India's commitment to ocean governance and marine resource sustainability such as establishing **Marine Protected Areas (MPA)** underscores its global leadership and makes it an environmental champion.
  ❍ **Domestic Policy:** The treaty's **EIA** mandate India to align its maritime policies, promoting responsible international cooperation.
  ❍ **Economic Benefits:** Provisions on benefit-sharing from marine genetic resources align with **India's Blue Economy** goals, offering potential economic gains.
  ❍ **Strategic Considerations:** Ratifying the treaty strengthens India's Indo-Pacific position, supporting a sustainable maritime environment through the **SAGAR** initiative.

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**United Nations Convention on the Law of the Sea (UNCLOS)**

➢ The UNCLOS is an international treaty adopted and signed in 1982, **replacing the 4 Geneva Conventions of April 1958** related to territorial sea, contiguous zone, continental shelf, high seas, fishing, **and conservation of living resources on the high seas.**

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# UNITED NATIONS CONVENTION ON THE LAW OF THE SEA (UNCLOS)

The 1982 United Nations Convention on the Law of the Sea (UNCLOS), also called Constitution for the oceans, has 168 parties, and sets out the legal framework within which all activities in the oceans and seas must be carried out.

## The Convention has created three new institutions on the International level

**THE INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA** **01**
An independent judicial body. It has jurisdiction over any dispute concerning the interpretation or application of the Convention, and over all matters specifically provided for in any other agreement which confers jurisdiction on the Tribunal
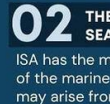
**02** **THE INTERNATIONAL SEABED AUTHORITY**
ISA has the mandate to ensure the effective protection of the marine environment from harmful effects that may arise from deep-seabed related activities

**THE COMMISSION ON THE LIMITS OF THE CONTINENTAL SHELF** **03**
To facilitate the implementation of the UNCLOS in respect of the establishment of the outer limits of the continental shelf beyond 200 nautical miles (M) from the baselines from which the breadth of the territorial sea is measured

➢ It divides oceans into 5 main zones:
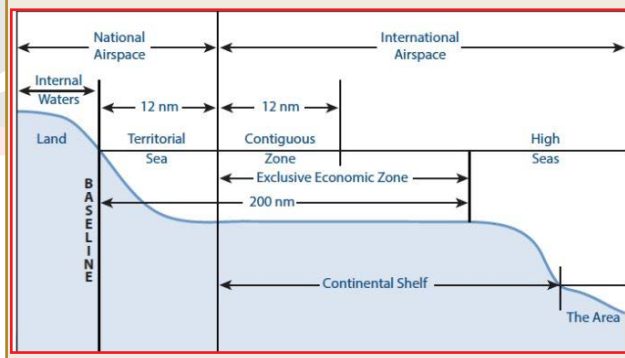


## What are the Other Conventions related to Seas?

➢ **Convention on Continental Shelf, 1964:** It defines and delimits the rights of States to **explore and exploit the natural resources** of the continental shelf.

➢ **Convention on Fishing and Conservation of Living Resources of the High Seas, 1966:** It was designed to **solve the problems involved in the conservation** of living resources of the high seas, considering that because of the development of modern technology some of these resources are in danger of being overexploited.

➢ **London convention 1972:** Its objective is to promote the **effective control of all sources** of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of wastes and other matters.

Note:

➢ **MARPOL Convention (1973):** It covers pollution of the marine environment by ships from operational or accidental causes.
- ○ It lists various forms of marine pollution **caused by oil, noxious liquid substances, harmful substances** in packaged form, sewage and garbage from ships, etc.

# India-Austria Relations

## *Why in News?*

The Prime Minister of India paid an official visit to Austria, this was the **first visit by an Indian Prime Minister to Austria in 41 years,** marking the 75th year of diplomatic relations between the two countries.

➢ The visit aimed to elevate bilateral relations to new heights through enhanced cooperation in various sectors, including technology, economy, and global security.

> **Note:** In June 1955, PM **Jawaharlal Nehru** paid a State visit to Austria, roughly one month after it had gained full independence through the conclusion of the **State Treaty.** Nehru's was the first State visit of a foreign leader to newly independent Austria.

## *What are the Key Highlights of the Prime Minister's visit to Austria?*

➢ **Support for Indo-Pacific Stability:** Both nations reaffirmed their commitment to a free and open **Indo-Pacific region**, ensuring maritime security and adhering to international laws such as **United Nations Convention on the Law of the Sea (UNCLOS).**

➢ **Political and Security Cooperation:** Discussions included assessments of developments in Europe and West Asia, with a shared focus on restoring peace and adherence to international law, notably concerning the Ukraine conflict.
- ○ The leaders welcomed the launch of the **India-Middle East-Europe Corridor (IMEC)** and Austria's interest to engage with this initiative.

➢ **Economic Collaboration**: The leaders agreed on a future-oriented economic partnership focusing on **green and digital technologies,** infrastructure, **renewable energy**, and smart cities.
- ○ The **first high-level bilateral Business Forum** was convened, promoting partnerships across sectors and encouraging CEO-level interactions to explore new opportunities.

➢ **Climate Commitments:** Recognizing their commitments under the **United Nations Framework Convention on Climate Change (UNFCCC),** both countries pledged to collaborate on **renewable energy**, with a specific focus on **Austria's Hydrogen Strategy and India's Green Hydrogen Mission.**
- ○ As parties to the UNFCCC and committed to limiting the **global temperature increase to below 2°C,** leaders acknowledged the importance of reducing climate change risks.
- ○ They noted the **EU's target for climate neutrality by 2050, Austria's goal for 2040,** and **India's aim for net zero emissions by 2070.**

➢ **Technology and Innovation:** Initiatives such as the Start-Up Bridge and exchanges under Austria's Global Incubator Network and India's Start-Up India were highlighted as crucial for fostering innovation and entrepreneurship.
- ○ They also acknowledged the increasing importance of **digital technologies in industrial processes (Industry 4.0),** including in the sustainable economy.

➢ **Cultural Exchanges:** Acknowledging the role of cultural diplomacy, efforts to promote **yoga, Ayurveda,** and other cultural exchanges were emphasised.

➢ **Multilateral Cooperation:** Both leaders reiterated their commitment to multilateralism and supported comprehensive reforms of the **United Nations.** India reiterated its support for **Austria's UNSC candidature for the term 2027-28,** while Austria expressed its support for **India's candidature for the period 2028-29.**
- ○ India invited Austria to join the **International Solar Alliance (ISA)**, highlighting collaboration in renewable energy and sustainable development.

## *How have India-Austria Relations been so Far?*

➢ **Political Relations:** Diplomatic relations established in 1949. 75th year of bilateral relations to be observed from November 2023 - November 2024.
- ○ India played a significant role in Austria's negotiations with the Soviet Union for independence in 1955.

➢ **Economic Cooperation:** Austria, one of the richest countries in the **European Union,** is an important link for India in its relationship with Europe, especially with countries of central and Eastern Europe.
- ○ The **Indo-Austrian Joint Economic Commission (JEC)** established in 1983 provides a forum for bilateral interaction between the governmental Ministries and Chambers of Commerce and Industry.

Note:

○ In 2021, Indian exports to Austria totaled USD 1.29 billion, while imports from Austria were USD 1.18 billion, resulting in a balanced bilateral trade valued at USD 2.47 billion.

● **By 2022, bilateral trade reached USD 2.84 billion, marking a 14.97% rise from the previous year.**

○ **Key Indian exports:** Electronic goods, apparel, textiles, footwear, rubber articles, vehicles & railway parts

○ **Key Austrian exports to India:** Machinery, mechanical appliances, railway parts, iron and steel

➢ **Space:** Austria's first two satellites, **TUGSAT-1/BRITE and UniBRITE,** were launched from **India's Satish Dhawan Space Centre, Sriharikota,** in 2013.

➢ **Culture:** The Indo-Austrian cultural relationship dates back to the 16th century when **Balthasar Springer travelled from Tyrol to India in 1505.** The teaching of **Sanskrit** at Vienna University started in 1845 and a high point was reached in 1880 with the foundation of an independent chair for Indology.

○ **Rabindranath Tagore, Nobel Laureate,** visited Vienna in 1921 and 1926, fostering significant cultural and intellectual exchanges through his lectures on topics like **"The Religion of the Forest,"** emphasising nature, union, and compassion.

○ **Ayurveda and Yoga have gained popularity in Austria,** with numerous Yoga schools in Vienna.

| Austria |
| --- |
| ➢ Austria is a country located in southern Central Europe. It **borders eight countries** namely, Germany, the Czech Republic, Slovakia, Hungary, Slovenia, Italy, Switzerland and Lichtenstein.<br><br>○ Austria is a highly mountainous country due to its position within the **Alps mountain range.** The Austrian Alps, also known as the Central Alps, form the country's backbone.<br><br>➢ **Capital:** Vienna<br><br>➢ **Membership in International Organizations:** Austria has been a member of the **European Union (EU)** since 1995. In addition Austria is also a member of the following organisations: **OECD (Organisation for Economic Co-operation and Development), WTO (World Trade Organization), IMF (International Monetary Funds),** and **WHO (World Health Organisation).** |



# 22nd India-Russia Annual Summit

## Why in News?

The **22nd India-Russia Annual Summit** in Moscow, brought together Prime Minister Narendra Modi and President Vladimir Putin to discuss a wide range of issues. The summit aimed to solidify the **strategic partnership between the two nations,** particularly in light of the ongoing geopolitical tensions.



## What are the Key Highlights of the 22nd India-Russia Annual Summit?

➢ **Diplomatic Achievements:** President Vladimir Putin conferred **Russia's highest civilian honour, the "Order of Saint Andrew the Apostle,"** on Prime Minister Narendra Modi.

○ The Order of Saint Andrew the Apostle was established by **Tsar Peter the Great** in 1698 and reinstated in 1998, featuring a **double-headed eagle emblem and a light blue silk moire ribbon.**

Note:

- The award is named after **Saint Andrew, the patron saint of Russia and Scotland,** known for spreading Christianity across Europe and Asia.

  o Prime Minister Modi was honoured with this award for promoting the strategic partnership and friendly <u>relations between Russia and India</u>, and the announcement was made in 2019, highlighting Modi's pivotal role in enhancing bilateral cooperation.

  - Foreign leaders such as **Chinese President Xi Jinping** and former Kazakh President Nursultan Nazarbayev have also been honoured with this award.



- **Economic Cooperation:** A new bilateral **trade target of USD 100 billion by 2030** was set, significantly higher than the previous target of **USD 30 billion by 2025**, which was nearly doubled in 2023.

  o This is mainly due to <u>India's increased imports of Russian crude</u> at a discount after the US and Europe imposed oil sanctions on Russia following the invasion of Ukraine.

  o Agreement to prepare a comprehensive **"Programme-2030"** for developing promising areas of economic cooperation.

  - This program will be coordinated by the **India-Russia Intergovernmental Commission on Trade, Economic, Scientific, Technical and Cultural Cooperation (IRIGC-TEC).**

- **IRIGC-TEC is the apex G2G forum** for bilateral economic cooperation, **chaired by the External Affairs Minister of India and the Deputy Prime Minister of Russia.**

  o **India and the Eurasian Economic Union** have commenced negotiations for a **Free Trade Agreement on goods.** They also plan to explore a bilateral free-trade agreement in services and investments.

  o The Leaders agreed to facilitate participation of **Russian businesses in** <u>"Make in India"</u> **and** <u>"Atmanirbhar Bharat" programs</u>, and Indian companies in investment projects in Russia.

- **Defence and Technology:** Transition from buyer-seller relationship to joint research, development, **co-development, and joint production** of advanced defence technology and systems.

  o They also aim to **encourage joint manufacturing** of spare parts and components for **Russian-origin arms and defence equipment in India** under the **Make-in-India program**.

  - This includes setting up **joint ventures for meeting the needs of the Indian Armed Forces** and for subsequent export to friendly third countries.

  o They have agreed to establish a new Working Group on Technological Cooperation to discuss its provisions in the next meeting of **Intergovernmental Commission on Military and Military Technical Cooperation (IRIGC-M&MTC).**

  o Russian President Vladimir Putin has accepted the Prime Minister of India's request to **discharge Indian military recruits serving in the Russian military** on the <u>Ukrainian war f</u>ront and wishing to return to India.

  - Russian law allows the **recruitment of foreign soldiers** after thorough screening, including mental and physical checks.

  o The summit ended without the signing of the long-awaited <u>Reciprocal Exchange of Logistics Agreement (RELOS).</u> The agreement would have provided logistical support for military operations between Russia and India.

  - The Indian Navy would have benefited the most from the agreement, gaining access to **Russian military facilities in the Arctic.**

- **Transport and Connectivity:** The Sides are focused on developing stable and efficient transport corridors in Eurasia, including the <u>Chennai-Vladivostok Eastern Maritime Corridor</u> and the <u>International North-South Transport Corridor (INSTC).</u>

Note:

- ○ The **Chennai-Vladivostok Maritime Corridor,** is a sea link between ports on the east coast of India and ports in the far-east region of Russia was proposed in 2019 and it aims to transport various types of cargo and **reduce the transportation time to Russia by 40%.**
- ○ The INSTC is a multi-modal transportation route established in 2000 in St. Petersburg by **Iran, Russia, and India** to promote transportation cooperation among member states.
  - The corridor connects the Indian Ocean and the Persian Gulf to the Caspian Sea via Iran, and then is connected to St. Petersburg and Northern Europe via the Russian Federation.
- ○ They aim to increase infrastructure capacity and use the potential of the **Northern Sea Route.** Both Sides will work together to reduce time and cost of cargo transportation and promote connectivity in the Eurasian space.

➢ **International Cooperation:** Russia appreciated **India's non-permanent membership in the UN Security Council (2021-22)** and supported India's efforts in peacekeeping and counter-terrorism.
- ○ Russia reiterated its support for **India's permanent membership** in a reformed and expanded **UN Security Council.**
- ○ India expressed full support for **Russia's BRICS Chairship in 2024** under the theme *"Strengthening Multilateralism for Just Global Development and Security."*
- ○ Close cooperation in international forums such as the UN, **G20,** BRICS, and **Shanghai Cooperation Organization (SCO)** is emphasised to reinvigorate multilateralism.
- ○ The Indian side looked forward to Russia's joining of the **International Solar Alliance (ISA),** the **Coalition for Disaster Resilient Infrastructure (CDRI),** and the **International Big Cat Alliance (IBCA).**

➢ **Global Issues:**
- ○ **Climate Change:** Commitment to combating climate change and achieving the goals of the **United Nations Framework Convention on Climate Change (UNFCCC)** and the **Paris Agreement,** including cooperation on **low-carbon development and green financing.**
- ○ **Multipolar World Order:** Emphasis on the need for a multipolar world order and the development of an architecture of equal and indivisible regional security in the **Eurasian space and the Indian and Pacific ocean regions.**
- ○ **Counter Terrorism:** The leaders unequivocally **condemned terrorism** and violent extremism in all its forms and manifestations, including the **cross-border movement of terrorists** and terrorism financing networks.
  - The sides reaffirmed their commitment to strengthening multilateral cooperation in combating **transnational organised crime, money laundering, terrorist financing,** and **drug trafficking.**

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**Note:** In another development Russia has reached a significant economic milestone by being upgraded from an **upper-middle-income to a high-income country** by the **World Bank,** despite ongoing Western sanctions.

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### What Factors Contributed to Russia's Status as a High-Income Country?

➢ **Economic Growth Across Sectors:** The World Bank classifies countries based on their **Gross National Income (GNI) per capita,** expressed in US dollars using the Atlas method (accounting for **purchasing power parity**).
- ○ As of July 2024, the **threshold for "high-income" is USD 14,005.** Russia crossed this threshold in 2023 with a GNI per capita of USD 14,250.
- ○ Russia saw notable growth in trade (+6.8%), the financial sector (+8.7%), and construction (+6.6%) in recent years, boosting both real (3.6%) and nominal (10.9%) GDP.

➢ **Impact of Military Spending:** A substantial increase in military-related activities in 2023 bolstered economic activity, though experts suggest this growth may not be sustainable.

➢ **Trade Diversification:** Western sanctions led to a shift in trade patterns, reducing dependence on **G7 and EU countries** and **increasing transactions with China, India, Türkiye, Central Asia, and the South Caucasus.**

➢ **Resilient Energy Sector:** Despite sanctions on its energy sector, Russia maintained steady overall export volumes, **leveraging global oil prices** and strategic trade diversification.

➢ **Fiscal Stimulus and Investment:** Government initiatives, including fiscal stimulus and increased defence spending (estimated at 7% of **GDP**), supported economic recovery and growth.

➢ **Job Market and Consumer Spending:** Low unemployment, rising wages, and strong private consumption contributed positively to economic stability and growth.

     ❍ Overcoming earlier sanctions from 2014, Russia adapted its economic policies and infrastructure investments to mitigate ongoing challenges.

## What is the World Bank's Country Income Classification?

➢ **About:** The World Bank Group **assigns the world's economies to four income groups:** low, lower-middle, upper-middle, and high.

     ❍ The **classifications are updated annually on 1st July** based on the GNI per capita of the previous calendar year.

     ❍ The World Bank's income classification aims **to reflect a country's level of development,** using Atlas GNI per capita as an indicator of economic capacity.

➢ **Classification Thresholds:**

     ❍ Low-income: USD 1,145 or less;

     ❍ Lower-middle-income: USD 1,146 to USD 4,515;

     ❍ Upper-middle-income: USD 4,516 to USD 14,005;

     ❍ High-income: More than USD 14,005.

     ❍ Factors such as **economic growth, inflation, exchange rates, and population growth** can influence a country's GNI per capita.

➢ **Regional Highlights:**

     ❍ In South Asia, the share of low-income countries has fallen from 100% in 1987 to just 13% in 2023.

        • According to the World Bank, **India is a lower-middle-income country. India has been in this category since 2007** when it moved up from the low-income category.

➢ As of 2023, **India's GNI per capita** in terms of PPP is **approximately USD 10,030.**

     ❍ In the Middle East and North Africa, the share of low-income countries has increased from 0% in 1987 to 10% in 2023.

     ❍ In Latin America and the Caribbean, the share of high-income countries has climbed from 9% in 1987 to 44% in 2023.

     ❍ Europe and Central Asia have a slightly lower share of high-income countries in 2023 (69%) than it did in 1987 (71%).

**Note:** GNI measures the **total domestic and foreign value added claimed by residents at a given period,** usually a year, expressed in international dollars using purchasing power parity rates.

➢ It includes **GDP plus net receipts of primary income from nonresident sources** and provides an aggregate measure of income.

## Conclusion

The 22nd India-Russia Annual Summit underscored the robust strategic partnership between the two nations, marked by significant diplomatic honours, ambitious economic targets. Despite global geopolitical challenges, both countries **reaffirmed their commitment to enhancing bilateral ties across various sectors**. The summit's outcomes reflect a shared vision for regional stability, economic growth, and mutual respect on the global stage, reinforcing the enduring nature of the **Indo-Russian relationship amidst evolving international dynamics.**

# SCO Summit 2024

## Why in News?

Recently the 2024 **Shanghai Cooperation Organisation (SCO) Summit** was concluded in **Astana, Kazakhstan** and brought together leaders from across the region.

➢ India played a prominent role, with the External **Affairs Minister** delivering the Prime Minister's message that highlighted **combating terrorism** and addressing **climate change** as key priorities.

**Note:** People's Republic of China will assume the SCO chairmanship for the next term, and Qingdao, China will be appointed the SCO's tourism and cultural capital for 2024-2025.

## What are the Key Highlights of SCO Summit 2024?

➢ **New Membership: Belarus** has become the **10th member state** of the SCO. The Indian External Affairs Minister met with Belarusian counterpart to strengthen bilateral ties.

- **Astana Declaration:** The 24th SCO Summit in Astana adopted the **Astana Declaration** and approved 25 strategic agreements on energy, security, trade, finance, and information security.

  - The Council of Heads of State– Members of the SCO adopted the **SCO Development Strategy until 2035,** including resolutions on **combating terrorism, separatism, and extremism,** anti-drug strategy, energy cooperation, economic development, and cooperation in protected areas and eco-tourism.

  - Commitments also included signing a **memorandum to combat illicit drug trafficking** and an interaction plan on international information security issues.

- **India-China Relations:** India's External Affairs Minister met the Chinese Foreign Minister on the margins of the SCO Summit in Astana, Kazakhstan. Both ministers emphasised the need for **"complete disengagement" of troops and restoring peace along the Line of Actual Control (LAC).**

  - The two ministers agreed to expedite efforts through diplomatic and military channels to resolve remaining issues in **Eastern Ladakh.**

- **Make in India and Global Economic Growth:** The **'Make in India'** initiative was highlighted as it has the potential to become a significant engine for global economic growth.

  - India expressed openness to partnering with other nations, particularly those in the Global South, for capacity building and economic development.

- **Combat Terrorism:** At the SCO summit, the External Affairs Minister of India urged the global community to **isolate countries that harbour terrorists and condone terrorism.**

  - He emphasised the need to **counter cross-border terrorism** and highlighted the importance of combating terrorism as a foundational goal of the SCO.

  - India has been proactive in enhancing its security-related cooperation within the SCO framework, particularly through the **Regional Anti-Terrorism Structure (RATS),** which focuses on security and defence issues.

  - The Russian President emphasised the SCO's role in promoting a **fair, multipolar world order.**

## What is the Shanghai Cooperation Organisation?

- **Origins:** The SCO originated from the **"Shanghai Five,"** formed in 1996, consisting of China, Russia, Kazakhstan, Kyrgyzstan, and Tajikistan.

  - It was created to address **concerns about extremist religious groups and ethnic tensions** following the dissolution of the USSR in 1991.

- **Establishment:** SCO was established on 15th June 2001, in Shanghai, adding **Uzbekistan as a sixth member.**

  - Before the inclusion of Belarus, **it had nine members: India, Iran, Kazakhstan, China, Kyrgyzstan, Pakistan, Russia, Tajikistan, and Uzbekistan.**

  - **Afghanistan and Mongolia hold Observer Status.**

- **Significance:** Addresses security issues in Asia with primarily Asian members.

  - The SCO is significant because it is one of the **few international organisations focused on security issues** and primarily consists of Asian members.

    - Russia and China view it as an alternative to the **"Western" international order** and are positioning themselves against US influence, alongside the **BRICS grouping** and seeking to counterbalance US influence.

  - The SCO represents 40% of the world's population, and member countries contribute approximately over USD 23 trillion to global GDP.

- **Relevance of SCO for India:**

  - **Regional Cooperation:** SCO membership allows India to enhance cooperation with Central Asian countries, improving relations since their formation in 1991. Facilitates communication with major regional actors on common security issues.

  - **Counter-Terrorism Efforts:** The RATS is a significant permanent structure within the SCO. It has helped countries like India with counter-terrorism exercises, intelligence analysis, and sharing information on terrorist movements and drug trafficking.

- **Challenges for India:** While SCO membership enhances regional engagement, challenges in managing bilateral ties remain, influencing **India's participation and stance on initiatives like the Belt and Road Initiative (BRI).**

  - India faces challenges in the SCO including balancing ties with **China and Russia,** addressing regional security concerns, managing **relations with Pakistan,** ensuring economic benefits, maintaining strategic autonomy, dealing with the issue of sovereignty, and increasing bilateral trade with SCO countries.

Note:

**Member states of the Shanghai Cooperation Organisation**

Belarus became 10th member state of SCO in 2024

**RUSSIAN FEDERATION**
Capital: Moscow
Language: Russian
Currency: Russian rouble
President: Vladimir Putin

**REPUBLIC OF KAZAKHSTAN**
Capital: Nur-Sultan
Language: Kazakh
Currency: Tenge
President: Kassym-Zhomart Tokayev

**KYRGYZ REPUBLIC**
Capital: Bishkek
Language: Kyrgyz
Currency: Kyrgyzstani som
President: Sooronbai Jeenbekov

**REPUBLIC OF UZBEKISTAN**
Capital: Tashkent
Language: Uzbek
Currency: So'm
President: Shavkat Mirziyoyev

**REPUBLIC OF TAJIKISTAN**
Capital: Dushanbe
Language: Tajik
Currency: Somoni
President: Emomali Rakhmon

**PEOPLE'S REPUBLIC OF CHINA**
Capital: Beijing
Language: Chinese
Currency: Chinese yuan
President: Xi Jinping

**ISLAMIC REPUBLIC OF PAKISTAN**
Capital: Islamabad
Language: Urdu
Currency: Pakistani rupee
President: Arif Alvi

**REPUBLIC OF INDIA**
Capital: New Delhi
Language: Hindi
Currency: Indian rupee
President: Shri Ram Nath Kovind

# Codex Alimentarius Commission

## *Why in News?*

Recently, India participated in the **86ᵗʰ session** of the Executive Committee of Codex Alimentarius Commission.

## *What is Codex Alimentarius Commission (CAC)?*

➤ **About:**
  ○ CAC is an international food standards body established jointly by the **Food and Agriculture Organization (FAO)** and the **World Health Organization (WHO)** in May 1963 with the objective of **protecting consumer's health** and ensuring fair practices in food trade.

➤ **Recognition:**
  ○ The Agreement on Application of **Sanitary and Phytosanitary Measures (SPS)** of the **World Trade Organization (WTO)** recognises Codex standards, guidelines and recommendations as **reference standards** for international trade and trade dispute settlement.

➤ **Members:**
  ○ Currently the Codex Alimentarius Commission has 189 Codex Members made up of 188 Member Countries and **European Union**.
    ● India became the member of Codex Alimentarius in 1964.

➤ **Codex Standards:**
  ○ **General Standards, Guidelines and Codes of Practice:** These core Codex texts typically **deal with hygienic practice, labelling, contaminants, additives,** inspection & certification, nutrition and residues of veterinary drugs and pesticides and apply horizontally to products and product categories.
  ○ **Commodity Standards:** Codex commodity standards refer to a specific product although increasingly Codex now develops standards for food groups.
  ○ **Regional Standards:** Standards developed by the respective Regional Coordinating Committees, applicable to the respective regions.

➤ **86ᵗʰ Session of the Executive Committee (CCEXEC) of the CAC:**
  ○ India, represented by the CEO of **FSSAI**, is actively participating in the 86ᵗʰ session of the Codex Alimentarius Commission's Executive Committee (CCEXEC) at the **FAO Headquarters in Rome.**

Note:

- The **CCEXEC plays a critical role in reviewing proposals** for new work and monitoring the progress of standards development.
- During the session, India strongly supported the **advancement of standards development** for various spices, including small cardamom, turmeric, and vanilla.
  - This initiative is particularly significant for India, being a **major producer and exporter of these spices,** as it would facilitate smoother international trade.
  - India backed the **progression of standards for vegetable oils,** guidelines for the **control of Shiga Toxin-Producing Escherichia coli,** and the safe use and reuse of water in food production and processing.
  - India, also championed the proposal for developing **Codex guidance on food safety considerations** related to the use of recycled materials in food packaging.
- This initiative is crucial in addressing global challenges such as **climate change**, environmental protection, and sustainability.
- India shared its experience with the guidelines developed by FSSAI on recycling **post-consumer PET (Polyethylene terephthalate)** for food contact applications.

### Food Safety and Standards Authority of India

- FSSAI is an autonomous statutory body established under the **Food Safety and Standards Act, 2006.**
- FSSAI is responsible for **protecting and promoting public health** by regulating and supervising food safety and quality in India, operating under the **Ministry of Health & Family Welfare.**

### Related Events and Campaigns

- World Food Safety Day
- Eat Right India
  - Eat Right Station
  - Eat Right Mela
- State Food Safety Index
- RUCO (Repurpose Used Cooking Oil)
- Food Safety Mitra
- 100 Food Streets

**Read more: Journey of Spices in India**

# FATF's Mutual Evaluation Report on India

### Why in News?

Recently, the **Financial Action Task Force (FATF)** issued a **Mutual Evaluation Report (MER)** on India, approved during their plenary session in Singapore. The MER report specifically assessed India's efforts in combating **Money Laundering (ML), Terrorist Financing (TF)** and proliferation financing.

### What are the Highlights of the MER Report on India?

➢ **Regular Follow-Up Category:**
  - **India** has been classified into the **'regular follow-up'** category, joining **Russia, France, Italy, and the UK**, also designated in this category.
  - Under the 'regular follow-up' category, India is required to submit a progress report on recommended actions by October 2027.
    - FATF categorises member countries into four groups: **regular follow-up, enhanced follow-up, grey list, and black list.**
    - Regular follow-up is the top category **amongst 4 and only 5 countries** in **G20** including India have been placed in regular follow-up after the Mutual evaluation report.
  - India has achieved strong results and a high level of **technical compliance**, yet it must address delays related to prosecutions for **money laundering and terrorist financing.**

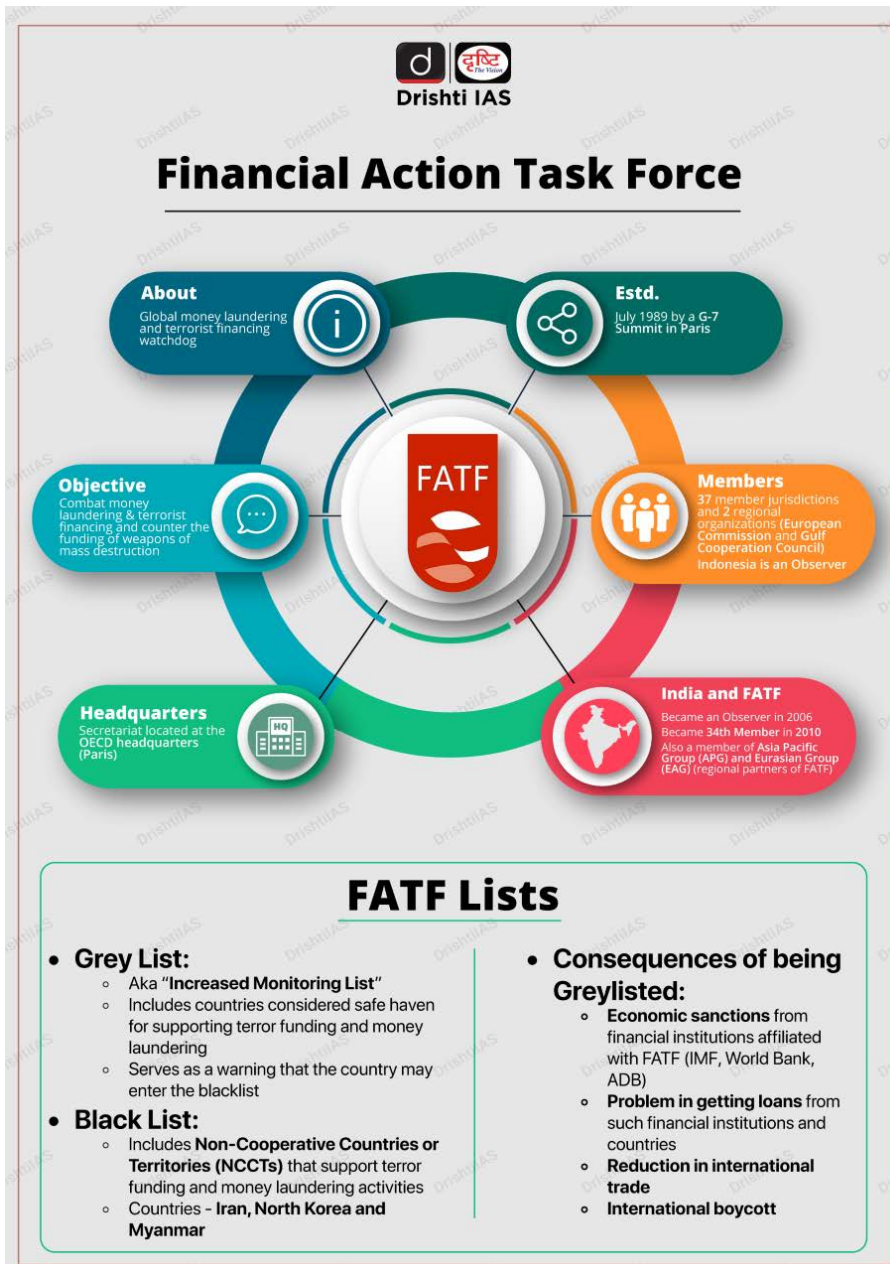➢ **Digital Economy Through JAM Trinity:**
  - India's transition to a digital economy, facilitated by the **JAM (Jan Dhan, Aadhaar, Mobile) Trinity** and stricter cash transaction regulations, has successfully mitigated risks associated with **ML, TF, and proceeds from crimes such as corruption** and organised crime.

### What is the Significance of the MER Report on the Indian Economy?

➢ **Enhanced Global Financial Reputation:**
  - The positive FATF evaluation demonstrates India's robust **financial system,** boosting international confidence. This could support initiatives like the **Gujarat International Finance Tec-City (GIFT City)** in attracting more international financial institutions.

Note:

drishti

## Financial Action Task Force

**About**
Global money laundering and terrorist financing watchdog

**Estd.**
July 1989 by a **G-7** Summit in Paris

**Objective**
Combat money laundering & terrorist financing and counter the funding of weapons of mass destruction

**Members**
37 member jurisdictions and 2 regional organizations (European Commission and Gulf Cooperation Council) Indonesia is an Observer

**Headquarters**
Secretariat located at the OECD headquarters (Paris)

**India and FATF**
Became an Observer in 2006
Became **34th Member** in 2010
Also a member of **Asia Pacific Group (APG) and Eurasian Group (EAG)** (regional partners of FATF)

### FATF Lists

- **Grey List:**
  - Aka "**Increased Monitoring List**"
  - Includes countries considered safe haven for supporting terror funding and money laundering
  - Serves as a warning that the country may enter the blacklist
- **Black List:**
  - Includes **Non-Cooperative Countries or Territories (NCCTs)** that support terror funding and money laundering activities
  - Countries - **Iran, North Korea and Myanmar**

- **Consequences of being Greylisted:**
  - **Economic sanctions** from financial institutions affiliated with FATF (IMF, World Bank, ADB)
  - **Problem in getting loans** from such financial institutions and countries
  - **Reduction in international trade**
  - **International boycott**

○ This improved reputation can lead to better **credit ratings, potentially lowering borrowing costs** for Indian entities in global markets.

➢ **Increased Foreign Investment:**

○ A trustworthy financial system is likely to attract more **foreign direct investment (FDI).** In sectors like **fintech and e-commerce,** where financial integrity is crucial, companies like **Amazon and Walmart** have already made significant investments in India.

➢ **Expansion of Digital Payment Systems:**

○ The report's endorsement supports the global expansion of India's **Unified Payments Interface (UPI).** This could lead to wider acceptance of UPI in international markets as **UPI is already operational in countries like**

**Singapore and UAE**, with plans for expansion to more nations.

➢ **Boost to India's Fintech Industry:**

○ The positive evaluation could accelerate the growth of India's Fintech sector. Fintech **companies like Paytm and PhonePe** could find it easier to expand internationally. It may attract **more venture capital and encourage innovation** in areas like blockchain and digital currencies.

➢ **Enhanced Remittance Flows:**

○ With improved financial systems, remittances from Non-Resident Indians (NRIs) could become more efficient and cost-effective and can increase the volume of remittances, which are a significant contributor to **India's foreign exchange**.

### What is Money Laundering and Terrorism Financing (ML/TF)?
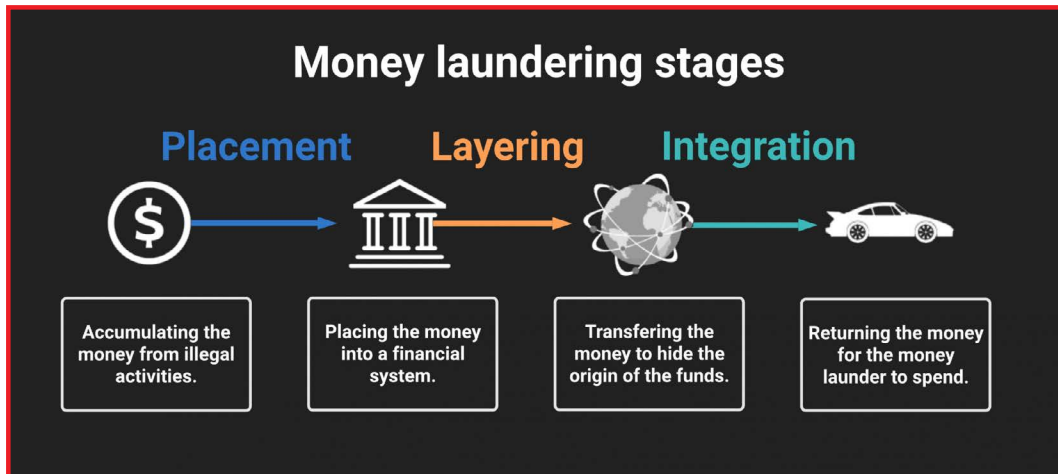
➢ **Money Laundering (ML):**

○ Money laundering is **concealing or disguising the identity of illegally obtained proceeds** so that they appear to have originated from legitimate sources.

○ It is frequently a component of other, much more serious, crimes such as **drug trafficking, robbery or extortion**. According to the IMF, global Money Laundering is estimated between **2 to 5% of World GDP.**

Note:

➤ **Terrorism Financing (TF):**

    ❍ **Terrorism financing** is the act of providing financial support to terrorists or terrorist organisations to enable them to carry out terrorist acts or to benefit any terrorist or terrorist organisation.

    ❍ While funds **may come from criminal activities, they may also be derived from legitimate sources, for example, through salaries, revenue from legitimate business or donations** including through non-profit organisations.

    ❍ There are generally three stages in terrorism financing: **raising, moving and using funds.**

## Money laundering stages

**Placement**    **Layering**    **Integration**

| Accumulating the money from illegal activities. | Placing the money into a financial system. | Transfering the money to hide the origin of the funds. | Returning the money for the money launder to spend. |
|---|---|---|---|

*What are the Concerns and Suggestions Suggested by FATF for India?*

| Concerns | Suggestions |
|---|---|
| ➤ **Vulnerability of Non-financial Sectors:** Non-financial sectors may be vulnerable to money laundering and terrorist financing due to weaker oversight. Example, **Real estate sector in India,** which has been known to be susceptible to illicit financial activities. | ❍ There is a need for stronger due diligence processes for high-value property transactions or improved reporting mechanisms for suspicious activities in non-financial sectors as well as enhance the capacity of India's **Financial Intelligence Unit (FIU-IND)** to analyse and disseminate high-quality financial intelligence. |
| ➤ **Prolonged Legal Processes:** It may hinder the effectiveness of AML/CFT**(Anti-Money Laundering/Combating the Financing of Terrorism)** efforts and potentially allow criminals to evade justice.<br>  ❍ For instance, cases related to high-profile economic offenders who have fled the country have faced significant delays in prosecution and asset recovery. | ➤ It requires a **multi-faceted approach, potentially including judicial reforms, capacity building for law enforcement and judicial officers** in financial crime matters, and enhanced use of technology in the judicial process. |
| ➤ **Virtual Asset Risks and Transnational Organized Crimes:** The growing use of virtual assets (cryptocurrencies) poses new challenges for AML/CFT regimes.<br>  ❍ Ineffective international cooperation hinders efforts to **combat cross-border financial crimes.** | ➤ India needs to develop more **comprehensive regulations and supervision mechanisms** for virtual asset service providers to prevent their misuse for money laundering or terrorist financing.<br>➤ to improve its mechanisms for sharing information and cooperating with other countries in cases involving **transnational organised crime or cross-border money laundering schemes.** |

Note:

### What are India's Efforts to Combat ML/TF?

➢ **Effort At National Level:**

   ❍ **Prevention of Money Laundering Act (PMLA):** It was enacted in **2002 and provides a comprehensive legal framework** to combat money laundering in India.

   ❍ **Enforcement Directorate (ED):** ED is the principal agency responsible for enforcing PMLA in India. It investigates and prosecutes cases of money laundering.

   ❍ **Financial Intelligence Unit-India (FIU-IND):** It was established in **2004, FIU-IND** is the central national agency responsible for receiving, processing, analysing, and disseminating information relating to suspect financial transactions to enforcement agencies.

   ❍ **Banking Regulations:** The RBI and other financial regulators have implemented stringent guidelines for **banks and financial institutions to prevent money laundering and ensure KYC (Know Your Customer) compliance.**

➢ **Effort At Global Level:**

   ❍ **United Nations Conventions:** India has ratified various UN Conventions related to combating terrorism and money laundering, such as the **UN Convention against Transnational Organized Crime (UNTOC)** and its protocols.

   ❍ **Bilateral and Multilateral Agreements:** India engages with **Interpol, and the United Nations Office on Drugs and Crime (UNODC)** to align its efforts with global standards and participate in capacity-building programs to combat money laundering and terrorist financing.

# Developments in India-Bangladesh Relations

## Why in News?

Recently, during the visit of Bangladesh Prime Minister to India, the two countries agreed to begin a dialogue on a **Comprehensive Economic Partnership Agreement (CEPA)** paving the way for broader economic ties between the two neighbouring economies.

➢ In 2022, both nations concluded a joint feasibility study on a Comprehensive Economic Partnership Agreement (CEPA).

## What were the Major Outcomes of the Recent Meeting?

➢ India and Bangladesh have agreed to **commence work** on a CEPA to **enhance economic ties** and foster trade and investment between the two nations.

   ❍ This agreement seeks to **capitalise on the economic complementarity** between the two fast-growing economies in South Asia.

➢ India has agreed to support the construction of an **inland container port** in Sirajganj, Bangladesh, facilitating better logistics and trade flow.

➢ Both the countries agreed to **initiate technical-level talks** to renew the **1996 Ganga Water Treaty**, focusing on flood management, early warning systems, and drinking water projects. This is significant given the 54 rivers shared between the two nations.

➢ A maritime cooperation pact was signed, reflecting their **shared vision for the Indian Ocean** and mutual interests in the Indo-Pacific region. Bangladesh's decision to join the **Indo-Pacific Oceans Initiative** was welcomed by India.

### Other Recent Developments in India-Bangladesh Cooperation

➢ Inauguration of the **India-Bangladesh Friendship Pipeline**.

➢ Rehabilitation and operation of **pre-1965 rail links between India and Bangladesh**.

➢ Inauguration of **Akhaura-Agartala Rail Link** in 2023, that connects Bangladesh and the northeast through Tripura. It is the sixth India-Bangladesh cross-border rail link.

➢ The **BIMSTEC** Master Plan for Transport Connectivity connects major transport projects in India, Bangladesh, Myanmar, and Thailand, thereby establishing a shipping network.

➢ Operationalisation of the **Maitree Super Thermal Power Plant**.

➢ Cargo facility for India's northeastern States through the **Khulna-Mongla Port.**

   ❍ Mongla Port has been connected by **rail for the first time.**

➢ Cultural exchanges and cooperation through centres like the Indira Gandhi Cultural Centre.

➢ Bangladesh annually benefits from **Indian Technical and Economic Cooperation (ITEC)** training courses and scholarships for higher education in India.

*How have been the Ties Between India-Bangladesh?*



Which States/Union Territories Share Boundaries with Bangladesh?

➢ **Historical Ties:**
  ○ The foundation of India's relationship with Bangladesh was laid in the 1971 **Bangladesh Liberation War**. India provided critical military and material support to assist Bangladesh in its fight for independence from Pakistan.
  ○ Despite this, relations worsened within a few years due to military regimes, anti-India sentiment but stability returned with a change in regime in 1996 along with a treaty on Ganga water sharing.
  ○ India and Bangladesh also successfully resolved long-pending issues, like the **Land Boundary Agreement (LBA) in 2015** and a maritime dispute over territorial waters.

➢ **Economic Cooperation:**
  ○ Bilateral trade between India and Bangladesh has grown steadily over the last decade.

❍ Bangladesh is **India's biggest trade partner in South Asia** and India is the second biggest trade partner of Bangladesh in Asia.
  ● India is Bangladesh's largest export destination in Asia, with approx USD 2 billion of Bangladeshi exports to India in FY 2022-23.
❍ Since 2010, India has extended Lines of Credit to Bangladesh worth over USD 7 billion.

➢ **Energy:**
  ○ In the **energy sector**, Bangladesh imports nearly **2,000 megawatts (MW)** of electricity from India.
  ○ In 2018, Russia, Bangladesh and India signed a memorandum on cooperation in the implementation of the **Rooppur Nuclear power plant project**, Bangladesh's first nuclear power reactor.

➢ **Defence and Multilateral Cooperation:.**
  ○ **Bilateral Exercises:**
    ● **Exercise Sampriti** (Army)
    ● **Exercise Bongo Sagar** (Navy)
  ○ **Platforms for Regional Cooperation:**
    ● **SAARC (South Asian Association for Regional Cooperation)**
    ● **BIMSTEC (Bay of Bengal Multi-Sectoral Technical and Economic Cooperation)**
    ● **Indian Ocean Rim Association (IORA)**

Note:

*What are the Challenges and Potential Solutions in India-Bangladesh Relations?*

| Challenges | Way Forward |
|---|---|
| Sharing of Transboundary River Waters | **Establish a Permanent River Commission:** Create a bilateral commission for managing shared rivers. |
| | **Implement Joint River Management Projects:** Develop joint projects for flood control and irrigation. |
| Illegal Migration | **Bilateral Agreements on Migration:** Draft new agreements focused on legal migration and labor mobility. |
| | **Rohingya Refugee Coordination:** Work with international organizations to address the root causes. |
| Drug Smuggling & Trafficking | **Joint Task Force on Trafficking:** Establish a joint task force to combat human trafficking and poaching. |
| | **Strengthen Legal Frameworks:** Harmonize laws and increase penalties for traffickers and smugglers. |
| Growing Chinese Influence in Bangladesh | **Enhanced Economic Cooperation:** Increase trade and investment initiatives to offer alternatives to China. |
| | **Cultural and People-to-People Exchanges:** Promote exchanges to strengthen ties and foster goodwill. |

# MAJOR TRADE AGREEMENTS OF INDIA

**Free Trade Agreement (FTA) With Neighbouring Countries**

- India-Sri Lanka FTA
- India-Nepal Treaty of Trade
- India-Bhutan Agreement on Trade, Commerce, and Transit

*A free trade agreement is a comprehensive deal between countries, offering preferential trade terms and tariff concessions, with a negative list excluding specific products and services.*

**Regional FTA's of India**

- **India ASEAN Trade in Goods Agreement (11):** 10 ASEAN countries + India
- **South Asia Free Trade Agreement (7):** India, Pakistan, Nepal, Sri Lanka, Bangladesh, Bhutan, and the Maldives
- **Global System of Trade Preferences** (41 countries + India)

**India's CECAs and CEPAs**

CECA/CEPA is broader than FTAs, addressing regulatory, trade, and economic aspects comprehensively, with CEPA having the widest scope including services, investment, etc while CECA mainly focuses on tariff and TQR rates negotiation.

- CEPA with **UAE, South Korea, Japan**
- CECA with **Singapore, Malaysia**

**Others:**

- India-Australia Economic Cooperation and Trade Agreement (ECTA)
- India-Thailand Early Harvest Scheme (EHS)
- India-Mauritius Comprehensive Economic Cooperation and Partnership Agreement (CECPA)

An EHS precedes an FTA/CECA/CEPA, where negotiating countries select products for tariff liberalisation, paving way for broader trade agreements and fostering confidence.

**Preferential Trade Agreements (PTAs)**

Partners in a PTA grant preferential access to specific products by lowering duties on agreed tariff lines, maintaining a positive list of products eligible for reduced or zero tariffs.

- **Asia Pacific Trade Agreement (APTA):** Bangladesh, China, India, S. Korea, Lao PDR, Sri Lanka, and Mongolia
- **SAARC Preferential Trading Agreement (SAPTA):** Same as SAFTA
- **India-MERCOSUR PTA:** Brazil, Argentina, Uruguay, Paraguay and India
- India's PTA with **Chile, Afghanistan**

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# Simla Agreement 1972

## *Why in News?*

Recently, the **52nd anniversary of the Simla Agreement**, signed on **2nd July 1972** by then Prime Minister of India and Pakistan was observed.

## *What is the Simla Agreement?*

➢ **Origins and Context:**

○ **Post-1971 War Dynamics**: The agreement was a **direct consequence** of the **1971 Indo-Pakistani War**, which resulted in the **independence of Bangladesh** (formerly East Pakistan).

● India's military intervention played a crucial role in this conflict, significantly **altering the geopolitical landscape** of South Asia.

○ **Key Negotiators**: Prime Minister Indira Gandhi and Pakistan's President Zulfikar Ali Bhutto.

● The agreement **aimed to establish peace and normalise** relations between the two countries after the intense hostilities.

➢ **Objectives of the Simla Agreement:** India had **several key objectives** at Simla.

○ **Resolution of Kashmir Issue**: India aimed for a **bilateral resolution to the Kashmir dispute**, restraining Pakistan from internationalising the issue.

○ **Normalisation of Relations:** Hoping for **improved relations with Pakistan** based on the new regional power balance.

○ **Avoiding Humiliation of Pakistan:** India chose not to press for turning the **ceasefire line into a permanent boundary** to prevent further resentment and potential revanchism in Pakistan.

➢ **Key Provisions:**

○ **Conflict Resolution and Bilateralism**: The agreement emphasised **resolving all issues** between India and Pakistan **through peaceful means**, primarily through bilateral negotiations. It aimed to put an end to the conflict and confrontation that had marred their relations.

○ **Status of Kashmir**: One of the most contentious issues addressed was the **Line of Control (LoC) in Kashmir,** established after the 1971 war.

● Both sides **agreed to respect this line** without prejudice to their respective claims and to refrain from altering its status unilaterally.

○ **Withdrawal of Forces**: It **stipulated the withdrawal of forces** to their respective sides of the international border, marking a significant step towards de-escalation.

○ **Future Diplomacy**: The agreement also **laid down provisions for future meetings** between the heads of both governments and ongoing discussions to establish durable peace, normalise relations, and address humanitarian issues like the repatriation of prisoners of war.

➢ **Significance:**

○ **Geopolitical Tensions**: The agreement remains **relevant today as the Kashmir issue and broader Indo-Pak relations** continue to be a flashpoint in South Asian geopolitics.

○ **Legal and Diplomatic Framework**: It provides a **legal framework for future discussions** and negotiations between the two countries, despite its limitations and differing interpretations.

➢ **Criticism:**

○ **Unfulfilled Potential:** The Simla Agreement **fell short of its intended goals** of fostering lasting peace and cooperation between India and Pakistan. **Deep-seated mistrust** and historical grievances continue to hinder progress.

○ **Nuclearisation and Strategic Shifts:** Both countries conducted **nuclear tests post-1998,** significantly altering the strategic calculus. This nuclear capability has led to a **deterrence-based stability** rendering Simla agreement less relevant.

○ **Long-term Impact:** Despite its intentions, the Simla Agreement did not lead to a **sustained peace process** or normalisation of relations between India and Pakistan.

○ **International Perspective**: The international community **generally respects the Simla Agreement's bilateral approach** to resolving issues between India and Pakistan.

● It has often been cited to discourage international intervention in Kashmir.

## *How India-Pakistan Relations Have Been Over the Years?*

➢ Partition and Independence (1947):

○ The **partition of British India** into India and Pakistan in 1947 was a pivotal moment, resulting in the **creation of two separate nations**, India a secular nation and Pakistan a theocratic nation.

Note:

- The **Maharaja of Kashmir** initially **sought independence** but eventually acceded to India due to Pakistan's attack on Kashmir which resulted in first **Indo-Pak War in 1947-48**.

➢ **Wars, Agreements and Terror**:

○ **1965 and 1971 Wars**: The **1965 war began** with **border skirmishes** and escalated into a full-scale conflict. It ended with a **UN-mediated cease-fire** and no major territorial changes.

- In 1971, India intervened in East Pakistan's struggle for independence, **leading to the creation of Bangladesh.**

○ **Simla Agreement (1972)**: Signed after the 1971 war, it **established the Line of Control (LOC) in Kas**hmir between India and Pakistan.

○ **Insurgency in Kashmir (1989)**: Pakistan supported a **militant insurgency in Kashmir**, leading to widespread violence and human rights abuses.

○ **Kargil War (1999)**: Pakistan-backed forces infiltrated **Indian-controlled territory in Kargil**, sparking war that ended with Indian military victory but strained relations further.

○ **Mumbai Attacks (2008)**: Pakistan based Lashkar-e-Taiba militants launched coordinated attacks in Mumbai, killing 166 people. This **event severely strained relations** and led to international pressure on Pakistan to act against terrorism.

○ Periodic attempts at dialogue and confidence-building measures have been marred by incidents such as the **Pulwama attack (2019)** and subsequent military engagements, highlighting the fragility of peace efforts.

➢ **Current Situation (2023-2024)**:

○ **Continued political instability in Pakistan**, coupled with ongoing militant activities and cross-border tensions, **perpetuate the cycle of violence** and distrust between the two nations.

○ **Geopolitical Dimensions: China's growing influence in the region**, including its **strategic partnership with Pakistan** and territorial disputes with India, adds another layer of **complexity to the Indo-Pakistani dynamic.**

### *Conclusion*

➢ Overall, the **India-Pakistan conflict** remains a **complex and volatile issue** with **deep historical roots**, intertwined with geopolitical rivalries, domestic politics, and aspirations for regional dominance. Efforts towards **lasting peace face significant challenges** amid recurring episodes of violence, militant activities, and mutual distrust.

➢ While the Simla Agreement of 1972 **represented a significant effort towards peace** between India and Pakistan after the 1971 war, **its limitations and controversies** underscore the **complex and enduring nature of Indo-Pakistani relations.** Its **legacy remains pivotal** in understanding the dynamics and challenges of **South Asian diplomacy and security.**

# Tibet-China Dispute

### *Why in News?*

Recently, the US Congress passed the **Promoting a Resolution to Tibet-China Dispute Act,** also known as the **Resolve Tibet Act**.

➢ This legislation aims to **promote a peaceful resolution to the Tibet-China dispute** according to **international law** and the **United Nations (UN) Charter** through **peaceful dialogue** without preconditions.

### *What is the Resolve Tibet Act 2024?*

➢ **About:**

○ It is a legislation passed by the **United States Congress** in June 2024.

○ It is the third notable act by the US government regarding Tibet, following the **Tibetan Policy Act (2002)** and the **Tibetan Policy & Support Act (2020)**.

➢ **Key Provisions:**

○ It aims to **strengthen the US's position on Tibet** and **pressure China** into **resuming negotiations with the Dalai Lama**.

○ The Act aims to **enhance US support for Tibet** and **empower US State Department officials to actively counter disinformation** about Tibet from the Chinese government.

○ The Act will also **push for negotiations "without preconditions"** between the **Chinese government** and the **Dalai Lama or his representatives** or the democratically elected leaders of the Tibetan community.

○ It underlines the **Tibetan people's right to self-determination and human rights**, noting China's duty as a signatory of international human rights covenants.

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○ It **recognizes and addresses** the distinct **historical, cultural, religious, and linguistic identity** of the Tibetan people.

○ It also aims to **empower the international community** to stand up for justice and peace in Tibet.

➤ **Difference with Earlier Acts:**

○ Unlike the 2002 act, which recognized China's claim over Tibet, the **Resolve Tibet Act directly challenges this claim**.

○ The 2002 act encouraged dialogue with the Dalai Lama, but only in his capacity as a spiritual leader, not as a political representative. In contrast, this Act **urges China to engage in dialogue with the Dalai Lama or his democratically elected representatives, without preconditions**.

○ The **Tibetan Policy & Support Act of 2020** also pushed for **constructive dialogue,** but the Resolve Tibet Act goes further by stating that **these talks should aim to "resolve differences" between the parties**.



### How is India's Relation with Tibet?

➤ **The Younghusband Mission (1903-1904):** The British military expedition to Tibet, led by Colonel Younghusband, aimed to establish **a British presence in the region and counter growing Russian influence**.

○ This led to a conflict with Tibetan forces, culminating in the British victory and the signing of the **Lhasa Convention of 1904.**

➤ **Anglo-Russian Convention (1907)**: This agreement aimed to settle outstanding colonial disputes between Colonial Britain and Russia.

○ According to this agreement, **two great powers would not negotiate with Tibet, except through the mediation of the Chinese government.**

➤ **India's Relationship with Tibet:** Despite the Sino-Russian treaty, India maintained close ties with Tibet through the **influence of Buddhism**.

○ The spread of Buddhism from India to Tibet and the presence of **influential Buddhist monasteries fostered strong cultural** and religious connections between the two regions.

➤ **The Indo-Tibetan Border:** The Sino-Indian **border dispute, particularly in the Ladakh and Arunachal Pradesh regions,** has been a major point of contention between India and China.

○ The status of Tibet and its historical relationship with India have been central to this ongoing dispute, with both countries claiming sovereignty over the disputed territories.

➤ **India's Stand on Tibet:** Since 2003, **India** has recognised **Tibet Autonomous Region as part of the People's Republic of China** following the signing of the **Declaration on Principles for Relations and Comprehensive Cooperation** between India and China.

○ In 1959, India granted asylum to the Dalai Lama after a failed uprising.

## What is the Background of the China-Tibet Dispute?

➤ **Tibet's Independence Claims:**

○ Tibet is an **autonomous region** on the Tibetan Plateau, with a distinct culture, language, and religious tradition centred around **Tibetan Buddhism.**

○ In **1913**, the **13th Dalai Lama** announced **Tibet's de facto independenc**e after the fall of the **Qing dynasty,** claiming Tibet was never a part of China.

○ However, successive Chinese governments, including the **People's Republic of China (PRC)** established in **1949**, have **consistently claimed** sovereignty over Tibet.

➤ **Chinese Invasion and the Seventeen Point Agreement:**

○ From **1912 to 1949**, Tibet was **not under the contro**l of any Chinese government, with the Dalai Lama's government ruling the region.

○ In 1951, the **People's Liberation Army (PLA)** of China **invaded Tibet**, and Tibetan leaders were forced to sign the **Seventeen Point Agreement** which nominally guaranteed **Tibetan autonomy** but allowed the establishment of **Chinese civil and military headquarters** in Lhasa (capital of Tibet).

Note:

○ The Tibetan people, including the Dalai Lama, have **rejected the validity of this agreement**, considering it a forced occupation and an act of **"cultural genocide."**

➤ **1959 Tibetan Uprising and Aftermath:**

○ Increasing tensions between Tibet and China led to a **major uprising in 1959,** during which the **Dalai Lama and thousands of Tibetans fled to India**, seeking asylum.

○ The Tibetan exiles formed a **government-in-exile**, the **Central Tibetan Administration (CTA)**, based in Dharamshala, India.

○ Since the 1959 uprising, **China has tightened its control over Tibet**, severely restricting freedoms of speech, religion, and press, and engaging in human rights abuses such as forced abortions, sterilisations, and the demographic shift through the **influx of ethnic Han Chinese**.

○ While China has invested in **infrastructure development in Tibet**, these efforts are widely seen as part of a larger strategy to consolidate its control over the region.

### Dalai Lama

➤ **Tradition:** The Dalai Lama belongs to the Gelugpa tradition of Tibetan Buddhism, the largest and most influential tradition in Tibet.

➤ **History:** There have been only 14 Dalai Lamas in the history of Tibetan Buddhism. The first and second Dalai Lamas received the title posthumously. The current Dalai Lama is Tenzin Gyatso, the 14th in the line.

➤ **Spiritual Significance:** Dalai Lamas are believed to be manifestations of Avalokiteshvara (Chenrezig), the Bodhisattva of Compassion and Tibet's patron saint.

○ Bodhisattvas are enlightened beings who aspire to achieve Buddhahood to benefit all sentient beings and vow to be reborn to help humanity.

➤ **The process to Choose the Dalai Lama:**

○ Reincarnation Search: The process of selecting a Dalai Lama involves identifying the reincarnation of the previous Dalai Lama, who serves as the spiritual leader of Tibetan Buddhism. The search typically begins after the passing of the incumbent Dalai Lama.

○ High Lamas of the Gelugpa tradition and the Tibetan government are responsible for finding the next Dalai Lama. If multiple candidates are identified, a public ceremony involving the drawing of lots is held to determine the true successor.

➤ **Recognition and Training:** The selected child, usually very young, is recognised as the reincarnation of the Dalai Lama and undergoes rigorous spiritual and educational training.

➤ **Role:** The Dalai Lama's role includes both spiritual and political leadership in Tibetan Buddhism. The selection process is crucial to Tibetan cultural and religious traditions.

➤ **Duration:** The search can take several years; for example, it took 4 years to find the current (14th) Dalai Lama.

➤ **Geographical Scope:** The search is generally limited to Tibet. However, the current Dalai Lama has suggested that he might not be reborn or, if he is, it would not be in a country under Chinese rule.

## What is the Global Stand on China-Tibet Issue?

➤ **China's Stance:** China claims Tibet has been **part of its territory since the 13th century** and its policies aim to develop the region. It argues Tibet is an autonomous region with significant rights and accuses the Dalai Lama of seeking independence.

○ China has expressed concerns over the future selection of the Dalai Lama. It fears that the Dalai Lama's successor might be chosen to **challenge its authority in Tibet.**

➤ **Support for Tibetan Autonomy/ Independence:** Some Western countries, like the **US and Canada**, have expressed **support for Tibetan autonomy and human rights**.

○ The **Central Tibetan Administration (CTA)**, the **Tibetan government-in-exile** led by the Dalai Lama, is **not recognized** by the international community, including India.

➤ **Non-Interference and Neutrality:** Many countries, especially those with ties to China, **maintain a neutral stance and prioritise diplomatic** and economic cooperation with China.

○ Neighbouring countries like **Nepal and Bhutan take a cautious approach** to avoid tensions with China.

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➢ **Human Rights Concerns:** International organisations including the **United Nations (UN)** have expressed concerns about human rights abuses in Tibet, including restrictions on religious freedom and cultural suppression.

# 30th Anniversary of ISA

## Why in News?

Recently, the **International Seabed Authority (ISA)**, an agency under the **United Nations Convention on the Law of the Sea (UNCLOS)**, celebrated its **30th anniversary.**

➢ It was established to oversee the exploration and utilization of non-living marine resources in international waters.

## What are the Key Facts About ISA?

➢ **About ISA:**
  ❍ It is an autonomous international organisation established under the **1982 United Nations Convention on the Law of the Sea (UNCLOS)** and the **1994 Agreement** relating to the implementation of **Part XI of the UNCLOS.**
  ❍ **Headquarters:** Kingston, **Jamaica.**
  ❍ **Members: 168 Member** States **(including India)** and the **European Union.**
    ● The area under its **jurisdiction covers around 54% of the total area** of the world's oceans.
  ❍ ISA ensures effective protection of the marine environment from the harmful effects of deep-seabed activities.

➢ **Mandate:**
  ❍ **Regulating** the conduct of all **exploration activities** and exploitation **of deep-sea minerals.**

  ❍ **Protection of the marine environment** from harmful effects of deep seabed-related activities.
  ❍ Encourage marine scientific research.

➢ **India and ISA:**

➢ On 18th January 2024, India submitted two applications for exploration in the international seabed area of the **Indian Ocean.**
  ❍ **Polymetallic sulphides** in the Indian Ocean Ridge **(Carlsberg Ridge).**
  ❍ **Cobalt-rich ferromanganese** crusts of the **Afanasy-Nikitin Seamount** in the Central Indian Ocean.

➢ Currently, India holds two contracts for exploration in the Indian Ocean.
  ❍ **Polymetallic nodules and sulphides** in the Central Indian Ocean Basin and Ridge.
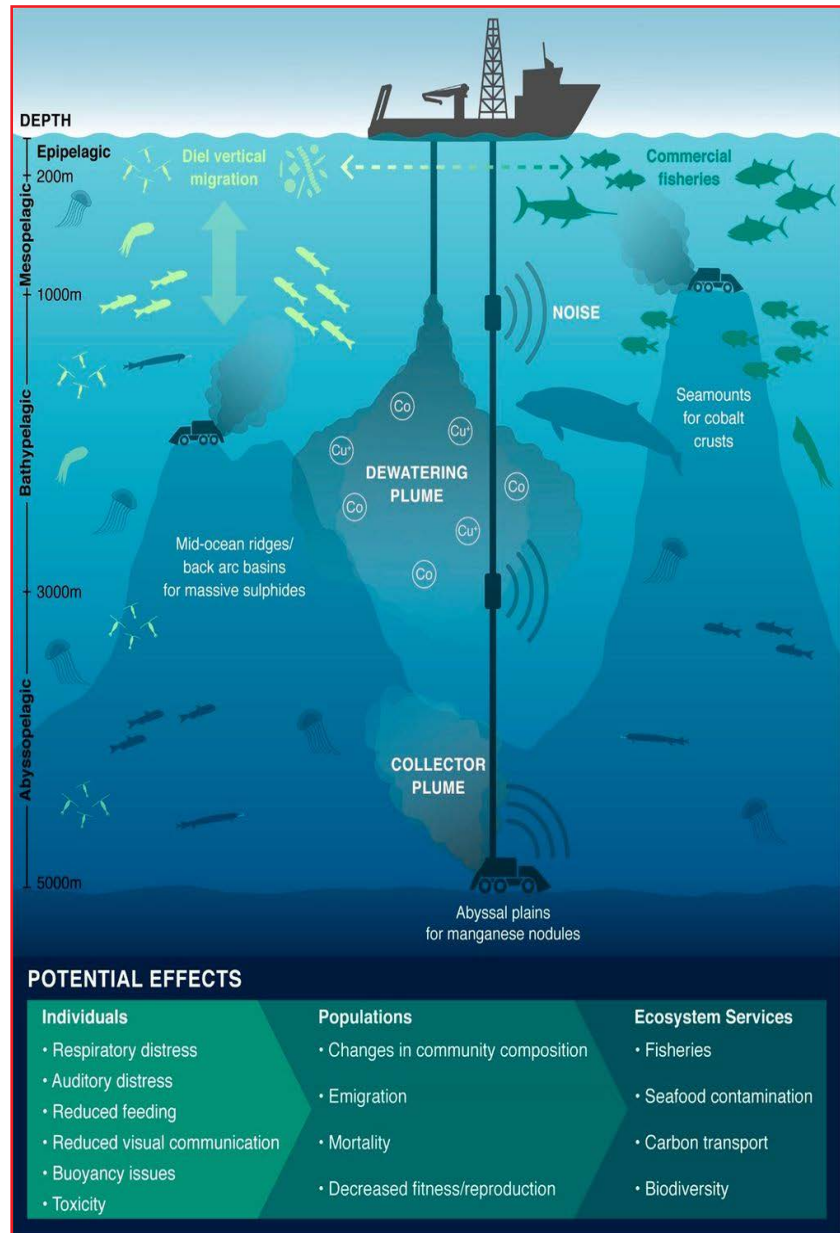


Note:

| United Nations Convention on the Law of the Sea (UNCLOS) |
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➢ The 'Law of the Sea Treaty', formally known as the **United Nations Convention on the Laws of the Sea (UNCLOS) was adopted in 1982** to establish jurisdictional limits over the ocean areas.
  ○ The convention defines a **distance of 12 nautical miles from the baseline as the Territorial Sea limit** and a distance of **200 nautical miles distance as the Exclusive Economic Zone limit.**
  ○ It provides for technology and wealth transfer from developed to underdeveloped nations and requires parties to implement regulations and laws to control marine pollution.
  ○ **India became a signatory** to the UNCLOS **in 1982.**
➢ UNCLOS created **three new institutions:**
  ○ **International Tribunal for the Law of the Sea:** It is an independent judicial body established by UNCLOS to **adjudicate disputes arising out of the convention.**
  ○ **International Seabed Authority:** It is a UN body set up to regulate the exploration and **exploitation of marine non-living resources of oceans** in international waters.
  ○ **Commission on the Limits of the Continental Shelf:** It facilitates the implementation of the United Nations Convention on the Law of the Sea (the Convention) in **respect of the establishment of the outer limits of the continental shelf beyond 200 nautical miles.**

**Read more: India Joins Sri Lanka in Seabed Mining Race**

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# Social Issues

## Highlights

- *Global Reports on Trans Fats and Insufficient Physical Activity*
- *Issue of Menstrual Leave for Women*

## Global Reports on Trans Fats and Insufficient Physical Activity

### Why in News?

Recently, the **World Health Organization (WHO)** has published the **fifth milestone report** on progress towards **global trans fat elimination**, covering the period from 2018–2023.

➤ In another development, a study was published in the **Lancet Global Health journal** that indicates almost 50% of adults in India engaged in **insufficient levels** of **physical activity** in 2022.

### What are the Key Highlights of the WHO Report on Trans Fat?

➤ Industrially produced TFA is identified as a major contributor to heart disease. **TFA offers no nutritional benefits and is detrimental to public health.**

➤ In 2018, WHO set a **target to eliminate TFA** from the global food supply **by the end of 2023**. Even though the target has not been fully met, there has been remarkable progress made and **sustained elimination would be achieved by 2025**.

➤ By 2023, WHO's **REPLACE action framework** facilitated widespread adoption of best-practice policies in 53 countries, impacting 3.7 billion people, a substantial increase from 6% coverage five years earlier.

➤ WHO initiated a **Validation Programme** to recognise countries achieving TFA elimination goals. Denmark, Lithuania, Poland, Saudi Arabia, and Thailand were the **first to receive** the TFA Validation Certificate.

➤ WHO recommends all countries **enact and enforce best-practice policies,** engage in the Validation Programme, and encourage **companies to reformulate products** to eliminate TFA globally.

○ **Implementing best practice policies** in just eight additional countries, (including Azerbaijan and China) would **eliminate 90% of the global TFA burden**.

### What are the Highlights of the Lancet Paper on Insufficient Physical Activity?

➤ The definition of insufficient physical activity is **not performing at least 150 minutes of moderate-intensity** or **75 minutes of vigorous-intensity physical activity** per week.

➤ Globally, about a **third (31.3%) of adults** were **insufficiently physically active** in 2022, up from 26.4% in 2010.

➤ South Asia ranks **second highest globally** in terms of insufficient physical activity among adults, following the high-income Asia Pacific region.in India, 57% of women were found to be insufficiently physically active, compared to 42% of men.

○ Projections indicate that **by 2030, 60% of Indian adults** could be insufficiently active if current trends persist.

➤ Physical inactivity increases the **risk of non-communicable diseases** such as diabetes and heart disease. Rising physical inactivity, along with **sedentary lifestyles**, contributes to the increasing prevalence of these diseases and burdens healthcare systems.

**Note:**

➤ A 2023 study by the **Indian Council of Medical Research**-India Diabetes (ICMR-INDIAB) estimated that in 2021, India had:

○ 101 million people with diabetes.

○ 315 million people with hypertension.

○ 254 million people with obesity.

○ 185 million people with high levels of LDL or 'bad' cholesterol.

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**Trans Fats**

➢ **Trans fats**, or trans-fatty acids, are **unsaturated fatty acids** that come from either natural or industrial sources.

➢ Naturally occurring trans-fat comes from **ruminants (cows and sheep).**

➢ Industrially-produced trans-fat is formed in an **industrial process** that adds hydrogen to vegetable oil converting the liquid into a solid, resulting in "partially hydrogenated" oil .



### India's Initiatives to Promote Healthy Lifestyle

➢ 'Khelo India' Scheme

➢ Scheme of Assistance to National Sports Federations (NSFs)

➢ Eat Right India Movement

➢ Fit India movement

### *What can be done to Ensure a Healthier Lifestyle among the Population?*

➢ Check food labels for **"partially hydrogenated oils"** which **indicate trans fats** and choose healthy fats like **olive oil, avocado, nuts,** and fatty fish.

➢ Aim for at least **150 minutes of moderate-intensity exercise** or 75 minutes of vigorous-intensity exercise **per week as recommended by WHO**. Break up sedentary time with short walks or stretches throughout the day.

➢ **Encourage opportunities for women to participate in physical activity**, like safe walking paths and women-only fitness classes. Promote the health benefits of exercise specifically for women.

➢ **Raise awareness about the dangers of trans fats** and the importance of physical activity through educational campaigns. Partner with schools, workplaces, and community centres to spread the message.

➢ **Advocate for stronger government regulation**s to limit trans fats in processed foods. Support policies that promote physical activity like walkable neighbourhoods and public recreation facilities.

## Issue of Menstrual Leave for Women

### *Why in News?*

Recently, the **Supreme Court** has asked the Central Government to frame a **model policy on menstrual leave for female employees**.

➢ The court emphasised that this matter falls under the realm of **policy-making** and not within the court's jurisdiction.

### *What is the State of Menstrual Leaves in India?*

➢ **Menstrual (Period) Leave:** It is a kind of leave where the **working women have the option to avail either paid or unpaid leave** from the institution of her employment during her period of menstruation as such a condition adversely affects her ability to to work .

Note:

➢ **Implemented the Policy: Bihar** and **Kerala** are the only Indian states that have introduced menstrual leave policies for women.

- **Bihar's policy was introduced in 1992,** allowing women employees two days of paid menstrual leave every month.

- **Kerala** in 2023 has also allowed menstrual leave to female students of all universities and institutions and up to 60 days maternity leave to female students above the age of 18.

○ Some companies in India have introduced **menstrual leave policies**, including **Zomato**, which announced a **10-day paid period leave per year in 2020.**

- Other companies, such as **Swiggy and Byjus, have also followed suit.**

➢ Legislative Measures Taken:

○ There is **no law** governing menstrual leave in India and also there is **no centralised direction for 'paid menstruation leave'** in India.

○ **Attempts Made in the Past:** Parliament has seen attempts to introduce menstrual leave and menstrual health products related bills, but they have not been successful so far.

- Example: **The Menstruation Benefits Bill, 2017'** and **Women's Sexual, Reproductive and Menstrual Rights Bill in 2018.**

○ Right of Women to Menstrual Leave and Free Access to Menstrual Health Products Bill, 2022:

- The proposed Bill **provides for 3 days of paid leave for women** and transwomen during the period of menstruation.

- The Bill cites research that 40% of girls miss school during their periods, and nearly 65% said it had an impact on their daily activities at school.

**Countries Having Implemented Menstrual Leaves**

➢ Spain, Japan, Indonesia, Philippines, Taiwan, South Korea, Zambia and Vietnam.

➢ **Spain is the first European country to grant paid menstrual leave** to workers, with the right to three days of menstrual leave per month, which can be expanded to 5 days.

### *Why is there a Need for Paid Menstrual Leave for Women?*

➢ **Health and Well-being:** Menstruation can cause **physical discomfort (cramps, bloating)** and emotional distress. **Paid leave allows women to prioritise their health** and manage these symptoms without financial penalty.

➢ **Workplace Inclusivity and Gender Gap:** This leave will normalise menstruation, reducing stigma and encouraging open discussion about menstrual health. Its impact on work performance helps address the gender pay gap by enabling women to fully participate in the workforce without sacrificing income.

➢ **Productivity and Retention:** Studies suggest that menstrual **leave can improve productivity** by allowing women to manage their periods effectively and avoid working while experiencing discomfort. It can also **contribute to higher employee retention.**

○ As per **IMF**, equal participation of women in the workforce will increase India's **GDP** by **27%** and will add **USD 700 billion to its GDP by 2025**. Thus economic **growth and gender equality go hand in hand.**

➢ Legal Perspectives:

○ **Article 15(3):** Permits **special provisions for women,** countering claims of discrimination against men who can't avail menstrual leave.

○ **Article 42:** Mandates the state to ensure **"just and humane conditions of work" and "maternity relief."** Menstrual leave is seen as an extension of this responsibility, promoting a humane work environment for women during menstruation.

**Case Study on Maternal Healthcare Access for Tribal Population in Gujarat**

➢ **About Study:**

○ The study focuses on the **tribal population in Gujarat, which constitutes 14.8% of the state's total population**. It examines the accessibility of healthcare facilities for **maternal care across 14 tribal-concentrated districts.**

➢ **Mapping Healthcare Disparities:**

○ The average **coverage of pregnancy care in Gujarat's tribal districts is 88%,** with 80% receiving antenatal care (ANC), **90% giving birth at healthcare facilities**, and 92% receiving postnatal care (PNC).

○ However, **ANC coverage is notably lower in districts** like Banaskantha, Mahisagar, Sabarkantha, Dahod, and Bharuch, **falling below WHO-prescribed thresholds.**

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➢ **Transportation Constraints:**
  ○ Over **50% of households reside more than 25 km away from tertiary care facilities**, and about **30%** live away from community healthcare centres and primary healthcare centres. Further, limited resources and social stigma **often prevent women,** especially in rural areas, from using public transportation available.

**UN Report on Maternal Deaths**

➢ As per the **UN report,** India had more than **17% of global maternal deaths** in 2020, the highest share among ten countries responsible for a majority of maternal, stillbirth, and newborn deaths.

➢ It stressed the importance of focusing on maternal healthcare to reach **Sustainable Development Goals (SDG)** for better maternal and child health outcomes and healthcare access.

*What are the Arguments Against the Menstrual Leaves?*

➢ **Discouragement of Hiring Female Employees:** Paid menstrual leave might **disincentivize companies** from hiring women due to **perceived absenteeism**.
  ○ Employers may perceive **female employees as a liability** due to the additional burden of paid leave every month.

➢ **Discrimination at Workplace:** Accommodating menstrual leaves may disrupt workflow, increase workload for other team members, or create resentment among employees who do not receive similar benefits.

➢ **Enforcement Issues:** Implementing **paid leave for menstruation** raises challenges such as **determining legitimate use, preventing misuse**, and defining acceptable enforcement methods for employers.
  ○ This has been highlighted by **incidents like those in Bhuj 2020** where 66 girls were forced to strip to verify menstruation status **and similar incidents in Muzaffarnagar.**
  ○ Sensitivity and respect are crucial in developing policies around menstruation.

➢ **Reinforcing Stigma:** Special leave policies could **highlight menstruation as a negative aspect,** potentially leading to period shaming and discrimination.

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**Govt Schemes to Promote Menstrual Hygiene Management:**

➢ **Menstrual hygiene scheme launched by the Ministry of Health and Family Welfare**

➢ **Rashtriya Kishore Swasthya Karyakram**

➢ **SABLA programme of the Ministry of Women and Child Development**

➢ **Swachh Bharat Mission and Swachh Bharat: Swachh Vidyalaya (SB:SV)**

➢ **Guidelines for Gender Issues in Sanitation, 2017**

➢ **The National Guidelines on Menstrual Hygiene Management**

➢ **Scheme for Promotion of Menstrual Hygiene** among adolescent girls in the age group of 10-19 years (supported by the **National Health Mission**)

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# Security

## Highlights

- *Major Military Exercises of India*
- *National Security Council*
- *UNODC Report on Illicit Drugs*

## Major Military Exercises of India

### Why in News?

Recently, the **16th edition of India-Mongolia** Joint Military Exercise **NOMADIC ELEPHANT** commenced at Foreign Training Node, Umroi (Meghalaya).

### What are the Major Joint Exercises Conducted by the Indian Army?

➤ **About:**

  ❍ **Joint Exercises** are the **flagship events of defence cooperation** showcasing the **Indian Army's** professional competence in various operational scenarios and providing an opportunity for the participants to learn best practices**.**

  ❍ The scope of joint exercises is **realistic and diversified** including **Counter Terrorist operations**, **Humanitarian Assistance & Disaster Relief, UN Peacekeeping**, High Altitude operations, Desert Warfare, Urban Warfare, and Jungle Warfare.

  ❍ The complexity of scope is increased by **adding the latest practices in warfighting and realistic situations** like Drone Warfare, **Grey Zone Warfare**, etc.

➤ **Joint Exercises:**

| Country | Exercise |
|---------|----------|
| Australia | Ex AUSTRA HINDBAH |
| Bangladesh | Ex SAMPRITI |
| China | Ex HAND IN HAND |
| France | Ex SHAKTI |
| Indonesia | Ex GARUDA SHAKTI |
| Kazakhstan | Ex PRABAL DOSTYKK |
| Kyrgyzstan | Ex KHANJAR |
| Maldives | Ex EKUVERIN |
| Mongolia | Ex NOMADIC ELEPHANT |
| Myanmar | IMBEX |
| Nepal | Ex SURYA KIRAN |
| Oman | AL NAGAH |
| Russia | Ex INDRA |
| Seychelles | Ex LAMITIYE |
| Sri Lanka | Ex MITRA SHAKTI |
| Thailand | Ex MAITREE |
| UK | Ex AJEYA WARRIOR |
| USA | Ex YUDHABHAYAS |
| USA | Ex VAJRA PRAHAR |

### What are the Joint Exercises Conducted by the Indian Navy?

➤ **Joint Exercises:**

| Exercise | Countries |
|----------|-----------|
| MALABAR | India, USA, Japan, Australia |
| Varuna | India, France |
| La Perouse | India, Australia, United States, France, Japan, and United Kingdom |
| Sea Dragon | India, USA, Japan, Canada, South Korea |
| Konkan | India, UK |
| AIME & IMDEX | India, ASEAN Countries |
| Bright Star | India, 34 Countries |
| SALVEX | India, USA |
| SLINEX | India, Sri Lanka |
| Samudra Shakti | India, Indonesia |
| Al-Mohed Al-Hindi | India, Saudi Arabia |

Note:

| India - France - UAE trilateral exercise | India, France, UAE |
|---|---|
| India - France - UAE trilateral PASSEX | India, France, UAE |

| KOMODO | India, Multiple (36 Countries) |
|---|---|
| AUSINDEX | India, Australia |
| SIMBEX | India, Singapore |

➢ Humanitarian Assistance and Disaster Relief (HADR) & Search and Rescue (SAR) Operations:

| Operation Name | Description | Location |
|---|---|---|
| Operation Kaveri | Evacuation of Indian nationals from Sudan | Red Sea |
| Operation Karuna | Humanitarian Assistance and Disaster Relief (HADR) to Myanmar (post-Cyclone Mocha) | Yangon, Myanmar |
| Brahmapuram Firefighting Assistance | Assisted local authorities in firefighting efforts in Brahmapuram solid waste treatment plant | Kochi, India |

## *What are the Major Exercises Conducted by the Air Force?*

➢ **Joint Exercises:**

| Exercise Name | Description | Location |
|---|---|---|
| Ex Veer Guardian | First Air Exercise between India and Japan | - |
| Ex PASSEX with France | Joint exercise with French fighter aircraft | Indian Ocean Region |
| Ex Desert Flag-8 in UAE | First participation of Tejas in an international air exercise | Al-Dhafra, UAE |
| Ex Cobra Warrior | Multinational Air Exercise | UK |
| Ex Cope India | Joint exercise of India with USAF and Japan (observor) | AFS Kalaikunda & Panagarh, India |
| Ex Orion | Multinational exercise | France |
| Ex INIOCHOS | First Air Exercise between India and Greece | Greece |
| Ex Bright Star | Joint exercise with Egypt | Egypt |

➢ **Integrated Exercises With Sister Services:**

| Exercise Name | Description |
|---|---|
| Ex Kranti Mahotsav | 01 Multi-Role Helicopter (MLH) |
| Ex Chakra Drishti | Fighter aircraft, Remotely Piloted Aircraft (RPA), and Airborne Early Warning & Control System (AEW&C) |
| Western Command Theatre | Helicopters, Transport aircraft, RPA, and Fighter aircraft |
| Long-Range Maritime Strike | Fighters, Transport aircraft, and AWACS (Airborne Warning And Control System) |
| MiG-29K Detachment at AFS Naliya | Joint detachment with Indian Navy's MiG-29K fighters |

➢ **Humanitarian Assistance and Disaster Relief:**

| Operation Name | Location | Description |
|---|---|---|
| Op Dost - Turkiye and Syria | Turkiye, Syria | Earthquake relief |
| Op Kaveri - Sudan | Sudan | Evacuation of Indian citizens |
| Op Ajay (Israel – Hamas Conflict) | Israel, Gaza | Medical and disaster relief |

Note:

### What are the Advantages of Military Exercises?

➢ **Enhanced Interoperability:** Exercises foster the **development of shared tactical languages and cultural understanding** between soldiers. Successful multinational operations rely not just on technical compatibility but on cohesive teams that can anticipate and adapt to each other's actions.

➢ **Knowledge Exchange:** Exercises like **NATO's Defender series** have fostered a **"Collaborative Innovation Environment"** where militaries co-develop solutions to real-world problems. This fosters a culture of joint creativity and speeds up technological advancements.

➢ Diplomatic Relations: Military exercises serve as a form of defence diplomacy, strengthening political ties between participating nations.

   ❍ For example, the **Malabar naval exercises** have not only improved interoperability but also served as a confidence-building measure, **signaling a united front against regional challenges.**

➢ **Capability Assessment:** Exercises can reveal underlying structural issues within militaries.

   ❍ A **2022 RAND Corporation report** highlights how a recent US-allied exercise **exposed communication gaps** between special operation forces and conventional units leading to a **significant restructuring of communication protocols** within the US military.

➢ **Deterrence:** Joint exercises signal military readiness and alliance strength to potential adversaries.

   ❍ For example, **the Russo-Belarusian exercises** preceding the invasion of Ukraine not only showcased military might but also **served as a form of psychological warfare**, potentially intended to intimidate **Ukraine** and the West.

➢ **Humanitarian Assistance Preparation:** Many exercises now incorporate real-world complexities like civilian participation and media presence.

   ❍ The **UN's 2023 World Humanitarian Data Report** emphasises the **need for improved interagency coordination during humanitarian crises**. Exercises that involve civilian aid organisations can bridge these gaps.

# National Security Council

### Why in News?

   Deputy **National Security Adviser (NSA)** Rajinder Khanna has been appointed as the **additional NSA.** This is the first time the additional NSA post has been filled, a position that has always existed but remained vacant until now.

➢ Additionally, **Intelligence Bureau** special director T.V. Ravichandran has been appointed as deputy NSA.

➢ The **NSA acts as secretary of National Security Council Secretariat (NSCS)**, which is one tier of the Three-tiered Structure of National Security Council (NSC).

### What is the Organisational Structure of the National Security Council?

➢ **Establishment:** The NSC was established in 1998 by the government of then Prime Minister **Atal Bihari Vajpayee** following **nuclear tests** by India and Pakistan. It is the apex body for national security management in India.

   ❍ Prior to the formation of the NSC, the functions related to national security were carried out by the **Principal Secretary to the Prime Minister.**

   ❍ It operates under a three-tier structure i.e. **Strategic Policy Group (SPG), National Security Advisory Board (NSAB) and National Security Council Secretariat (NSCS).**

➢ Three-tier Structure of NSC:

   ❍ **Strategic Policy Group (SPG):** The SPG is chaired by the **Cabinet Secretary,** consisting of serving senior officials responsible for policy-making and for follow up action in matters concerning national security.

      ● It includes the **Chiefs of the Armed Forces,** the Intelligence Bureau and the Research and Analysis Wing **(R&AW)**. Its main task is to make policy recommendations to the NSC.

   ❍ **National Security Advisory Board (NSAB):** It includes senior retired officials, academics, and experts from civil society.

      ● It provides **long-term analysis and policy recommendations** on national security issues to the NSC, covering areas like Internal and External Security, Foreign Affairs, Defence, Science & Technology, and Economic Affairs.

   ❍ **National Security Council Secretariat (NSCS)**: It is overseen by the Prime Minister, operates with the **NSA as its secretary,** and serves as the apex body for all matters concerning internal and external security.

➢ **Heads:** The NSC is headed by the **Prime Minister of India**. The NSA acts as the secretary of the NSC and also as the primary advisor to the prime minister. The **headquarters of the NSC is located in New Delhi.**
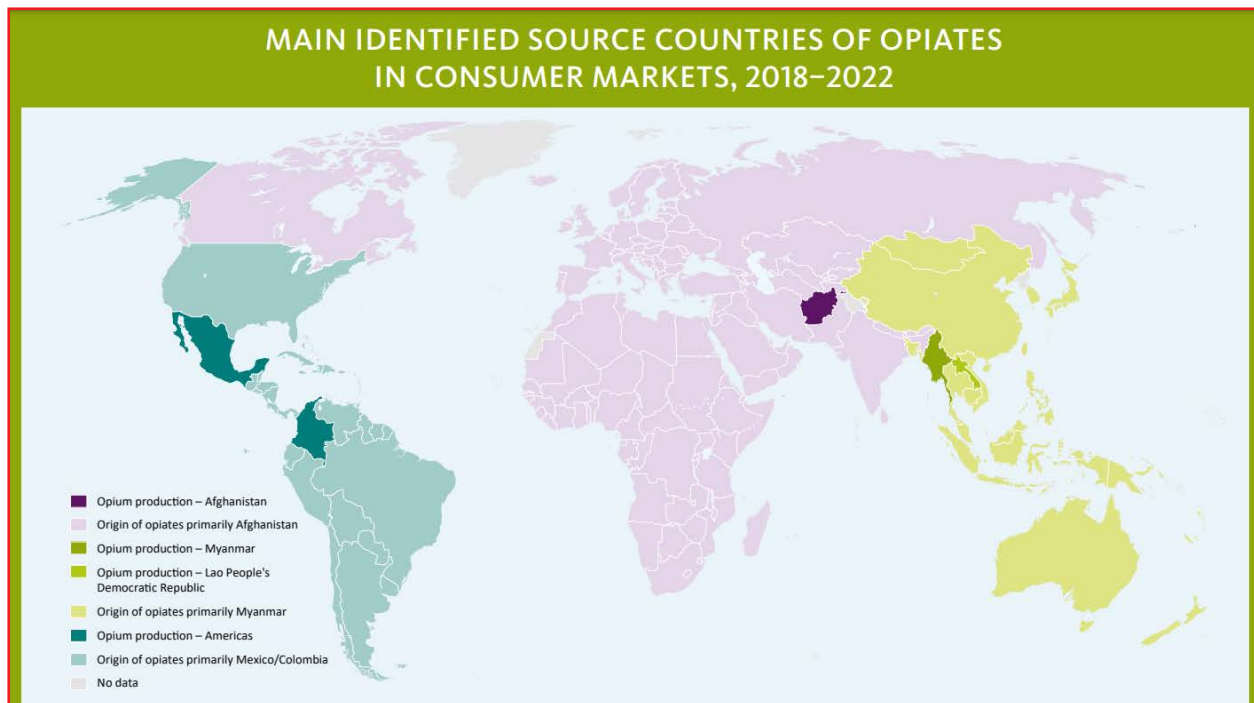
○ Ajit Doval is the current NSA, serving a third term. He is the longest-serving NSA in India's history, with a tenure of over 10 years. **Brajesh Mishra served as the country's first NSA.**

○ The **Appointments Committee of the Cabinet (ACC)** in India appoints top government positions. It is chaired by the **Prime Minister and the Minister of Home Affairs.**

- The committee processes proposals for senior government appointments and makes decisions on positions such as the **National Security Advisor.**

➢ **NSC Members:** Besides the NSA, it includes **Deputy NSA and additional NSA,** Ministers of Defence, External Affairs, Home Affairs, and Finance of the Government of India, and the Vice Chairman of the **NITI Aayog (National Institution for Transforming India)**. Additional officials may be invited to monthly meetings as needed.

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# UNODC Report on Illicit Drugs

### *Why in News?*

Recently, the **United Nations Office on Drugs and Crime (UNODC)** released its **World Drug Report 2024,** drawing global attention to escalating concerns in the international drug landscape.



MAIN IDENTIFIED SOURCE COUNTRIES OF OPIATES IN CONSUMER MARKETS, 2018–2022

- Opium production – Afghanistan
- Origin of opiates primarily Afghanistan
- Opium production – Myanmar
- Opium production – Lao People's Democratic Republic
- Origin of opiates primarily Myanmar
- Opium production – Americas
- Origin of opiates primarily Mexico/Colombia
- No data

### *What are the Highlights of the Report?*

➢ **Rising Drug Use:**

○ In 2022, the number of drug users worldwide **reached 292 million,** representing a **20% increase** over the past decade.

➢ **Drug Preference:**

○ **Cannabis** remains the most popular drug, with 228 million users, followed by **Opioids, Amphetamines, Cocaine, and Ecstasy.**

➢ **Emerging Threats:** The report warns about **nitazenes,** a new class of **synthetic opioids** more potent than **fentanyl.**

○ These substances are linked to an increase in overdose deaths, particularly in high-income countries.

➢ **Treatment Gap:**

○ Out of **64 million people** suffering from drug use disorders, only one in 11 receive treatment.

➢ **Gender Disparity in Treatment:**

○ The report reveals a significant gender gap in treatment access. Only **one in 18 women** with drug use disorders receive treatment, compared to **one in seven men.**

Note:

➢ **Drug Use In India:**
  ❍ The number of people becoming addicted to drugs has risen sharply. According to data from the **Narcotics Control Bureau (NCB)**, there are currently around **100 million people** in the country addicted to various narcotic substances.
  ❍ According to the Ministry of Home Affairs, **Uttar Pradesh, Maharashtra, and Punjab** are the top three states with the highest number of **FIRs** registered under the **Narcotic Drugs and Psychotropic Substances Act (NDPS Act)** in three years between 2019 and 2021.

## Who are the Major Drug-Producing Regions in the World?

➢ **The Golden Crescent:** It comprises **Afghanistan, Iran, and Pakistan,** a major global hub for opium production and distribution.
  ❍ It affects Indian states like **Jammu and Kashmir, Punjab, Himachal Pradesh, Rajasthan, and Gujarat.**
➢ **The Golden Triangle:** It is located at the **intersection of Laos, Myanmar, and Thailand** notorious for heroin production (Myanmar produces **80% of global heroin**).
  ❍ Trafficking routes pass through **Laos, Vietnam, Thailand, and India.**

## What are the Factors Contributing to Drug Abuse in India?

➢ **Poverty, Unemployment, and Escapism:** Individuals in **lower-income groups use cheap**, readily available drugs to temporarily escape harsh realities like poverty, unemployment, and poor living conditions.
  ❍ A **slum rehabilitation program in Chennai** reported that **70%** of adult drug users cited poverty-related stress as a key factor.
➢ **Peer Pressure and Social Influences:** Teenagers experiment with drugs at parties to fit in or appear cool. Youth emulating celebrities or social media influencers who portray drug use as fashionable.
  ❍ A 2023 cybercrime unit investigation uncovered a network using Instagram to advertise **pharma parties** in Goa, reaching over 100,000 potential attendees.

➢ **Legal System Loopholes: Organized crime** syndicates **exploit legal system** loopholes, such as weak border controls, to smuggle drugs. They often misuse trade routes from Africa and South Asia for drug trafficking purposes.
  ❍ In 2023, the **Border Security Force** reported a 35% increase in drug seizures along the India-Pakistan border, highlighting the ongoing challenges in controlling illicit drug flows through these routes.

## What are the Various Challenges For India in Drug Trafficking?

➢ **Border Vulnerabilities and Public Health Risks:** The **India-Myanmar border,** characterised by rough terrain and dense forests, presents security challenges.
  ❍ Illicit drug flows through **India threaten both national security** and public health.
➢ **Socio-Economic Factors:** Poverty, unemployment, and illiteracy in the North Eastern regions contribute to local involvement in drug-related criminal activities.
  ❍ Some local tribes and residents may participate out of **economic necessity** or misplaced sympathy.
➢ **Global Drug Supply Hub:** The Golden Crescent and Golden Triangle regions collectively meet abou**t 90% of the world's drug demand.**
  ❍ India's proximity to these areas increases its exposure to drug trafficking.
➢ **Evolving Smuggling Techniques:** This technological shift presents new challenges for law enforcement. Recent incidents in Punjab have revealed the **use of drones for cross-border drug and weapon smuggling.**
➢ **Emerging Cocaine Market:** India has unexpectedly become a popular destination for cocaine, controlled by South American cartels. These cartels have established complex networks involving:
  ❍ **Non-Resident Indians (NRIs) in** countries lik**e Canada, Australia, Singapore, Hong Kong**, and various European nations.
  ❍ Local drug dealers and gangsters in India.

### What is the Narcotic Drugs and Psychotropic Substances Act of 1985?

➢ The Act regulates certain operations such as **manufacture, transport, and consumption** related to narcotic drugs and psychotropic substances.

➢ Under the Act, financing certain illicit activities such as cultivating cannabis, manufacturing narcotic drugs, or harbouring persons engaged in them is an offence.

➢ Persons found guilty of this offence will be punished with rigorous imprisonment of at **least 10 years** - extendable **up to 20 years** - and a fine of **at least Rs.1 lakh.**

➢ It also provides for **forfeiture of property** derived from, or used in, illicit traffic in narcotic drugs and **psychotropic substances**.

➢ It also provides for the **death penalty in some cases** where a person is a repeat offender.

➢ The **Narcotics Control Bureau** was also constituted in 1986 under the Act.

### *What are the Initiatives Taken to Tackle Drug Abuse in India?*

➢ **Project Sunrise:** It was launched by the Ministry of Health and Family Welfare in 2016, to tackle the **rising HIV prevalence** in north-eastern states in India, especially among **people injecting drugs.**

➢ **Nasha Mukt Bharat:** The government has also announced the launch of the **'Nasha Mukt Bharat', or Drug-Free India Campaign** which focuses on community outreach programs.

➢ **Narco-Coordination Centre:** The **Narco-Coordination Centre (NCORD)** was constituted in 2016 and the **"Financial Assistance to States for Narcotics Control"** scheme was revived.

➢ **Seizure Information Management System:** The Narcotics Control Bureau has been provided funds for developing new software like the **Seizure Information Management System (SIMS)** which will create a complete online database of drug offenses and offenders.

➢ **National Drug Abuse Survey:** The government is also conducting a **National Drug Abuse Survey** to measure trends of drug abuse in India through the Ministry of Social Justice & Empowerment with the help of the National Drug Dependence Treatment Centre of AIIMS.

■■■

Note:

# Science & Technology

## Highlights

- IIT-M Team Makes Mineral Nanoparticles with Water Droplets
- Gaganyaan Astronauts Selected for Axiom-4 Mission
- Genome Sequencing
- Satellite-Based Communication
- Global INDIAai Summit
- Development of Polio Vaccines
- DBS Brain Implant Surgery for Epilepsy Treatment

## IIT-M Team Makes Mineral Nanoparticles with Water Droplets

### Why in News?

Recently a study published in the journal Science has revealed that **microdroplets of water** possess the ability to break down **minerals into nanoparticles**.

> **Note: Properties of Microdroplets:**
> - Water microdroplets are significantly **smaller than typical raindrops**, being just a thousandth the size of a raindrop.
> - These **microdroplets exhibit more eagerness** to participate in **chemical reactions** compared to bulk water due to their **densely packed nature.**
> - Microdroplets can engage in chemical reactions **much faster, up to a million times** quicker than in bulk water.
> - They act as **excellent carriers of electric charge.**

### What are the Key Highlights of the Study?

- **Experimental Findings:**
  - The study demonstrated that microdroplets **could break down minerals** such as **silica ($SiO_2$) and alumina ($Al_2O_3$) into nanoparticles.**
  - This was achieved **by applying a high voltage to mineral microparticles** suspended in water, causing them to break into nanoparticles within 10 milliseconds.
  - The breakup of mineral microparticles into nanoparticles may be due to the **protons squeezing into crystal layers**, the electric fields produced by charged surfaces, and the surface tension of the microdroplets.

- **Potential Applications:**
  - This process of nanoparticle formation has **significant implications for agriculture,** such as converting unproductive soil into productive land by supplying silica nanoparticles.
    - Plants absorb silica in the form of nanoparticles to help them become taller.
  - It also has **relevance to the origins of life**, as microdroplets might mimic proto-cells, potentially playing a role in early biochemical reactions.
  - Future investigation may look into whether water microdroplets naturally react with minerals in atmospheric processes, potentially forming nanoparticles through 'microdroplet showers'.

> ### What are Nanoparticles?
> - The **International Organization for Standardization (ISO)** defines **nanoparticles(NPs)** as nano-objects **with all external dimensions in the nanoscale,** where the lengths of the longest and the shortest axes of the nano-object do not differ significantly.
> - If the dimensions differ significantly (typically by more than three times), terms such as **nanofibers or nanoplates** may be preferred to the term NPs.
> - NPs can be of different shapes, sizes, and structures. They can be **spherical, cylindrical, conical, tubular,** hollow core, spiral, etc., or irregular.
>   - The size of NPs can be anywhere from 1 to 100 nm. If the size of NPs gets lower than 1 nm, the term atom clusters is usually preferred. NPs can be **crystalline with single or multi-crystal solids,** or amorphous. NPs can be either loose or agglomerated.
> - NPs can be uniform, or can be composed of several layers.

Note:

drishti

➢ **Classification:** Based on their composition, NPs are generally placed into three classes namely organic, carbon-based, and inorganic.

➢ **Applications:** In medicine, pharma, electronics, agriculture, food industry, etc.



Nanomaterials classification based on dimensionality
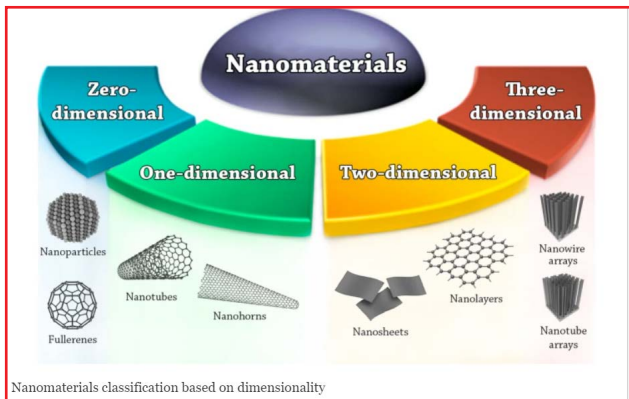
| Water Droplets vs Water Vapour | | |
|---|---|---|
| **Feature** | **Water Droplets** | **Water Vapour** |
| **Physical State** | Liquid | Gas |
| **Visibility** | Visible | Invisible |
| **Formation** | Condensation of water vapour | Evaporation of water |
| **Examples** | Rain, fog, mist, dew, clouds | Air on a humid day, steam |

# Gaganyaan Astronauts Selected for Axiom-4 Mission

## Why in News?

The **Indian Space Research Organisation (ISRO)** has shortlisted two of its four trained **Gaganyaan** astronauts for the **Axiom-4 mission** to the **International Space Station (ISS)** in collaboration with the United States' **National Aeronautics and Space Administration (NASA)**.

## What is the Axiom-4 Mission?

➢ NASA and Axiom Space, an american privately funded space infrastructure developer signed an order for the **fourth private astronaut mission** to the ISS, aiming to launch in August 2024 from **Kennedy Space Center in Florida.**

➢ The mission aims to dock with the ISS for a fourteen-day duration.

➢ **Indian astronauts will receive training from NASA,** international partners, and SpaceX, focusing on spacecraft systems and emergency preparedness, as part of India-US space cooperation goals.

**Note:** The joint statement by India and the United States during Prime Minister's visit in 2023 said **NASA would provide 'advanced training' to Indian astronauts** at one of its facilities, as part of the **Artemis Accords.**

**Status of India's Gaganyaan Program**

➢ India's **Gaganyaan human spaceflight** is expected post-2025, with unmanned flights as precursors.

➢ The launch of manned flights follows two successful unmanned missions.

## What is the International Space Station (ISS)?

The ISS is a large, permanently crewed laboratory that orbits Earth, 400 kilometres above its surface. It is **home to astronauts and cosmonauts,** and serves as a unique science laboratory.

○ Its research is expected to lead to advancements in many areas, including medicine, technology, science, and understanding the Earth and universe.

➢ It's a collaboration between **15 countries and five space agencies** namely **NASA (United States), Roscosmos (Russia), ESA (European Space Agency), JAXA (Japan Aerospace Exploration Agency), and CSA (Canadian Space Agency).**

➢ An international crew of **seven people live and work** while travelling at a speed of 7.66 km/sec, orbiting Earth about every 90 minutes. In **24 hours, the space station makes 16 orbits of Earth,** travelling through 16 sunrises and sunsets.

○ **Peggy Whitson** set the US record for spending the most total time living and working in space for 665 days.

➢ The first parts of the ISS were sent and assembled in orbit in 1998. Since the year 2000, the ISS has had crews living continuously on board.

Note:
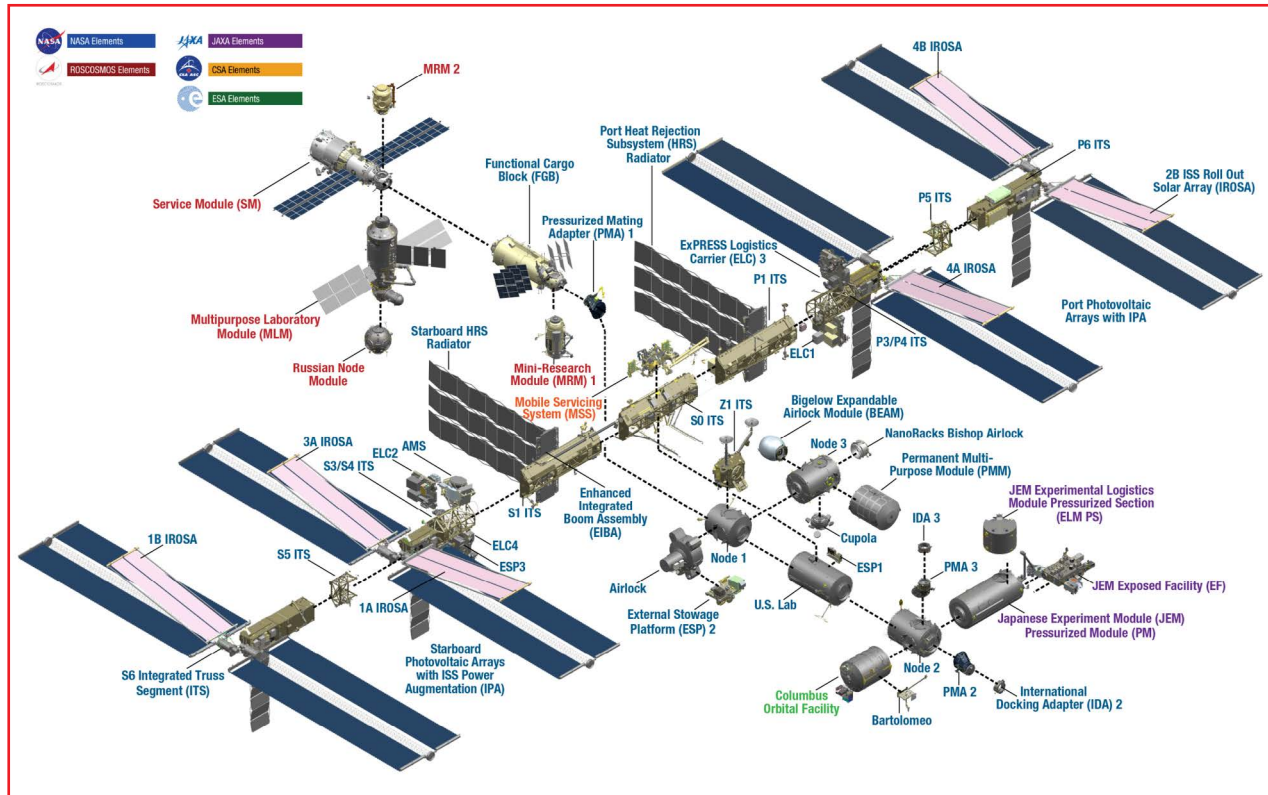
**Note:**

➤ India is gearing up to strengthen its space presence, the <u>**ISRO aims to establish the country's first space station**</u> by 2035.

➤ ISRO aims to **build a 20-ton space station** within a decade to support microgravity experiments.

**Read more:** <u>India Joins Artemis Accords</u>

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# Genome Sequencing

## *Why in News?*

Recently, a report published in the journal Nature revealed that a team of archaeologists and scientists from Germany, Mexico, Spain, the U.K. and the US has **sequenced genetic material** obtained from the **human remains found from an ancient burial place**.

## *What is Genome Sequencing?*

➤ **About:**

○ <u>**Genome sequencing**</u> is a process of determining the complete <u>**DNA**</u> sequence of an organism's genome.

● A genome is a complete set of <u>**DNA**</u> that contains all of the genes of an organism.

○ It involves figuring out the order of bases (**Adenine, Cytosine, Guanines, and Thymine)** that make up an organism's DNA. It is supported by automated DNA sequencing methods and computer software to assemble the massive sequence data.

Note:

## Gene Editing

➢ Gene editing, also known as genome editing, is a technology that **allows for the precise modification** of the **genetic material (DNA or RNA)** of an organism.

➢ It involves the **use of specialised tools** to add, remove, or alter specific DNA sequences within a genome.

➢ **Methods:**

❍ **CRISPR-Cas9 (Clustered Regularly Interspaced Short Palindromic Repeats):**

● It is the most widely used and versatile gene editing tool.

● It uses a guide RNA (gRNA) to direct the Cas9 enzyme to the target DNA sequence, where    it can make a double-strand break. The cell's natural DNA repair mechanisms are then used to either disrupt the target gene or insert a desired DNA sequence.

❍ **Zinc Finger Nucleases (ZFNs):**

● ZFNs are composed of a DNA-binding domain (zinc finger proteins) and a DNA-cleaving domain (FokI endonuclease).

● The zinc finger proteins are designed to recognize and bind to specific DNA sequences, and the FokI domain then cleaves the DNA. ZFNs can be engineered to target and edit specific genomic regions.

➢ Difference Between Gene Editing and Gene Sequencing:

| Characteristics | Gene Sequencing | Gene Editing |
| --- | --- | --- |
| Definition | The process of determining the precise order of nucleotides (A, T, C, G) in a DNA or RNA molecule. | The process of making targeted modifications to the DNA sequence of a gene or genes. |
| Purpose | To obtain the complete or partial sequence of a gene, a set of genes, or an entire genome. | To introduce desired changes, such as correcting genetic defects, modifying gene expression, or introducing new genetic traits. |
| Techniques | Sanger sequencing, Next-Generation Sequencing (NGS), and others. | **CRISPR-Cas9**, zinc finger nucleases, TALENs, and other specialised tools. |
| Outcome | Provides information about the genetic makeup and composition of an organism. | Allows for the direct manipulation and alteration of the genetic code. |
| Modification | Does not directly modify the genetic material. | Enables the addition, removal, or alteration of specific DNA sequences. |

➢ **Methods of Genome Sequencing:**

❍ **Clone-by-Clone Approach:**

● In this approach, the genome is first broken up into relatively large segments called **clones**, which are typically around 150,000 base pairs (bp) in length. Genome mapping techniques are then used to determine the location of each clone within the overall genome.

➢ Next, each clone is further fragmented into smaller, overlapping pieces of around 500 bp in size, which are suitable for sequencing.

➢ Finally, the individual sequenced pieces are assembled using the overlapping regions to reconstruct the complete sequence of the entire clone.

❍ **Whole-Genome Shotgun Approach:**

● This method involves **randomly fragmenting the entire genome** into **small pieces**.

➢ These small fragments are then **sequenced**, without any prior knowledge of their genomic location.

➢ The sequenced fragments are then **computationally reassembled** into the full genome sequence by identifying and aligning the overlapping regions between the fragments.
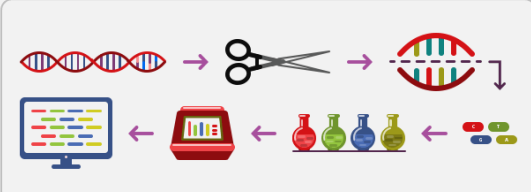
Note:

- The **clone-by-clone approach** is often used for **large and complex genomes**, while the **whole-genome shotgun** method is **more suitable for smaller** and less complex genomes.

➤ **Applications:**
  - **Finding origin of Epidemics:** Genome sequencing helps researchers understand the genetic makeup of pathogens, tracing the source and spread of outbreaks like SARS-CoV-2.
  - **Controlling Disease Spread:** Genome analysis allows monitoring pathogen evolution and identifying mutation patterns, incubation periods, and transmission rates to inform prevention strategies.
  - **Healthcare Applications**: It enables personalised treatments, guides targeted public health interventions, reveals genetic underpinnings of diseases like cancer, and informs drug efficacy and safety for diverse populations.
  - **Agricultural Advancements**: Crop genome sequencing can enhance understanding of genetic susceptibility to pests and environmental stressors.
  - **Evolutionary Studies**: Genome data can contribute to mapping species' migrations and evolution, furthering our knowledge of human origins and life's history.

**GENOMIC SEQUENCING**

What is Genomic Sequencing?

**GENOMIC SEQUENCING**

Genomic sequencing refers to methods of determining the entire DNA sequence of an organism's genome. In simpler terms, it determines the order of As, Ts, Cs and Gs that make up an organism's DNA. A genomic sequence is depicted by a very long line of these letters arranged in a specific order.

**Important genome sequencing initiatives:**

➤ **Human Genome Project:**
  - The **Human Genome Project (HGP)** from **1990 to 2003**, was a landmark international effort to **map and sequence the entire human genome**.
    - It was coordinated by the US National Institute of Health (NIH) and the U.S. Department of Energy.

- The project revolutionised medicine and advanced DNA sequencing technology.
- Developments like Her2/neu for breast cancer treatment and CYP450 for antidepressant response resulted from the project.

➤ **Genome India Project:**
  - It was launched in **2020** as a flagship initiative aimed at comprehensively **deciphering the genetic makeup of the Indian population**.
  - It is funded and coordinated by the Department of Biotechnology (DBT), Government of India.

➤ **IndiGen Project**
  - It was undertaken by CSIR in April 2019.
  - It aims to undertake whole genome sequencing of diverse ethnic groups from India.
  - The objective is to **enable genetic epidemiology** and **develop public health technologies applications** using population genome data.

# Satellite-Based Communication

## *Why in News?*

Recently, **satellite-based communication** for internet connectivity has gained traction, although its evolution has shifted away from being user-centric, raising questions about its **viability** for users in India.

## *What is Satellite Based Communication?*

➤ **About:**
  - A communications satellite is a **type of artificial satellite** placed in Earth's orbit to send and receive communication data **between a source and a destination.**
  - With over three thousand communication satellites in multiple orbits today, millions worldwide rely on satellite communications to deliver radio, television, and military applications.
  - Satellite communications have **opened access to voice and data communication services across the globe** in places where terrestrial cellular and **broadband connectivity** is not available or network coverage is patchy.
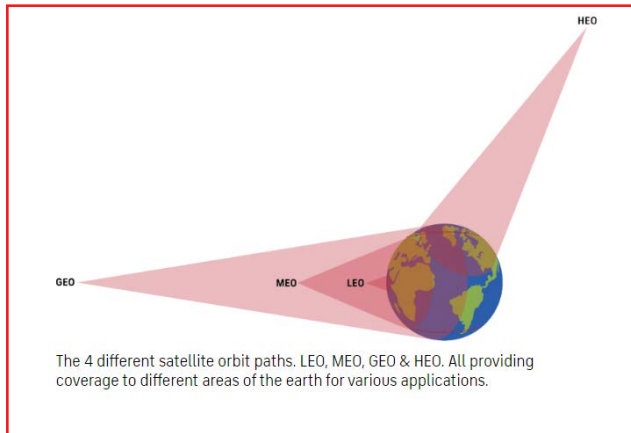
➤ **Types:**
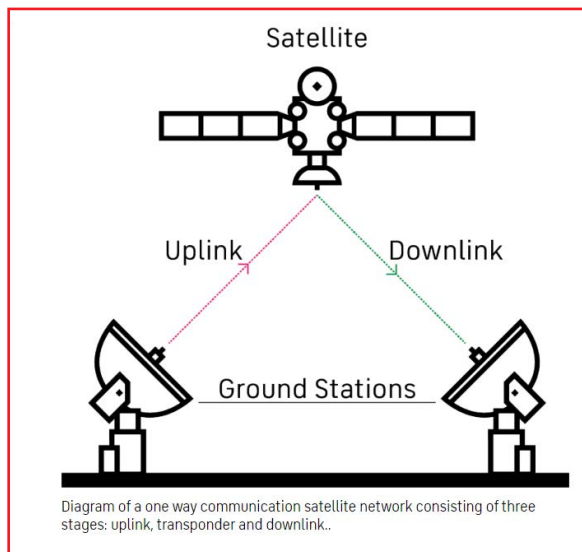  - Based on the orbit, communication satellites fall into **one of four categories:**

- Geostationary Earth orbit (GEO)
- Medium Earth orbit (MEO)
- Low Earth orbit (LEO)

**Highly elliptical orbit (HEO)**



The 4 different satellite orbit paths. LEO, MEO, GEO & HEO. All providing coverage to different areas of the earth for various applications.
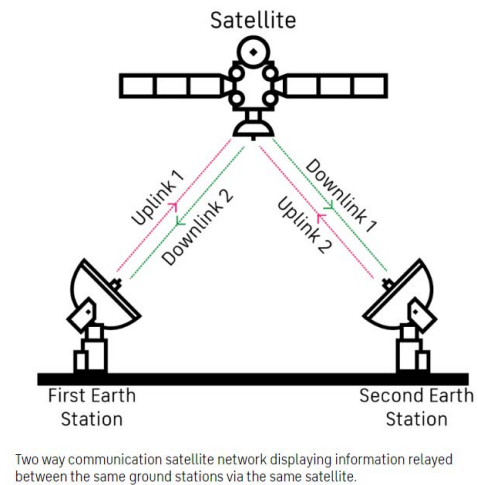
➢ **Working:**

  ❍ Satellite communications use orbiting satellites and ground stations to transmit and relay information via **microwaves** between points on Earth.

  ❍ There are **three stages in the process:**

- Uplink
- Transponder
- Downlink

  ❍ For example, in live television, a broadcaster sends a signal to a satellite (uplink), which then boosts and changes the frequency of the signal (transponder), before sending it back to Earth stations (downlink).



Diagram of a one way communication satellite network consisting of three stages: uplink, transponder and downlink..



Two way communication satellite network displaying information relayed between the same ground stations via the same satellite.

➢ **Current Status of Satcom Services in India:**

  ❍ Even though technology is ready for India, Satcom **services are not yet operational in India** primarily due to pending allocation of satellite bandwidth by the government.

- Recently, Reliance Industries' Jio Platforms has **received approval from India's space regulator, IN-SPACe**, to deploy satellites for gigabit fibre internet services, pending additional clearances from the telecom department to commence operations.

➢ **Target Audience and Services:**

  ❍ Satcom operators plan to target both individual consumers and enterprises.

  ❍ **Starlink is known for its consumer-focused approach** with portable routers, while **Airtel and Reliance Jio are looking at both consumer and enterprise markets.**
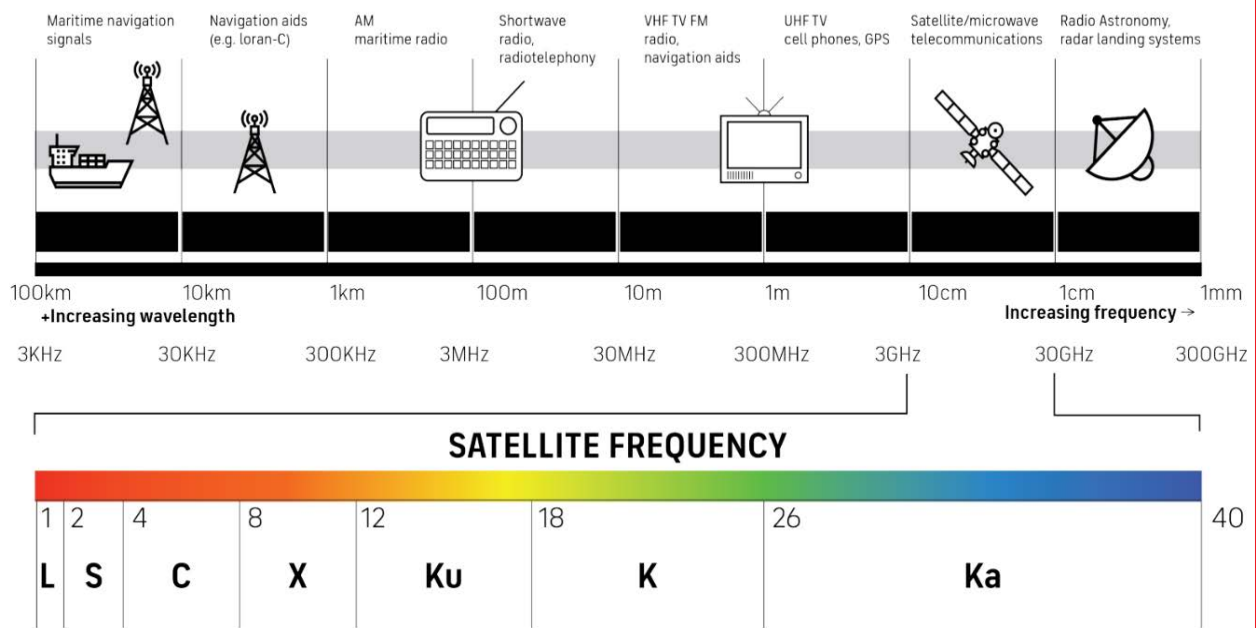
➢ **Technological Readiness**:

  ❍ **Device compatibility is an issue** as specialised antennas are required to receive satellite signals. This adds to the cost for consumers.

  ❍ Moreover, **mainstream integration** of satellite receivers in consumer devices has been **limited** so far, despite efforts by companies like Apple and Qualcomm.

➢ **Challenges and Limitations**:

  ❍ Satcom services face challenges such as **high setup costs**, especially for consumer applications.

Note:

Modern satellites support a variety of" beam" types to allow the satellite to focus its power at various levels to locations.



Chart of the Radio Frequency spectrum (RF) displaying the different frequency bands and relevant applications used within satellite communication networks

○ The **cost of equipment, including specialised antennas**, remains a barrier. Pricing is another concern as satcom services are perceived as expensive compared to terrestrial broadband.

➢ **Future Outlook**:

○ The future of satcom in India **hinges on regulatory approvals**, technological advancements, and addressing cost concerns. The entry of new players like Project Kuiper could potentially intensify competition and innovation in the market.

# Global INDIAai Summit

### *Why in News?*

The **Global INDIAai Summit,** held at **Bharat Mandapam** in New Delhi, has concluded successfully. This landmark event brought together experts, policymakers, and enthusiasts to discuss the future of **Artificial Intelligence (AI) in India and globally**.

➢ In another development, the **International Monetary Fund (IMF)** has launched an **Artificial Intelligence Preparedness Index (AIPI) Dashboard,** tracking the AI readiness of 174 economies globally.

### *What are the Key Highlights and Outcomes of the Summit?*

➢ **Global AI Discourse:** India set the global discourse by emphasising the government's intent to make AI accessible to all, regardless of socio-economic background.

○ Discussions highlighted India's unique needs in shaping its AI discourse, focusing on meeting **domestic demands while aiming for global AI leadership.**

○ The summit provided a platform for **Global South countries** to express their AI-related concerns and aspirations, with many acknowledging India's role in bridging the gap with the Global North.

➢ **INDIAai Mission Focus:** The summit demonstrated India's commitment to building a robust and **inclusive AI ecosystem through the INDIAai Mission.**

○ Sessions focused on the mission's core areas, including **compute capacity, foundational models, datasets, application development, future skills, startup financing, and safe AI.**

○ Discussions covered various implementation aspects, such as developing **multi-Large Language Models(LLM) models** to meet India's diverse needs,

Note:

platformization and standardisation of AI-ready data, and creating a partner ecosystem with a multi-stakeholder approach.

➤ **Global Partnerships:**

○ **CAIGP:** The **Collaborative AI on Global Partnership (CAIGP)** brought together **Global Partnership on Artificial Intelligence (GPAI)** members, AI experts to identify mechanisms to overcome the global AI divide.

● GPAI is a multi-stakeholder initiative with **29 member countries including India,** which aims to bridge the gap between theory and practice on AI by supporting cutting-edge research and applied activities on AI-related priorities.

● **India is the lead chair of GPAI in 2024.** As GPAI's Lead Chair, India is convening global AI experts to discuss key issues and promote trustworthy AI.

○ **GPAI Consensus:** Members reached a **consensus on the future vision of GPAI,** emphasising the transformative potential of AI, acknowledging risks, and committing to human-centric AI development.

○ **OECD-GPAI Partnership:** A new integrated partnership on AI was announced between the **Organisation for Economic Co-operation and Development (OECD)** and GPAI in New Delhi, strengthening international cooperation. It has significant implications, especially for India and other non-OECD member countries.

● India strategically secured GPAI's independent identity alongside OECD members, maintaining its relevance in global AI governance discussions.

● However, the trade-offs included the secretariat remaining with the **OECD despite India's push for independence, and non-OECD GPAI members participating equally but under OECD's administrative oversight.**

➤ **Startup Ecosystem Support:** Rs. 2,000 crore from the INDIAai Mission's Rs 10,372 crore outlay was earmarked to support Indian startups developing indigenous AI-based solutions.

○ Plans were discussed to provide subsidised access to **GPU infrastructure for startups,** addressing the critical need for compute power in AI development.

○ The summit highlighted strategies to resolve key issues faced by AI startups, including access to datasets, skill development, and fostering innovation.

➤ **AI Education:** Stressed the need for curated, age-appropriate AI learning environments to foster widespread **AI literacy.**

➤ **Sector-Specific Insights:** The summit explored AI applications in **India's AgriStack,** **data-driven credit disbursement** to farmers, and the use of AI for timely agricultural information collection and decision-making.

○ Discussions covered legal frameworks and dataset platforms in India, emphasising the **importance of data management in governance**. The integration of AI in government services was also addressed, focusing on improving efficiency and citizen services.

➤ **Ethical and Human-Centric AI:** The summit reaffirmed the collective commitment to **fostering trustworthy and human-centric AI development.**

○ Participants recognized the emerging risks and challenges posed by AI systems, emphasising the need for responsible development. The summit recalled commitments to the **OECD Recommendation on AI** and the **UNESCO Recommendation on the Ethics of AI.**

● UNESCO adopted the Recommendation on the Ethics of AI with a focus on **protecting human rights and dignity.**

➤ The recommendation emphasises transparency, fairness, and human oversight of AI systems. It also includes Policy Action Areas for policymakers to implement the core values and principles in areas such as data governance, environment, gender, education, research, health, and social wellbeing.

### *What is the Artificial Intelligence Preparedness Index (AIPI)?*

➤ AIPI evaluates countries based on their **digital infrastructure, human capital, labour policies, innovation, integration, and regulation.**

○ Countries with advanced digital infrastructure tend to score higher on the Index. Availability of skilled workforce and educational systems supporting AI skills are crucial factors.

➤ The AIPI Dashboard categorises countries into **Advanced Economy (AE), Emerging Market Economy (EM), and Low-Income Country (LIC).**

○ Singapore (0.80), Denmark (0.78), and the United States (0.77) are among the highest-rated AEs. **India is ranked 72nd with a rating of 0.49, categorized as an EM.**

Note:

○ India's performance is relatively strong among emerging market economies but lags behind some of its regional peers like China (0.63) at 31st.



AI Preparedness Index
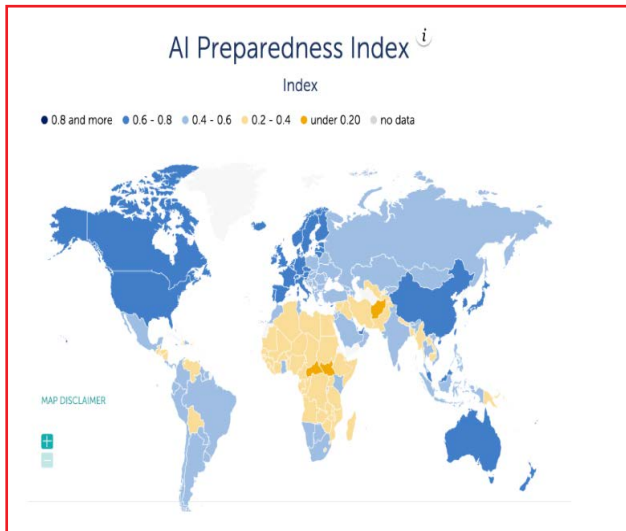
**International Monetary Fund**

➢ The IMF, headquartered in **Washington, DC,** is an organisation of 190 member countries, including **India as a founding member,** with representation based on financial importance.

➢ Its objectives include **fostering global monetary cooperation, securing financial stability, promoting international trade**, and reducing poverty.

➢ The IMF's history dates back to the **Bretton Woods conference** in 1944, where it was conceived to avoid economic crises.

➢ Reports: Global Financial Stability Report, and World Economic Outlook.

# Development of Polio Vaccines

## Why in News?

The wild poliovirus is beginning to reappear in big cities in **Afghanistan** and **Pakistan,** due to **vaccine hesitancy, misinformation, conflict, poverty**, and **limited access** to these isolated regions.

➢ As a result, the **World Health Organization**'s Global Polio Eradication Initiative is set to **miss its deadline of eradicating polio by the end of 2024.**

➢ The two vaccines namely **Inactivated Polio Vaccine (IPV) and Oral Polio Vaccine (OPV)** have helped in nearly eradicating polio from the world.



**What is polio**

- Poliomyelitis (polio) is a highly infectious viral disease, mainly affecting children
- According to WHO, the virus is transmitted from person-to-person, mainly through the faecal-oral route

**STRAINS**
- There are three types of polio virus strains — P1, P2 and P3
- P2 was eradicated globally in 1999
- India attained a polio free status in 2014 after successfully eliminating the wild P1 and P3 strains

**VACCINATION SCHEDULE**
**OPV:** At 6 weeks, 10 weeks and 14 weeks
**IPV:** At 6 weeks and 14 weeks
**OPV booster:** Between 16 and 24 months

## What is the History of the Development of Polio Vaccines?

➢ The development of the 2 polio vaccines - the **Inactivated Polio Vaccine (IPV)** by **Jonas Salk** and the **Oral Polio Vaccine (OPV)** by **Albert Sabin** was a result of several key breakthroughs:

○ **Culturing the Poliovirus in Non-Nerve Cells:**

• In 1948, microbiologists discovered a method to grow the poliovirus in **human muscle** and **skin cells**, rather than just in nerve cells as was previously believed.

• This allowed for the **mass production of the poliovirus**, which was crucial for vaccine research and development.

○ **Development of the Inactivated Polio Vaccine (IPV):**

• **Jonas Salk** developed the **first successful polio vaccine** by **growing the poliovirus**, **inactivating** it and injecting it into test subjects.

• The IPV generated systemic immunity, as it was **introduced into the muscle.**

○ **Development of the Oral Polio Vaccine (OPV):**

• Albert Sabin developed the OPV, which contained **live, weakened poliovirus strains** that were **administered orally**.

• The OPV induced a **powerful protective mucosal immune response** in the gut, where the virus begin its infection.

Note:

**Note:**

➢ The immune system has 2 main parts: the **systemic** (including the blood, brain, and other organ systems) and the **mucosal** (including the inner linings of the digestive and respiratory systems, urogenital tract, and eyes).

❍ Mucosal components are lined with **mucous membranes** for additional protection due to frequent contact with the external environment.

### *What are Advantages and Disadvantages of IPV and OPV?*

| Inactivated Polio Vaccine (IPV) | Oral Polio Vaccine (OPV) |
|---|---|
| **Advantages:** | **Advantages:** |
| ➢ IPV is made from **killed or inactivated poliovirus**, which means it cannot cause the disease. | ➢ OPV is **less expensive to produce and administer** compared to IPV. |
| ➢ **IPV is safe for use in immunocompromised individuals**, as it does not contain live virus. | ➢ OPV only requires a single or a few doses to provide effective immunity. |
| ➢ IPV **provides long-lasting immunity** and does not require multiple doses to maintain protection. | ➢ OPV can **provide better mucosal immunity,** which helps to interrupt the transmission of the virus. |
| **Disadvantages:** | **Disadvantages:** |
| ➢ IPV is more expensive to produce and administer compared to OPV. | ➢ OPV contains live, weakened poliovirus, which in rare cases can mutate and **cause vaccine-derived poliovirus (VDPV) outbreaks.** |
| ➢ IPV requires multiple doses (usually a series of 2-4 shots) to achieve full immunity. | ➢ OPV is **not recommended for** use in **immunocompromised individuals**, as the live virus can pose a risk. |
| ➢ IPV does not provide the same level of mucosal immunity as OPV, which can limit its ability to interrupt the transmission of the virus. | ➢ OPV-derived **immunity may not be as long-lasting as IPV-derived** immunity. |

**Note:** The world has utilised both vaccines in the fight against polio.

➢ Some countries, such as **Norway, Sweden, Finland,** and **Iceland,** relied exclusively on the **IPV**.

➢ **Most countries,** however, used a **combination of the two vaccines**.

❍ These countries preferred the **OPV for its superior protection** and ease of administration, and then **switched to the IPV** when the number of natural polio cases drops to zero.

### *What are the Key Facts about Polio?*

➢ **Polio *(poliomyelitis)*** is a highly infectious **viral disease** that enters the body through the **mouth**, **multiplying in the intestine** before invading the **nervous system.**

➢ It mainly affects children **under 5 years** of age.

❍ The incubation period for poliovirus is usually **7–10 days**, but it can range from 4–35 days.

➢ Initial symptoms of poliovirus infection include **fever, fatigue, headache, vomiting, stiffness** in the neck, and **pain** in the limbs.

❍ Up to **90%** of those infected with poliovirus experience **no or mild symptoms,** often going unrecognised.

➢ One in 200 infections leads to permanent **paralysis** of the legs, which can occur within a few hours of infection.

❍ **5-10% of those paralyzed by polio virus die** when their breathing muscles become immobilised.

➢ The virus is **shed by infected people, usually children, through faeces**, and can spread quickly in areas with poor hygiene and sanitation systems.

Note:

drishti

➤ Cases due to wild poliovirus have **decreased by over 99% since 1988**, from an estimated **350 000 cases** in more than 125 endemic countries, to just 2 endemic countries **Afghanistan** and **Pakistan** (as of October 2023).

➤ **India** received **polio-free certification** by the WHO **in 2014**, after three years of zero cases.

### What are the Measures Taken to Eradicate Polio?

➤ **Global:**
  ○ **Global Polio Eradication Initiative:** It was launched in **1988** by national governments and spearheaded by the WHO, Rotary International, the United States Centers for Disease Control and Prevention (CDC), and the United Nations Children's Fund (UNICEF).
  ○ **World Polio Day:** It is observed every year on **24th October** in order to call on countries to stay vigilant in their fight against the disease.

➤ **India:**
  ○ **Pulse Polio Programme:**
  ○ **Intensified Mission Indradhanush 2.0**
  ○ **Universal Immunization Programme (UIP):** It was launched in **1985** with the modification to **'Expanded Programme of Immunization (EPI)**. The objectives of the Programme include:
    ● Rapidly increasing immunisation coverage, Improving the quality of services, Establishing a reliable cold chain system to the health facility level, Introducing a district-wise system for monitoring of performance, Achieving self-sufficiency in vaccine production.

## DBS Brain Implant Surgery for Epilepsy Treatment

### Why in News?

Recently, a UK-based teenager has become the first person in the world to be fitted with a **brain implant device** to help bring his **epileptic seizures** under control.

➤ The **Deep Brain Stimulation (DBS)** device was inserted in his skull which reduced his daytime seizures by 80%.

### What is Epilepsy Disorder?

➤ **About Epilepsy:**
  ○ It is a **central nervous system (neurological) disorder** in which **brain activity becomes abnormal**, causing seizures or periods of unusual behaviour, sensations, and sometimes loss of awareness.

➤ **Causes:**
  ○ It is caused by **abnormal electrical activity** in the brain.
  ○ The disease has **no identifiable cause** in nearly 50% of the cases. However, **head trauma, tumours in the brain**, some infections like **meningitis**, or even **genetics** can lead to epilepsy.
  ○ It's more common in young children and older adults. It occurs slightly **more in males** than in females.

➤ **Available Treatment of Epilepsy:**
  ○ **Anti-seizure Medications:** These are the first line of treatment, aiming to control seizure frequency and severity..
  ○ **Ketogenic diet:** A **high-fat, low-carbohydrate diet** can be remarkably effective, particularly in children with medication-resistant epilepsy.
  ○ **Epilepsy Surgery:** Doctors can carry out brain surgery to **remove a portion of the brain** where the seizures originate.
  ○ **Corpus Callosotomy:** In this surgical procedure doctors remove **the corpus callosum (a part that connects both halves of the brain)** that will **not allow abnormal electrical signals to travel** from one half of the brain to another, preventing abnormal electrical discharges from spreading and causing seizures.
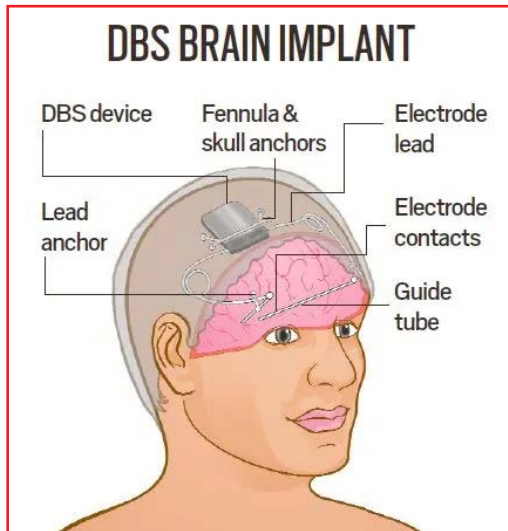
**Note:**
➤ Epilepsy has been recognised by the **World Health Organisation (WHO) as a neurological disorder.**
➤ According to a **2022 Lancet study,** the prevalence of epilepsy in India ranges from **3 to 11.9 cases per 1,000 people**.
➤ Despite the availability of several anti-seizure medications, approximately **30%** of the patients **remain resistant to treatment.**

### What is the DBS Brain Implant Technology to Treat Epilepsy?

➤ **About:**
  ○ **Deep Brain Stimulation (DBS)** involves **implanting a medical device** with electrodes that **deliver mild electrical currents** to **specific brain regions** linked to seizures.
  ○ DBS is considered for patients with **medication-resistant epilepsy**, where traditional medications haven't controlled seizures.

❍ Unlike surgery that removes brain tissue, DBS offers a **more targeted approach** with potentially **fewer side effects.**

## DBS BRAIN IMPLANT

- DBS device
- Fennula & skull anchors
- Electrode lead
- Lead anchor
- Electrode contacts
- Guide tube

➤ **Working:**

❍ The device is a **neurostimulator** that **delivers constant electrical impulses** to the brain to **disrupt or block abnormal seizure-causing signals** in the brain.

❍ **Two electrodes** were inserted deep into the brain, reaching the **thalamus**, a relay station for motor and sensory information. The electrodes are connected to the neurostimulator device.

❍ The device can be **recharged wirelessly** using a headphone.

➤ **Advantages:**

❍ **Effective Seizure Control:** It helps **reduce seizure frequency by around 40%** in some patients.

❍ **Alternative for Complex Epilepsy:** It offers a viable alternative for patients with epilepsy originating from **multiple brain regions**, where **surgery is difficult or impractical**.

❍ **Treatment-Resistant Cases**: It can be a valuable option when **traditional interventions** like medications and dietary modifications **have failed to achieve adequate seizure control.**

➤ **Limitations:**

❍ DBS is **not a guaranteed cure.**

❍ It can be expensive with a total cost can reach around Rs 17 lakh.

❍ DBS **success rates are lower** compared to well-established surgical approaches. **Brain surgery** can achieve **seizure freedom in nearly 90%** of suitable cases.

### NeuraLink (American neurotechnology company)

Neuralink's brain implant aims to **help people with traumatic injuries** control computers using only their **thoughts**.

➤ It aims to significantly **enhance human abilities** by addressing conditions like **Parkinson's Disease.**

**Brainoware:** It integrates **brain organoids** with **microelectrodes** and can be used to **study human brain development** and **brain-related diseases.**

**Read more: Epilepsy.**

■■■

Note:

# Environment and Ecology

## Highlights

- GHGs, Rainfall and Climate Change
- Use of Green Funds for Road Works
- UNESCO Warns of 90% Soil Degradation by 2050
- NTCA's Plan on Relocation of Villages
- Decarbonizing MSME and Energy Sector
- UNESCO Designates 11 New Biosphere Reserves
- Air Pollution and Mortality in Indian Cities
- NITI Aayog Panel for Net-Zero Goal
- New Species of Plants and Animals Discovered

## GHGs, Rainfall and Climate Change

### Why in News?

A recent study has revealed that unprecedented **increase in greenhouse gases** can **decrease rainfall** in the **equatorial region**.

➤ This can further lead to replacement of **India's biodiversity hotspots** consisting of **evergreen forests** in the **Western Ghats, northeast India and the Andamans** into **deciduous forests**.

### What has the Recent Study Revealed?

➤ About:
  ○ The study pointed out the impacts of **increased greenhouse gases**, specifically high levels of atmospheric **carbon dioxide**, on rainfall patterns and vegetation in equatorial regions.
  ○ The study used **fossil pollen** (from **Lignite Mine** of Kutch) and **carbon isotope** data from the **Eocene era** (**54 million years ago, a period of global warming).**
  ○ The study used data from **deep time hyperthermal events** that are considered potential analogs for future climate predictions.
    • **Extreme climate warmth (hyperthermal) events** through **deep-time (geological time)** offer insights into how the Earth may respond to present-day warming related to **greenhouse gas emissions**.
➤ **Impact on Rainfall and Vegetation Shifts**:
  ○ During the Eocene era, when atmospheric $CO_2$ concentrations exceeded 1000 parts per million

by volume (ppmv) near the equator, there was a significant **decrease in rainfall** which led to increase in **deciduous forests**.

➤ **Relevance to Current Climate Change:**
  ○ The study draws parallels between past climatic conditions (Eocene era) and potential future scenarios under **increased greenhouse gas emissions**.
  ○ Insights from the study may contribute to **strategies for mitigating the impacts of climate change** on rainforests and other sensitive ecosystems.

### What is Previous Evidence of Climate Change?

➤ Geological records document alternating periods of **glacial and warmer inter-glacial phases.**

➤ In the distant geological past, approximately **500-300 million years ago** during the **Cambrian, Ordovician, and Silurian periods**, Earth's climate was notably **warmer**.

➤ During the **Pleistocene epoch**, the Earth underwent cycles of glaciation and interglacial periods, with the last major glacial peak occurring around **18,000 years ago**. The current interglacial period began approximately **10,000 years ago.**

➤ The most recent glacial period spanned from about **120,000 to 11,500 years ago**. Since then, Earth has been in the interglacial period known as the **Holocene epoch**.

➤ In regions with high **altitudes and latitudes**, geological features and sediment deposits bear evidence of the advance and retreat of glaciers indicating fluctuations between **warm and cold periods.**

➤ **Glacial periods** are characterised as **colder, dustier, and generally drier** compared to interglacial periods. These

Note:

cycles of glaciation and inter-glacials are discernible in numerous paleoclimate records from both **marine and terrestrial environments** worldwide.

➢ **Interglacial periods** tend to occur during periods of peak solar radiation in the Northern Hemisphere summer.

➢ **Indian Context:**
  ○ India also witnessed alternate **wet and dry periods**.
  ○ Archaeological findings show that the Rajasthan desert experienced **wet and cool climate** around **8,000 B.C.**
  ○ In the period **3,000-1,700 B.C.** the region had higher rainfall after which the dry conditions prevailed.

# Use of Green Funds for Road Works

## Why in News?

The **Central Pollution Control Board (CPCB)** has been using funds meant for tackling **air pollution** to finance road repairs and paving works.

➢ The **National Green Tribunal (NGT)** has expressed concern over this diversion of funds, calling it potentially a "gross misuse and serious financial irregularity."

## What is the Issue of CPCB's Use of Green Funds for Road Works?

➢ **Green Funds in Question:**
  ○ **Environment Protection Charge (EPC):** Collected as a 1% charge on diesel vehicles with an engine capacity of 2000 CC or above in Delhi-NCR, based on a 2016 **Supreme Court** order.
  ○ **Environment Compensation (EC):** Collected from compensation imposed by the NGT and managed by CPCB.
  ○ These funds were created with the **specific purpose of tackling air pollution** and other environmental issues. However, their recent use for road works has led to legal scrutiny.

➢ **CPCB's Justification:** The CPCB argues that road repairs and paving works directly **contribute to reducing dust pollution**, a significant contributor to **poor air quality** in urban areas.
  ○ They claim this funding approach aligns with the **National Clean Air Programme (NCAP) 2019,** which adopts a convergence model for implementing clean air city action plans.

● The CPCB states that it uses these funds as gap funding for air quality improvement projects when they are **not supported by other schemes.**

● The CPCB has highlighted the case of funding allocated Rs 15.9 crore out of Rs 98.9 crore EPC funds to Ghaziabad Municipal Corporation for eight road projects, ensuring no other scheme funded these works.

➢ This allocation, approved by relevant committees, demonstrates CPCB's use of funds for road works to improve air quality.

➢ **NGT's Concerns and Scrutiny:** NGT is concerned about potential misuse and **financial irregularities in diverting air quality improvement funds** to road repairs.
  ○ If CPCB continues this practice, it may lead to other municipal bodies seeking similar allocations, raising fairness and fund utilisation issues.
  ○ The **NGT is yet to decide on the permissibility of using these funds**, this decision will also impact the future use of funds by the CPCB and could influence policy decisions on environmental protection and infrastructure development projects.
  ● Additionally, the issue will be considered in the context of poor air quality in 53 cities, potentially linking it to wider air quality management strategies.

## What are the Key Facts About the Central Pollution Control Board?

➢ **Establishment and Legal Framework:** The CPCB is a statutory organisation constituted in 1974 under the **Water (Prevention and Control of Pollution) Act, 1974.** It was further entrusted with functions under the **Air (Prevention and Control of Pollution) Act, 1981.**
  ○ It also provides technical services to the **Ministry of Environment and Forests under the Environment (Protection) Act, 1986.**

➢ **Principal Functions:**
  ○ **Water Pollution**: Promote cleanliness of streams and wells by preventing, controlling, and abating water pollution.
  ○ **Air Pollution**: Improve air quality by preventing, controlling, or abating air pollution in the country.

➢ **Air Quality Monitoring:**
  ○ **National Air Monitoring Programme (NAMP)**: Established to determine air quality status and trends, control pollution from various sources, and provide data for industrial siting and town planning.

Note:

- **Monitoring Station**: Automatic monitoring station at ITO Intersection in New Delhi regularly monitors: Respirable Suspended Particulate Matter (RSPM), Carbon Monoxide (CO), Ozone ($O_3$), Sulphur Dioxide ($SO_2$), Nitrogen Dioxide ($NO_2$), and Suspended Particulate Matter (SPM).

➤ **Water Quality Monitoring:** The Water (Prevention and Control of Pollution) Act, 1974 aims to maintain and restore the wholesomeness of water bodies. CPCB collects, collates, and disseminates technical and statistical data related to water pollution.

### National Green Tribunal (NGT)

➤ The NGT was established in 2010 under the **National Green Tribunal Act, 2010** for quick resolution of environmental cases, enforcement of legal rights, and providing relief for damages.
  - It has expertise in handling environmental disputes and is not bound by the **Code of Civil Procedure, 1908,** but shall be guided by **principles of natural justice.**

➤ The Tribunal aims to provide speedy environmental justice and reduce the burden on higher courts, with a **mandate to dispose of cases within 6 months.**

➤ The **Tribunal has powers to review its own decisions**. If this fails, the decision can be challenged before the **Supreme Court within ninety days.**

➤ The **Tribunal's Principal Place of Sitting is New Delhi, with Bhopal, Pune, Kolkata, and Chennai as the other four sitting places.**

# UNESCO Warns of 90% Soil Degradation by 2050

### Why in News?

Recently, at an international conference in Agadir, Morocco, **United Nations Educational, Scientific and Cultural Organization (UNESCO)** Director-General urged its 194 Member States to improve soil protection and rehabilitation as the organisation warns that **by 2050, up to 90% of the planet's soil could be degraded.**

➤ This alarming prediction highlights a major threat to global biodiversity and human life.

### What are UNESCO's Insights on Global Soil Degradation?

➤ **Current State of Soil Degradation:** UNESCO states that according to the **World Atlas of Desertification,**

**75% of soils are already degraded, directly affecting 3.2 billion people.** The current trend may increase the impact to 90% by 2050.

➤ **World Soil Health Index:** UNESCO will establish a **'world soil health index'** with international partners to standardise soil quality measurement and comparison.
  - This will help identify trends in degradation or improvement and vulnerable areas, aiming to improve the evaluation of soil management practices.

➤ **Pilot Programme for Sustainable Soil Management:** UNESCO will launch a pilot programme for sustainable soil and landscape management in ten natural sites supported by its **Biosphere Reserves Programme**.
  - The program aims to assess and improve management methods, and promote best practices worldwide.

➤ **Training Programs:** UNESCO will train member government agencies, indigenous communities, and conservation organisations to access soil-protection tools.

### What is Soil Degradation?

➤ **Definition:** Soil degradation is defined as a **change in soil health status** resulting in a diminished capacity of the ecosystem to provide goods and services for its beneficiaries. It **involves biological, chemical, and physical decline in soil quality.**
  - Soil degradation encompasses a broad range of processes that reduce soil health and its ability to function properly within its ecosystem.
  - **It follows the LADA (Land Degradation Assessment in Drylands) definition of land degradation,** highlighting the complexity of degradation processes and their subjective evaluation by different stakeholders.
  - This degradation can manifest through **loss of organic matter, decline in soil fertility, structural damage, erosion,** and adverse changes in salinity, acidity, or alkalinity. It also includes contamination by toxic chemicals, pollutants, or excessive flooding.

➤ **Current State of Soil Degradation:** About **33% of the world's soils are moderately to highly degraded**. This degradation disproportionately affects regions plagued by poverty and food insecurity, with **40% of degraded soils located in Africa**.
  - Approximately **12 million hectares of agricultural soils are lost globally** each year due to degradation.

Note:

- ○ In India, according to the **National Bureau of Soil Survey and Land Use Planning,** 146.8 million hectares, around **30% of the soil in India is degraded.**
  - Of this, around 29% is lost to the sea, 61% is transferred from one place to another, and 10% is deposited in reservoirs.
- ➤ **Causes:** Soil degradation can be caused by various factors such as **physical factors** like rainfall, surface runoff, floods, wind erosion, and tillage.
  - ○ **Biological factors** include human and plant activities that reduce soil quality, while **chemical factors** involve nutrient reduction due to alkalinity, acidity, or waterlogging.
    - The Green Revolution boosted food production but led to significant soil degradation.
  - ○ **Deforestation** exposes soil minerals by removing trees and crop cover, which are vital for soil formation.
  - ○ **Rapid urbanisation** and development projects led to the conversion of land for non-agricultural use, impacting soil quality. Untreated sewage and **industrial waste were released into rivers,** resulting in toxic water with heavy metals that degraded the soil.
    - Mining activities, such as opencast mining, disturbed the water table, contaminated soil and water, and destroyed local flora and fauna. **Many states did not enforce pollution laws,** allowing industries to dump toxic effluent on agricultural land.
- ➤ **Impact:** Degraded soils lead to reduced food production, heightened food insecurity, and diminished ecosystem services.
  - ○ Soil degradation is also a significant environmental issue affecting climate change mitigation and resilience due to its impact on **carbon stocks.**

**Note:**
- ➤ **Land degradation** has a **broader scope than both soil erosion and soil degradation**. It includes all negative changes in the capacity of the ecosystem to provide goods and services, encompassing biological, water-related, social, and economic services.
- ➤ **Desertification** refers to land degradation in **dryland areas** or the irreversible change of land to a state where it can no longer be recovered for its original use.

## What are the Initiatives Related to Management of Soil?

- ➤ **Global:**
  - ○ **Global Soil Partnership (GSP):** The GSP, established in 2012, aims to prioritise soils in the global agenda and promote sustainable soil management.
    - Hosted by the **Food and Agriculture Organization(FAO)** of the United Nations, the Partnership strives to enhance soil governance for productive soils, ensuring food security, climate change adaptation and mitigation, and sustainable development for all.
  - ○ **World Soil Day:** It is celebrated annually on 5th December to raise awareness about the importance of healthy soil and promote sustainable soil management. It was officially adopted by the **68th UN General Assembly 2013,** designating 5 December 2014 as the first official World Soil Day.
  - ○ **Bonn Challenge**: It is a global goal to **bring 150 million hectares of degraded and deforested landscapes into restoration by 2020 and 350 million hectares by 2030.**
    - It was launched by the Government of Germany and **International Union for Conservation of Nature (IUCN)** in 2011, the Challenge surpassed the **150-million-hectare milestone for pledges in 2017.**
  - ○ **Land Degradation Neutrality (LDN):** It is a goal of the **UNCCD (United Nations Convention to Combat Desertification)** to stop and reverse land degradation by 2030.
    - LDN is defined as a state where the **amount and quality of land resources are stable or increasing**, within specific time and space, and support ecosystems, food security, and human well-being:
  - ○ **Sustainable Development Goal 15 :** Goal 15 of the **2030 Agenda** aims to **protect, restore, and promote sustainable use of terrestrial ecosystems**, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.
  - ○ **Recarbonization of Agricultural Soils (RECSOIL)**: It was led by the FAO, and aims to decarbonise global agricultural soils by increasing **soil organic carbon (SOC)** through **sustainable soil management (SSM) practices.**

Note:

➢ **India:**
  ○ Soil Health Management under National Mission for Sustainable Agriculture (NMSA)
  ○ Soil Health Card Scheme
  ○ Paramparagat Krishi Vikas Yojana (PKVY)
  ○ Sub-Mission on Agroforestry (SMAF) Scheme

# NTCA's Plan on Relocation of Villages

## Why in News?

Recently, the National Tiger Conservation Authority (NTCA) has urged state wildlife departments to develop a comprehensive timeline and action plan for the relocation of villages situated within the core tiger habitats.

## What is NTCA's Villages Relocation Plan?

➢ **About Core Areas:**
  ○ **Wildlife Protection (Amendment) Act, 2006** emphasises the need for **undisturbed areas** to support viable tiger breeding populations.
    ● **Core or critical tiger habitats** refer to areas within tiger reserves that are kept untouched to ensure the survival of breeding tiger populations.
  ○ The NTCA's focus is on the **55 notified tiger reserves in India**, where approximately 600 villages (64,801 families) currently reside within **core tiger habitats.**
➢ Voluntary Village Relocation Program (VVRP):
  ○ **Voluntary Village Relocation Program (VVRP)** has twin objectives of **empowering the local communities** by giving access to development opportunities and **creating inviolate space for tigers** so that both can **co-occur in harmony.**
    ● Relocations must be **voluntary** and based on the informed consent **of gram sabhas and families involved and Forest rights of Scheduled Tribes and other forest dwellers** must be recognised and settled.
  ○ **Compensation:** Families can choose between **financial compensation (Rs 15 lakh per family) or a resettlement package** (including land, housing, and basic amenities).
  ○ **Issues With Relocation Plan:** The NTCA's relocation package falls short of the legal standards set by the **Land Acquisition Act, 2013**.

● NTCA does not comply with the legal requirement of the **Land Acquisition Act, 2013**, which has special provisions to provide resettlement and rehabilitation to ST communities and forest dwellers.

### Project Tiger

➢ **Project Tiger** is a wildlife conservation initiative in India that was launched in **1973.**
➢ The primary objective of Project Tiger is to ensure the **survival and maintenance of the tiger population** in their natural habitats by creating dedicated **Tiger Reserves**.
➢ Starting with only **nine reserves**, the project marked a paradigm shift in wildlife conservation efforts. By 2024, it had **grown to 55 reserves in different states, totalling 2.38% of India's land area.**
➢ The unreliable pug-mark method of the first **tiger census** in 1972 gave way to more accurate techniques like the **camera-trap method.**



WILDLIFE CONSERVATION INITIATIVES

**Constitutional Provisions for Wildlife**

**42nd Amendment Act, 1976:** Forests & Protection of Wild Animals and Birds (moved from State to Concurrent List)

**Article 48 A:** State shall endeavor to protect & improve environment and safeguard forests and wildlife of country

**Article 51 A (g):** Fundamental duty to protect & improve natural environment including forests and Wildlife

**Legal Frameworks**
Wildlife (Protection) Act, 1972
Biological Diversity Act, 2002

**Major Conservation Initiatives**

**Integrated Development of Wildlife Habitats (IDWH):**
⊕ Financial assistance provided to State/UT Governments for protection and conservation of wildlife
⊕ A Centrally Sponsored Scheme
**National Wildlife Action Plan (2017-2031)**
**Guidelines for Eco-tourism in Protected Areas**
**Human-Wildlife Conflict Mitigation**
**Wildlife Crime Control Bureau:** To combat wildlife-related crimes
**Wildlife Division (MoEFCC):**
⊕ Policy and law for conservation of biodiversity and Protected Area network
⊕ Technical and financial support to the State/ UTs under IDHW, Central Zoo Authority and Wildlife Institute of India

**Wildlife Crime Control Bureau (WCCB):** Collection, collation of intelligence & its dissemination, establishment of centralized Wild Life crime databank, coordination etc.
**Wildlife Crime Control:**
⊕ Operation Save Kurma
⊕ Operation Thunderbird

**Species-Specific Initiatives**
Protection and conservation of Greater Adjutant in Gangetic riverine tract
Dolphin Conservation in Non-Protected Area Segment of Ganga River
Conservation Breeding Centre for Wild water buffalo (2020)
Recovery programme for Snow leopard (2009)
Recovery programme for Vultures (2006)
Project Elephant (1992)
Project Tiger/National Tiger Conservation Authority (NTCA) (1973)

**India's Collaboration with Global Wildlife Conservation Efforts**
⊕ Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
⊕ Convention on the Conservation of Migratory Species of Wild Animals (CMS)
⊕ Convention on Biological Diversity (CBD)
⊕ World Heritage Convention
⊕ Ramsar Convention
⊕ The Wildlife Trade Monitoring Network (TRAFFIC)
⊕ United Nations Forum on Forests (UNFF)
⊕ International Whaling Commission (IWC)
⊕ International Union for Conservation of Nature (IUCN)
⊕ Global Tiger Forum (GTF)

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**Read more: Wildlife Protection Act, 1972, Forest Rights Act, National Tiger Conservation Authority**
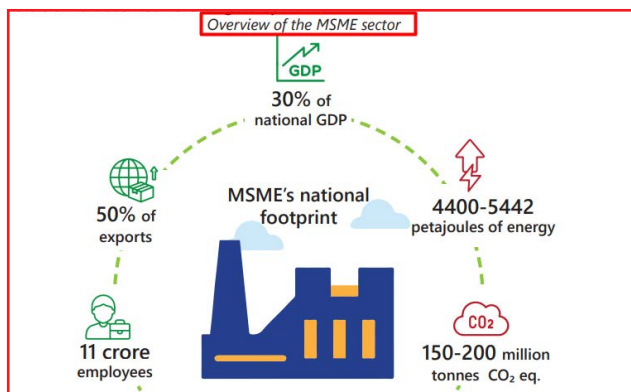
Note:

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# Decarbonizing MSME and Energy Sector

## *Why in News?*

Recently, a study on <u>decarbonisation</u> of 7 <u>MSME</u> clusters (Alathur, Asansol-Chirkunda, Bengaluru, Delhi-NCR, Coimbatore, Ludhiana and Tiruppur) has revealed that **adopting renewable energy solution**s and **energy efficient measures** could lead to significant annual savings and reduction in emissions of $CO_2$.

➢ It covered sectors such as **pharmaceuticals, refractories, aluminium die-casting, bakeries** and **textiles units** across these clusters.



*Overview of the MSME sector*

**MSME's national footprint**

- **GDP** 30% of national GDP
- 50% of exports
- 4400-5442 petajoules of energy
- 11 crore employees
- 150-200 million tonnes $CO_2$ eq.

**Note:**

➢ **'Decarbonisation'** refers to the process of **reducing 'carbon intensity'**, **lowering the amount of** <u>greenhouse gas emissions</u> produced by the burning of fossil fuels.

## *What are the Key Findings of the Study on MSMEs?*

➢ **Key Findings:**
  - ○ **MSME Energy Consumption:** Approximately **31% of MSMEs** are in the **manufacturing sector,** contributing **20%-25% of the country's industrial energy use**.
    - Over **80% of this energy is needed for thermal processes,** such as heating in boilers and furnaces.
  - ○ **Initial Investment & Cost Saving:** Adopting energy efficient measures, renewable energy solutions in 7 key **MSME** clusters would require **investment of Rs 90 crore** and this could annually lead to cost savings of **Rs 37 crore**.

- ○ **Emission Reduction:** Decarbonising these sectors would also lead to **reduction of 1,36,581 tonnes of CO2 emissions.**

➢ **Recommendations:**
  - ○ **Improve Access to Finance**: Offer affordable, **collateral-free financing** for MSMEs by reviewing loan eligibility, building capacity for financial institutions, and exploring carbon financing options.
  - ○ **Tailor MSME Policies**: Set emission reduction targets, support energy audits, R&D, pilots, and financing for energy efficiency and renewable energy.
  - ○ **Develop Biofuel Ecosystem**: Expand biomass policies, include biodiesel in government schemes, and facilitate bio-CNG sales.
  - ○ **Increase Renewable Energy Use**: Promote <u>rooftop solar</u> and open-access systems by rationalising charges, aggregating demand, and **utilising cluster development schemes.**
  - ○ **Regulatory Incentives**: Provide incentives for MSMEs to switch to cleaner fuels, simplify clean fuel adoption, and monitor **Scope 3 emissions**.
    - **Scope 3 Emission:** Indirect emissions that are a consequence of the company's activities (upstream and downstream of the manufacturing site).



*Scenarios considered in this study*

- **Business as Usual (BAU):** Without any interventions
- **Energy Efficiency (EE):** Implementation of EE measures for existing equipment
- **Energy Efficiency with Renewables (EE + RE):** Use of EE measures and renewables for electricity generation
- **Advanced Technologies (EE + RE + AT):** Implementation of EE + RE measures and advanced decarbonisation technologies (such as use of clean fuels and process electrification)

### Challenges in Decarbonising the Energy Sector in India

➢ **Target and Current State:** India aims to decarbonise its energy sector and increase the share of natural gas to **over 20% by 2030**.
  - ○ **Natural gas currently comprises less than 6%** of India's energy mix, in contrast to over **35% in the US** and **20% in China**.

➢ Key Challenges in Expanding Natural Gas Infrastructure:
  - ○ **Regulatory Uncertainty and interventions:** Government interventions in the natural gas sector, including **price caps, limitations on <u>LNG</u> terminal expansion,** and **restrictions on city gas distribution networks**, are creating uncertainty for investors and hindering the country's goal of expanding natural gas use.

Note:

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○ **Underutilisation of Existing LNG Import Capacity:** Despite a 17% increase in LNG imports, the **utilisation** of India's 6 LNG import facilities was **below 30%** in FY 2023-24.

○ **Understaffing and Lack of Expertise at the Regulator (PNGRB):** The **Petroleum & Natural Gas Regulatory Board (PNGRB)** has functioned with **low staff and diminishing board strength** in recent years which has led to delays in approvals and introduction of new gas market mechanisms.

○ **Transition from Coal to Gas:** India's energy mix is still **dominated by coal (over 50%)** compared to **natural gas (less than 6%)** making the transitioning of a large energy system a challenging task.

# UNESCO Designates 11 New Biosphere Reserves

## Why in News?

Recently, UNESCO has approved the designation of **11 new Biosphere Reserves (BR)** in 11 countries.

➢ The **World Network of Biosphere Reserves** thus now comprises **759 sites** across **136 countries.**

## What are the New Additions to the UNESCO Biosphere Reserve List?

➢ Kempen-Broek Transboundary Biosphere Reserve (Belgium, Kingdom of the Netherlands)

➢ Darién Norte Chocoano Biosphere Reserve (Colombia)

➢ Madre de las Aguas Biosphere Reserve (Dominican Republic)

➢ Niumi Biosphere Reserve (Gambia)

➢ Colli Euganei Biosphere Reserve (Italy)

➢ Julian Alps Transboundary Biosphere Reserve (Italy, Slovenia)

➢ Khar Us Lake Biosphere Reserve (Mongolia)

➢ Apayaos Biosphere Reserve (Philippines)

➢ Changnyeong Biosphere Reserve (Republic of Korea)

➢ Val d'Aran Biosphere Reserve (Spain)

➢ Irati Biosphere Reserve (Spain)

## What is a Biosphere Reserve?

➢ **About:**

○ It is an international designation by the **United Nations Educational, Scientific and Cultural Organization (UNESCO)** for representative parts of **natural and cultural landscapes** extending over a large area of terrestrial or coastal/marine ecosystems or a combination of both.

○ Biosphere Reserves tries to **balance economic and social development** and maintenance of associated cultural values along with the **preservation of nature.**

○ These are special environments for both people and nature and are living examples of how **human beings and nature can co-exist while respecting each other's needs.**

➢ **Criteria for Designation of BR:**

○ A site must contain a **protected and minimally disturbed core area** of value of nature conservation.

○ The core area must be a **bio-geographical unit** and should be large enough to sustain a **viable population representing all trophic levels**.

○ The **involvement of local communities** and use of their knowledge in biodiversity preservation.

○ Area's potential for preservation of traditional tribal or rural modes of living for harmonious use of the environment.

➢ **Functions of BR:**

○ **Conservation:** Managing Biosphere Reserve's genetic resources, endemic species, ecosystems, and landscapes.

● Along with the wildlife, culture and customs of tribals are also protected.

○ **Development:** Promoting economic and human growth that is sustainable on a sociocultural and ecological level.

● It seeks to strengthen the 3 pillars of sustainable development which are **social, economic and protection of the environment.**

○ Logistic support:

● Promoting **research activities, environmental education, training and monitoring** in the context of local, national and international conservation and sustainable development.

## What is the Biosphere Reserve Project?

➢ The Government of India started the Biosphere Reserve scheme in **1986.**

○ This is guided by the **UNESCO MAB programme,** as India is a signatory to the landscape approach supported by MAB.

Note:

- Under this scheme, **financial assistance** is provided in a **90:10 ratio to the North Eastern Region States** and **3 Himalayan states**, and in a **60:40 ratio to other states** for the maintenance, improvement, and development of certain items within the biosphere reserves.

- The **State Government** prepares the **Management Action Plan** for the biosphere reserves, which is then approved and monitored by the Central MAB Committee.

- This scheme is implemented by the **Ministry of Environment, Forest and Climate Change.**

## *What are the 3 Zones of Biosphere Reserve?*

- **Core:**
  - ○ It is the **most protected area** of a biosphere reserve. It may contain **endemic plants and animals.**
  - ○ They conserve the **wild relatives of economic species** and also represent **important genetic reservoirs** having exceptional scientific interest.
  - ○ A core zone is a **protected region**, like a **National Park or Sanctuary**/protected/regulated mostly under the **Wildlife (Protection) Act, 1972.**
  - ○ It is kept **free from human** interference.

- **Buffer Zone:**
  - ○ It **surrounds the core zone,** and its activities are managed such that it help in the **protection of the core zone** in its natural condition.
  - ○ It includes **restoration, limited tourism, fishing, grazing**, etc., which are permitted to reduce its effect on the core zone.
  - ○ **Research and educational activities** are to be encouraged.



The three zones that characterise a Biosphere Reserve are

- Core area
- Buffer zone
- Transition area
- Human settlements
- Research station
- Monitoring
- Education / training
- Tourism / recreation
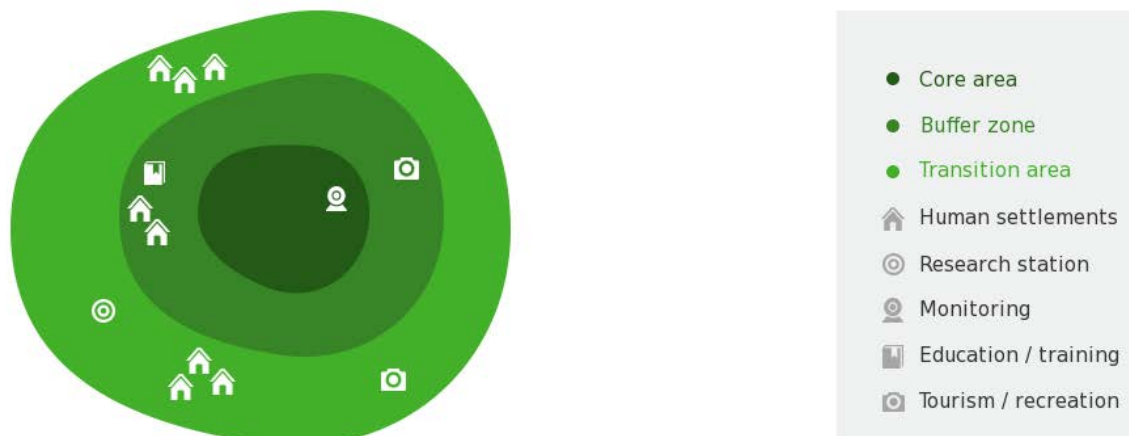
- **Transition Zone:**
  - ○ It is the **outermost** part of the BR. It is the **zone of cooperation** where human ventures and conservation are done in harmony.
  - ○ It includes **settlements, croplands, managed forests** and areas for intensive **recreation and other economic uses** characteristics of the region.

## *What are the Biosphere Reserves in India?*

- As of 2024, India has **18 notified biosphere reserves** in India (**12** recognized by UNESCO's MAB).

Note:

| S.No. | Year of Notification | Name | State | Area (in Sq Km) | Is MAB Recognised ? |
|---|---|---|---|---|---|
| 1 | 1986 | Nilgiri Biosphere Reserve | Tamil Nadu (2537), Kerala (1455), Karnataka (1527) | 5520 | Yes |
| 2 | 1988 | Nanda Devi Biosphere Reserve | Uttarakhand | 5860 | Yes |
| 3 | 1988 | Nokrek Biosphere Reserve | Meghalaya | 820 | Yes |
| 4 | 1989 | Gulf of Mannar Biosphere Reserve | Tamil Nadu | 10500 | Yes |
| 5 | 1989 | Sundarbans Biosphere Reserve | West Bengal | 9630 | Yes |
| 6 | 1989 | Manas Biosphere Reserve | Assam | 2837 | No |
| 7 | 1989 | Great Nicobar Biosphere Reserve | Andaman and Nicobar Islands | 885 | Yes |
| 8 | 1994 | Similipal Biosphere Reserve | Odisha | 4374 | Yes |
| 9 | 1997 | Dibru-Saikhowa Biosphere Reserve | Assam | 765 | No |
| 10 | 1998 | Dihang-Dibang Biosphere Reserve | Arunachal Pradesh | 5112 | No |
| 11 | 1999 | Pachmarhi Biosphere Reserve | Madhya Pradesh | 4982 | Yes |
| 12 | 2000 | Khangchendzonga Biosphere Reserve | Sikkim | 2620 | Yes |
| 13 | 2001 | Agasthyamalai Biosphere Reserve | Kerala, Tamil Nadu | 3500 | Yes |
| 14 | 2005 | Achanakmar-Amarkantak BR | Madhya Pradesh, Chhattisgarh | 3835 | Yes |
| 15 | 2008 | Great Rann of Kutch BR **(Largest Area)** | Gujarat | 12454 | No |
| 16 | 2009 | Cold Desert Biosphere Reserve | Himachal Pradesh | 7770 | No |
| 17 | 2010 | Seshachalam Hills Biosphere Reserve | Andhra Pradesh | 4755 | No |
| 18 | 2011 | Panna Biosphere Reserve | Madhya Pradesh | 543 | Yes |

### *What is the International Status of Biosphere Reserve?*

➢ UNESCO has introduced the designation **'Biosphere Reserve'** for natural areas to minimise conflict between development and conservation.

Note:

➢ Biosphere Reserves are nominated by the national government which meets a minimal set of criteria under the **Man and Biosphere (MAB) Reserve Program** of UNESCO.

➢ Total number of **World Network of Biosphere Reserves** is **759** located in **136 countries** and covers a total of **7,442,000 square kilometers**.

➢ There are about **275 million people** living in biosphere reserves worldwide.

➢ There are a total **12 BR of India** recognized internationally under **MAB Reserve Programme.**

| **Man and Biosphere Programme (MAB)** |
|---|
| ➢ It was initiated by **UNESCO** in **1971**. |
| ➢ It is an **intergovernmental scientific programme** that aims to establish a scientific basis for the improvement of **relationships between people and their environments**. |
| ➢ MAB integrates **natural and social sciences, economics, and education** to enhance human well-being, ensure fair distribution of benefits, and preserve natural and managed ecosystems. |
| ➢ This **promotes creative and culturally suitable approaches to economic development** that are environmentally sustainable. |



# Biosphere Reserves in India

COLD DESERT
Himachal Pradesh

*NANDA DEVI
Uttarakhand

*KHANGCHENDZONGA
Sikkim

DEHANG-DIBANG
Arunachal Pradesh

DIBRU-SAIKHOWA
Assam

MANAS
Assam

*NOKREK
Meghalaya

*PANNA
Madhya Pradesh

KACHCHH
Gujarat

*PACHMARHI
Madhya Pradesh

*ACHANAKAMAR-AMARKANTAK
Madhya Pradesh and Chhattishgarh

*SUNDERBANS
West Bengal

*SIMLIPAL
Odisha

SESHACHALAM HILLS
Andhra Pradesh

*NILGIRI
Tamil Nadu,
Kerala and Karnataka

*AGASTHYAMALAI
Kerala

*GULF OF MANNAR
India and Sri Lanka

*GREAT NICOBAR
Andaman and Nicobar

**NOTE**
- The idea of 'Biosphere Reserves' was initiated by UNESCO in 1973-74 under its Man and Biosphere (MAB) Programme.
- A scheme called Biosphere Reserve is being implemented by Government of India since 1986.
- India has 18 biospheres reserves, of which 12 have been included in the MAB Programme. Panna (Madhya Pradesh) was included in MAB in 2020.
- Mura-Drava-Danube (MDD) is the world's first 'five-country biosphere reserve' (Austria, Slovenia, Croatia, Hungary and Serbia).

*World Network of Biosphere Reserve (MAB-UNESCO)

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Note:

# Air Pollution and Mortality in Indian Cities

## Why in News?
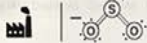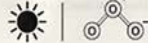
Recently, Lancet has published a **first multi-city study** examining the relationship between short-term **air pollution (PM2.5) exposure** and **mortality** in 10 major cities of India between 2008 and 2019.

## What are the Key findings of the Study?

➢ **Air Pollution Causing Death:** The study revealed that over **33,000 deaths** (approximately **7.2%** of total mortalities) could be attributed to air pollution **annually** across the 10 investigated cities.

➢ **Highest Mortality Burden:** Delhi, exhibited the **most severe air pollution**, with a staggering **11.5%** (12,000 deaths) of annual deaths linked to air pollution.

➢ **Shimla Lowest Mortality:** Shimla emerged as the city with the **lowest mortality burden attributable to air pollution,** with only **59 deaths** (constituting 3.7% of total deaths) annually.

➢ **Chronic Exceedance of Safe Air Quality Standards:** There has been a persistent violation of established air quality standards. **PM2.5** concentrations consistently exceeded the **World Health Organization's (WHO)** safe limit (**15 µg/m³**) on an alarming **99.8% of the days** analyzed.

➢ **Deteriorating Health with Increasing Pollution Levels:** Every 10 µg/m³ increase in PM2.5 concentration demonstrably resulted in a **1.42% rise** in mortality across the ten cities.
  ○ Cities with comparatively **lower pollution levels,** such as Bengaluru

and Shimla, exhibited a **heightened susceptibility to mortality** increases with even incremental rises in PM2.5 concentrations.



**Read More: Advancing Air Pollution Control in India, World Air Quality Report 2023**

Note:

# NITI Aayog Panel for Net-Zero Goal

## Why in News?

Recently, **NITI Aayog** has formed **dedicated multi-sectoral committees** to prepare a **policy design** and **create a roadmap** for achieving its goal of becoming a **net-zero** **economy by 2070**.

➢ This has been started 3 years after India declared its goal to become a **net-zero economy by 2070.**

# INDIA'S CLIMATE PROFILE

## Sector-wise Contribution

↪ **Key Emitting Sectors:** Energy, Transportation, Construction



- Energy 75.01%
- Industrial Process 7.98%
- Agriculture 14.37%
- Waste 2.65%
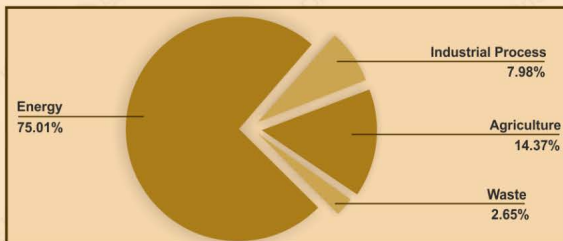
↪ **Key Climate Risks:** Floods, Droughts, Heat Waves, Cold Waves and Cyclones

↪ **Vulnerable Sectors:** Agriculture & Food, Water, Coastal, Health, Forests & other natural ecosystems

## Key Initiatives for Tackling Climate Change

↪ **National Policy Framework**
- ■ National Action Plan on Climate Change (NAPCC)
- ■ State Action Plan on Climate Change (SAPCC)

↪ **India's Updated Nationally Determined Contributions (2022)**
- ■ Mass movement for 'LIFE'– Lifestyle for Environment
- ■ Adopt a climate-friendly and cleaner path for economic development
- ■ 45% reduction in emissions intensity of GDP by 2030 compared to 2005 levels, aiming for net-zero emissions by 2070
- ■ 50% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030
- ■ Additional carbon sink of 2.5 to 3 billion tonnes of $CO_2$
- ■ Better adapt to climate change by enhancing investments in specific sector

- ■ Mobilise domestic and new & additional funds
- ■ Build capacities, create domestic framework and international architecture

↪ **International Climate Negotiations - UNFCCC (1994) Convention and Agreements**
- ■ Paris Agreement (2015)
- ■ Kyoto Protocol (2005)

## Bilateral and Multilateral Cooperation

### Bilateral Projects

↪ **With Deutsche Gesellschaftfür Internationale Zusammenarbeit (GIZ) GmbH (Germany)**
- ■ Climate Adaptation & Finance in Rural India (CAFRI) (2020-2023)
- ■ Nationally Appropriate Mitigation Actions (NAMAs) (2007)
- ■ Global Carbon Market (GCM) (1997)
- ■ Institutionalisation of Capacities on Climate Change Studies and Action (ICCC)

↪ **With European Union (EU)**
- ■ Strategic Partnerships for the Implementation of the Paris Agreement (SPIPA) (2018-2022)
- ■ Clean Technologies and Energy Efficiency for Eco-Cities

### Multilateral Projects

↪ **UN Secretary-General (UNSG) Climate Action Summit (2019)**

↪ **Global Commission on Adaptation (GCA) (2018)**

↪ **UNDP:** Market Transformation and Removal of Barriers for Effective Implementation of the State-Level Climate Change Action

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Note:

### *What are the Key Focus Areas of the Working Groups Formed by the NITI Aayog?*

➢ **About:**
  ○ **NITI Aayog** has formed 6 working groups. These groups will focus on **developing policy formats, working models**, and **transition pathways** for core sectors like macroeconomic implications, climate finance, critical minerals, and **social aspects of energy transition.**
  ○ It will also form sectoral committees on transport, industry, buildings, power, and agriculture.

## CLIMATE FINANCE

*Climate finance refers to local, national or transnational financing—drawn from public/ private/alternative sources of financing—to support mitigation and adaptation actions against climate change.*

### PRINCIPLES OF CLIMATE FINANCE

- Polluter Pays
- Common but Differentiated Responsibility and Respective Capability (CBDR–RC)

### Multilateral Climate Funds Coordinated by UNFCCC

- **Global Environment Facility (GEF):** Operating entity of financial mechanism (1994)
- **Kyoto Protocol (2001):**
  - **Adaptation Fund (AF):** Gives developing countries full ownership of adaptation projects
  - **Clean Development Mechanism (CDM):** To carry out emission-reduction projects in developing nations
- **Green Climate Fund (GCF):** estd. - 2010 (COP 16)
  - Funds under it - **Least Developed Countries Fund (LDCF)** and **Special Climate Change Fund (SCCF)**
- **Long-Term Climate Finance:**
  - **Cancun Agreements (2010):** Mobilize and provide scaled-up funds in short and long term
  - **Paris Agreement (2015):** Developed nations agreed to establish new collective goal of at least $100 billion/year by 2025
- **Loss and Damage Fund (2023) (COP27 & COP28):** Financial assistance to nations most vulnerable and impacted by effects of climate change

### Climate Investment Funds (CIFs) under World Bank

- Clean Technology Fund
- Strategic Climate Fund

### INDIA'S INITIATIVES REGARDING CLIMATE FINANCE

| Fund | Objective |
| --- | --- |
| ▪ **National Adaptation Fund for Climate Change (NAFCC)** (2015)<br>▪ **National Clean Energy Fund** (2010-11)<br>▪ **National Adaptation Fund** (2014)<br>▪ **Intended Nationally Determined Contributions** (INDCs) (2015)<br>▪ **Climate Change Finance Unit** (2011) | ▪ For vulnerable Indian states<br>▪ Advancing clean energy (started with initial carbon tax on industrial coal use)<br>▪ Bridging gap between required and available funds<br>▪ Nationally binding targets adopted under UNFCCC<br>▪ Leads on global climate finance issues |

### Challenges to Climate Finance

- Gap between national needs and climate finance under NDCs
- Least Developed Countries receive much less approved funding in per-capita terms from the multilateral climate funds
- Slow rate of approvals
- Failure in securing viability-gap funding

Drishti IAS

➢ **The 6 Net-Zero Working Groups:**
  ○ **Macroeconomic Implications:** Examine the implications of net-zero pathways on macroeconomic indicators and suggest aligned monetary and fiscal policies.
  ○ **Climate Finance:** Estimate India's **climate finance** needs for mitigation and adaptation, and identify potential sources of finance.
  ○ **Critical Minerals:** Research and development, domestic manufacturing, and supply chain for critical minerals.
  ○ **Social Aspects of Energy Transition:** Assess the social impacts of the energy transition and propose mitigating strategies.
  ○ **Policy Synthesis:** Collate the reports of the sectoral committees and prepare a consolidated policy handbook.

○ **Sectoral Committees:** Devise transition pathways for power, industry, buildings, transport, and agriculture sectors.

➢ **Expected Outcomes:**
  ○ The deadline for all the working groups to **submit their action plans is October 2024.** The NITI Aayog report is expected to become a **policy handbook for all central ministries** for drafting climate-resilient and adaptive policies to achieve India's net-zero target by 2070.

### *What is Net-Zero Target?*

➢ **Net Zero** refers to achieving an **overall balance** between **carbon emissions produced** and **carbon taken out** of the atmosphere.
  ○ It is referred to as **carbon neutrality**, which **does not mean** that a country would bring down its emissions to zero.
  ○ Further, **absorption of the emissions** can be **increased by creating more carbon sinks** such as forests.
    ● The removal of gases from the atmosphere requires futuristic technologies such as **carbon capture and storage.**

➢ More than 70 countries have promised to become **Net Zero** by 2050.

### *What are India's Initiatives to Achieve Net Zero Target?*

➢ **National Action Plan on Climate Change:** It aims at creating awareness among the

representatives of the public, different agencies of the government, scientists, industry and the communities on the threat posed by climate change and the steps to counter it.

➢ India has promised to **cut its emissions to net zero by 2070** at the <u>Conference of Parties-26 (COP)</u> **Glasgow Summit.**

➢ For this India outlined a **5-pronged** <u>**'Panchamitra'**</u> <u>**climate action**</u> target:

   ○ Reach **500 GW Non-fossil energy** capacity by 2030.

   ○ **50% of its energy requirements from renewable energy** by 2030.

   ○ **Reduction** of total projected **carbon emissions by 1 billion tonnes** from now to 2030.

   ○ Reduction of the **carbon intensity of the economy by 45% by 2030**, over 2005 levels.

   ○ Achieving the target of **net zero emissions by 2070.**

### *What Steps can be Taken by India to Achieve Net-Zero Emission Target?*

➢ **Enhancing Carbon Sequestration:** India can enhance its <u>carbon sequestration</u> potential by expanding its <u>forest and tree cover</u>, restoring degraded lands, promoting agroforestry, and adopting **low-carbon farming practices**.

   ○ **Carbon sequestration can** not only offset emissions but also provide multiple co-benefits such as <u>biodiversity</u> **conservation, soil fertility improvement**, water security, livelihood support, and disaster risk reduction.

➢ **Building Climate Resilience:** India can build its climate resilience by strengthening its **disaster management systems**, improving its early warning and forecasting capabilities, investing in climate-proof infrastructure, developing <u>climate-smart agriculture</u>, enhancing health care services, and empowering local communities and institutions.

➢ **Driving India's Green Transportation Revolution:** There is a need to promote <u>electric vehicles (EVs)</u> by establishing a robust charging infrastructure network and offering incentives for EV adoption.

   ○ Introducing **innovative public transportation solutions** such as electric buses, shared mobility services, and smart traffic management systems can reduce congestion and emissions.

➢ **Climate Smart Agriculture:** There is a need to **encourage sustainable farming practices** by promoting **organic farming, agroforestry,** and **precision agriculture.**

   ○ Integrating technology-driven solutions such as **remote sensing**, <u>IoT devices</u>, and **AI-based analytics** can optimise resource utilisation, reduce water consumption, and enhance crop productivity.

➢ **International Collaboration:** India can leverage international collaboration by acquiring **advanced clean technologies** through **technology transfer agreements** with developed countries, **securing international climate finance** and **sharing best practices** with other developing countries.

# New Species of Plants and Animals Discovered

### *Why in News?*

Recently, in 2023, India witnessed significant advancements in its <u>Biodiversity</u> knowledge with the addition of numerous animal and plant species to its faunal and floral databases.

➢ The findings were compiled in two publications: **"Animal Discoveries 2023"** by the <u>Zoological Survey of India (ZSI)</u> and **"Plant Discoveries 2023"** by the <u>Botanical Survey of India (BSI).</u>

> **Note:** India is a **megadiverse** nation, with around **7-8% of the world's documented species** and **4** of the 34 globally recognized <u>biodiversity hotspots</u>.

### *What are the Major Additions in India's Faunal and Floral Database?*

➢ **Faunal Discoveries:**

   ○ India added **641 new species** to the fauna database in 2023, including **442 entirely new species** and **199 species which have been newly recorded** in the country.

➢ **Significant Animal Discoveries Include:**

   ○ *Capra Himalayensis,* which proves that the **Himalayan Ibex**, distributed in the trans-Himalayan ranges of Jammu and Kashmir, Ladakh and Himachal Pradesh, is a distinct species from the **Siberian Ibex**.

○ *Miniopterus Srinii,* a new species of bent-winged bat, was also found in the Kodagu district of Karnataka.



**INDIA'S 5TH BENT-WINGED SPECIES**

- New species, a bent-winged bat, named Miniopetrus Srinii Srini
- Species named after C Srinivasulu, renowned bat biologist at OU
- Species discovered by OU's Dr Bhargavi Srinivasulu & her son Aditya from University of Reading, UK
- New species morphologically resembles known species but differs from it genetically
- Earlier, 4 species of bent-winged bats were known to be in India
- With this discovery, number has increased to 5

○ **Kerala** recorded the highest number of **animal discoveries**, with **74 completely new species** and **27 new records**. It was followed by **West Bengal (72 new species)**, and **Tamil Nadu (64)**.

○ **Invertebrates** accounted for the **majority** of new faunal discoveries with 564 new species, while vertebrates constituted 77 species.

  ● **Insects (with 369 species)** comprised the largest group among invertebrates, and **fish (with 47 species)** dominated among vertebrates.

  ● It was followed by **Reptiles, Amphibia, Mammals** and least with **Aves.**

➢ **Floral Discoveries:** In 2023, India also added **339 taxa** to its plant database, including **326 species,** and **13 infraspecific taxa**. Of these, **171 taxa are new** and **168 taxa are new distributional records** from India.

  ○ **Taxa** can refer to a **sub-species or variety of plant species.**

**Note:**

➢ **Vertebrates:** Animals with a **backbone/spine, well-developed internal skeleton,** distinct head with a brain, bilateral symmetry, and **complex internal organs. Examples: mammals, birds, and reptiles.**

➢ **Invertebrates:** Animals without a backbone/spine, typically **have an exoskeleton or soft body varying body plans**, and simpler internal organ systems. **Examples: insects, worms, jellyfish.**

○ **West Bengal** (52 new taxa) recorded the highest number of new plant discoveries, followed by **Kerala** and **Uttarakhand**.

○ The discovery includes **106 angiosperms**, **2 Pteridophytes**, **16 Bryophytes**, **44 lichens**, **111 fungi**, **50 algae** and **10 microbes**.

○ New discoveries include **wild relatives** of many potential **horticultural, agricultural, medicinal, and ornamental plants** like **begonias, impatiens, legumes, zingibers,** and **orchids**.

○ **Western Ghats** and **North Eastern Regions** were the hotspot regions contributing to **14%** of total discoveries,

➢ **New Plant Discoveries:**

○ *Curcuma kakchingense* is a new species of **turmeric** found in Manipur's Kakching.



○ *Asystasia Venui,* a **flowering plant** discovered in the Acharya Jagadish Chandra Bose Indian Botanic Garden at Howrah in West Bengal.

| **Animal Taxonomy Summit-2024** |
| --- |

➤ The **Zoological Survey of India (ZSI**) organised the **Animal Taxonomy Summit 2024** from **June 30th to July 3rd 2024**, in **Kolkata**, marking the institution's **109th anniversary**.

➤ This summit brought **together approximately 350 delegates from four countries**, including renowned participants from the Natural History Museum in London.

➤ Over the three-day event, experts engaged in in-depth discussions across three broad themes:

❍ Taxonomy, Systematics, and Evolution

❍ Ecology and Animal Behaviour

❍ Biodiversity and Conservation

➤ The summit's deliberations aimed to **advance the understanding and application** of these crucial fields.

➤ Launch of "Fauna of India Checklist Portal":

❍ It was launched at this summit as a **first-of-its-kind global portal** documenting all animal species in India.

❍ The **'Fauna of India Checklist Portal'** is a first-of-its-kind exhaustive checklist comprising 121 checklists covering 36 phyla and **1,04,561 animal species** found across India.

❍ This includes **information on endemic, threatened and scheduled species** accounting for **6.6%** of global faunal diversity.

**Zoological Survey of India**

➤ ZSI is also a **subordinate organisation of the MoEFCC** and was **established in 1916** as a national centre for the **faunistic survey and exploration** of the resources leading to the advancement of knowledge on the exceptionally rich faunal diversity of the country.

➤ It has its **headquarters at Kolkata** and **16 regional stations** located in different geographic locations of the country.

**Botanical Survey of India**

➤ It was established in **1890** as an apex research organisation under the **Ministry of Environment and Forests (MoEFCC)** for carrying out taxonomic and floristic studies on wild plant resources of the country.

➤ It has **9 regional circles** situated at different regions of the country. However the headquarter is in **Kolkata, West Bengal.**

■■■

Note:

# Art and Culture

## Highlights

- *Puri Jagannath Temple's Ratna Bhandar*
- *51,200 Year Old Cave Painting Discovered*
- *Abhay Mudra in Buddhism*

# Puri Jagannath Temple's Ratna Bhandar

### *Why in News?*

Recently, the **Odisha government** unlocked the revered **Ratna Bhandar** of the 12th-century Jagannath temple in Puri after 46 years.

### *What is Jagannath Temple's Ratna Bhandar?*

➢ **About:**

○ The **Ratna Bhandar** is a **valuable collection of treasures,** located on the northern side of the Jagamohana (assembly hall of temple).

○ It contains the priceless jewelry of the sibling deities **Lord Jagannath,** Lord Balabhadra, and **Goddess Subhadra** which have been offered by former kings over many centuries and by devotees from around the globe.

○ The Records of Rights created in accordance with the **Puri Sri Jagannath Temple Act, 1952,** includes an inventory of the precious jewelry and assorted adornments belonging to Lord Jagannath.

○ **It contains two chambers namely the outer (Bahara Bhandar) and inner chamber (Bhitar Bhandar),** which has remained closed for the past 46 years.

○ As per the **inventory last made in 1978,** the Ratna Bhandar has a total 128.38 kg of gold and 221.53 kg of silver.

○ The **Archaeological Survey of India (ASI),** is the custodian of the temple and had performed a structural inspection of the Ratna Bhandar in 2008 but could not enter the inner chamber.

### *What are the Key Facts About Jagannath Temple?*

➢ Puri's Jagannath temple is **among the most revered Hindu shrines** in the state (and India), is dedicated to the **worship of Lord Jagannath,** believed to be an incarnation of Vishnu, along with his older brother Balabhadra and sister Subhadra.

➢ It is known as the "White Pagoda" and is **one of the chardhams,** four of the **most sacred pilgrimage sites for Hindus**.

➢ It is also part of the **Golden Triangle of Odisha which includes three major tourist destinations** in the state that form a triangle and are well-connected.

○ The other two destinations include **Bhubaneswar (City of Temples) and Sun Temple of Konark (Black Pagoda).**



➢ It was constructed by a famous king of **Ganga Dynasty Ananta Varman Chodaganga Deva** dating back to the 12th century.

○ It is an **outstanding example of Kalinga architecture,** featuring distinctive curvilinear towers, intricate carvings, and ornate sculptures.

○ The **four gates of the Jagannath temple** are located on the mid-points of its boundary wall, and **face the four cardinal directions.** They are **named after different animals.**

Note:

| Gate | Direction | Belief |
|------|-----------|--------|
| Singhadwara (Lion's Gate) | East | Attain moksha (liberation from the cycle of birth-rebirth) |
| Hastidwara (Elephant Gate) | North | Brings wealth |
| Aswadwara (Horse Gate) | South | Helps one shed kama (lust) |
| Vyaghradwara (Tiger Gate) | West | Reminds one of one's dharma (cosmic law underlying right behaviour and social order) |

➢ It is also called as **'Yamanika Tirtha'** where, according to the Hindu beliefs, the power of 'Yama', the god of death, has been nullified in Puri due to the presence of Lord Jagannath.

➢ **Associated Major Festivals:** Snana Yatra, Netrotsava, Rath Yatra, Sayan Ekadasi.

| Odisha School (Kalinga Architecture) |
|---|
| ➢ It is a **sub-school of the Nagara school,** developed in various parts of the **Kalinga empire**. Some of its features were: |
| ❍ The **exterior walls were lavishly decorated** with intricate carvings, but the interior walls were plain. |
| ❍ There was **no use of pillars in the porch**. Iron girders were used instead to support the roof. |
| ❍ The **shikhara** in the Odisha school was known as **rekha deul.** They were almost vertical roofs which suddenly curved inwards sharply. |

# 51,200 Year Old Cave Painting Discovered

### Why in News?

Recent research has revealed that the **world's oldest known figurative cave painting** is **approximately 51,200 years old**, as determined by the **use of a new dating technique.**

➢ The painting is located on the **ceiling of a limestone cave** in the **Island of Sulawesi, Indonesia.**

### What are the Key Observations about the Painting?

➤ **Artistic Representation**: The painting shows:
  ○ A **pig standing still** with its mouth partly open.
  ○ **Three human-like figures** surrounding the pig:
    ● The largest figure with **outstretched arms** gripping a rod.
    ● The **second figure in front** of the pig, holding a stick.
    ● The **third figure upside-down,** with legs pointing upwards and one hand reaching toward the pig's head.

➤ **Technique Used in Dating:**
  ○ Researchers dated rock art using **uranium series (U-series) analysis** of **calcite deposits** in limestone caves.
    ● Researchers used laser **beams to compare the ratio of a specific isotope of uranium to a specific isotope of thorium** in order to determine the age of the paintings.

➤ An **isotope** is a **variant of an atom within the same element,** sharing the same atomic number and chemical properties but differing in atomic mass and physical characteristics.
  ○ This method was **also used to date another cave painting** at **Leang Bulu' Sipong 4**, initially estimated to be 43,900 years old.
    ● The findings showed the painting is at least 4,000 years older than previously thought.
  ○ There is a significant amount of rock art in locations such as Madhya Pradesh in India, but there has **not been a dating method of this kind.**
    ● The **oldest paintings of Bhimbetka,** Madhya Pradesh are estimated to be around **30,000 years old.**

➤ **Significance:**
  ○ Researchers found that figurative art of humans and animals in scenes has deeper historical roots than previously thought.
    ● **Neanderthals** began marking caves around **75,000 years ago**, but their **markings were non-figurative.**
  ○ This not only provides insights into the cultural practices of early humans but also suggests the emergence of a sophisticated narrative tradition that employed **visual arts to represent the relationships between humans and animals**.

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**Bhimbetka Rock Paintings**

➤ **Location:** It is located **south of Bhopal in Vidhyan ranges** of Madhya Pradesh with rock shelters having more than 500 rock paintings.
  ○ The caves of Bhimbetka were discovered in **1957–58 by V. S. Wakankar**
  ○ It was declared a **UNESCO** World Heritage Site in 2003.

➤ **Timeline:** The oldest paintings are estimated to be **30,000 years old** and have survived due to its location deep inside the caves.
  ○ There is **marked continuity in occupancy** of the caves from **100,000 BC to 1000 AD** with many paintings being painted on top of another.
    ● In some places, there are as many as 20 layers of paintings, one on top of another
  ○ The paintings at Bhimbetka belong to **Upper Paleolithic, Mesolithic, Chalcolithic, early historic** and medieval period.
    ● However, most of the paintings belong to the Mesolithic age.

➤ **Painting Techniques:** Various colours like red ochre, purple, brown, white, yellow and green are used, obtained from natural resources.
  ○ Haematite ores were used for red colour and white probably from Limestone.
  ○ Green prepared from a green coloured rock called Chalcedony.
  ○ The Brushes were made of plant fibre.

➤ **Themes of the Paintings:** Every-day life of prehistoric men often in stick-like human figures.
  ○ Various animals like elephant, bison, deer, peacock and snake are depicted.
  ○ Hunting scenes and war scenes with armed men.
  ○ Simple geometric designs and symbols.

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# Abhay Mudra in Buddhism

### Why in News?

Recently, the **leader of opposition** while delivering his speech in **Parliament** used the symbolic image of Lord Shiva and the **'Abhay Mudra'** to criticise the government's assault on the idea of India, the Constitution, and those who resisted these attacks.

Note:

**Leader of Opposition (LoP) in LS**

➢ LoP is a **Member of Parliament (MP)** who is **leader of the largest opposition party** having **not less than one-tenth seats of the total strength of the Lok Sabha (LS).**

➢ He will be a member of crucial committees such as **Public Accounts** (Chairman), **Public Undertakings**, **Estimates** and also a member of several **Joint Parliamentary Committees.**

➢ He is entitled to be a member of various selection committees responsible for appointing heads of statutory bodies like the **Central Vigilance Commission**, the **Central Information Commission**, the **CBI**, the **NHRC,** and the **Lokpal.**

➢ He provides **constructive criticism of the government policies** and to provide an alternative government.

➢ The leader of Opposition in both the Houses were accorded **statutory recognition** under the **Salaries and Allowances of Leader of Opposition in Parliament Act, 1977** and are entitled to the salary, allowances and other facilities equivalent to that of a **cabinet minister.**

➢ The office of the leader of the opposition is **not mentioned in the Constitution.**

## What is Abhay Mudra?

➢ **Mudras:** Mudras are **hand gestures** that are used in **Indian dance, yoga, and meditation practices** to **convey certain meanings and emotions**.
  ○ They are believed to **facilitate the flow of prana or vital energy** in the body and can have **therapeutic benefits.**
  ○ In Indian classical dance forms, mudras are used to **convey emotions, themes, and stories**.
  ○ In yoga **and meditation practices, it helps in concentration, relaxation**, and the **cultivation of certain qualities**.
  ○ While there are a large number of esoteric mudras, over time Buddhist art has retained only 5 of them for the representations of the Buddha- **DharmaChakra Mudra, Bhumisparsha Mudra, Varada Mudra, Dhyana Mudra and Abhay Mudra.**

➢ **Abhay Mudra:** It is a **hand gesture** commonly depicted in Buddhist and Hindu iconography, representing the **"gesture of fearlessness"**.

  ○ It is typically formed with the **palm of the right hand facing outward** at shoulder height, with the **fingers pointing upwards**.
  ○ **Origin:** It is associated with the Lord Buddha immediately after he attained enlightenment, portraying **a sense of the security, serenity, and compassion** that derive from enlightenment".
    • The mudra represents the moment when the **Buddha tamed a mad elephant**, illustrating his ability to grant fearlessness to his followers.
  ○ **Association with Other Religions:** The Abhaya Mudra is also found in the iconography of other religious traditions, including **Christianity** and **Jainism**.
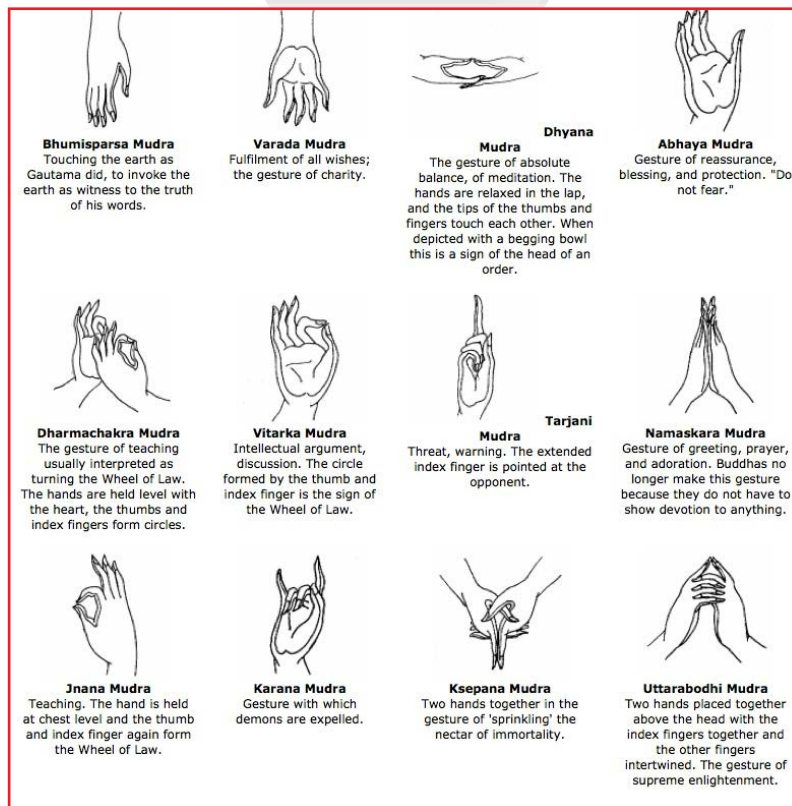
## What are Other Types of Mudras in Buddhism?

➢ **DharmaChakra Mudra:** In this the hands are held in front of the chest with the thumb and index finger of each hand forming a circle. The remaining three fingers of the hand are extended upwards, **representing the Three Jewels of Buddhism: the Buddha, the Dharma (his teachings), and the Sangha (the community of practitioners).** The **circle made** by the thumb and index finger **represents the wheel of the Dharma.**
  ○ It symbolises the pivotal moment when **Buddha preached his first sermon** after enlightenment, signifying the **initiation of teaching the Dharma.**
  ○ This mudra represents the **constant cycle of birth, death, and rebirth**, and the **Buddha's teachings as the means to break free from this cycle.**

➢ **Bhumisparsha Mudra:** This mudra involves touching the ground with the fingertips of the right hand, while the left hand rests on the lap.
  ○ It represents the moment of the **Buddha's enlightenment**, and the gesture symbolises the **earth witnessing** his attainment of enlightenment.
  ○ It is in this posture that **Shakyamuni overcomes the obstructions of Mara** while meditating on truth.

➢ **Varada Mudra:** In this mudra, the right hand is extended downwards, with the palm facing outwards.
  ○ The 5 extended fingers in this mudra symbolise the five perfections: **generosity, morality, patience, effort,** and **meditative concentration**.

➢ **Dhyana Mudra**: In this mudra, the hands are placed on the lap, with the right hand on top of the left, and the thumbs touching held at a level above the stomach or thighs.

Note:

○ This mudra symbolises **meditation, concentration**, and **inner peace**.

➢ **Anjali Mudra:** This is the most common mudra used in Buddhism, and it involves pressing the palms together in front of the chest, with the fingers pointing upwards.

○ It represents **respect, greeting, and gratitude**.

○ It is a hand gesture, very similar to **Namaskara or Namaste**.

➢ **Vitarka Mudra:** This mudra is also known as the "teaching mudra" or "gesture of discussion," and it involves holding the **right hand up, with the thumb and index finger touching to form a circle.**

○ It represents the **transmission of knowledge** and the communication of the Buddha's teachings.

➢ **Uttarabodhi Mudra:** In this the hands are held in front of the chest with the fingers of the left hand pointing upward and the fingers of the right hand pointing downward. The thumbs are then placed together in the centre, creating a triangle shape.

○ This mudra represents the **union of wisdom and compassion**, the **balance of masculine and feminine** energies, and the attainment of enlightenment through the integration of all aspects of thyself.

➢ **Karana Mudra:** In this the left hand is brought up to the heart, palm facing forward. The index and little fingers point straight upward. while the other three fingers are curled towards the palm.

○ This gesture is often seen in depictions of the Buddha or bodhisattvas, as a symbol of **protection and dispelling of negativity (evil)**. The index finger is said to represent the energy of wisdom and the ability to overcome obstacles.

➢ **Jnana Mudra:** In this, the index finger and thumb are brought together to form a circle, while the other three fingers are extended outwards.

○ This gesture represents the **unity of individual consciousness with the universal consciousness** and the connection between the practitioner and the teachings of the Buddha.

➢ **Tarjani Mudra:** In this, the index finger is extended upward, while the other fingers are curled towards the palm. Tarjani Mudra, also known as the **"threatening gesture".**

○ It is used as a **symbol of warning or protection against evi**l forces or harmful influences.



**Bhumisparsa Mudra**
Touching the earth as Gautama did, to invoke the earth as witness to the truth of his words.

**Varada Mudra**
Fulfilment of all wishes; the gesture of charity.

**Dhyana Mudra**
The gesture of absolute balance, of meditation. The hands are relaxed in the lap, and the tips of the thumbs and fingers touch each other. When depicted with a begging bowl this is a sign of the head of an order.

**Abhaya Mudra**
Gesture of reassurance, blessing, and protection. "Do not fear."

**Dharmachakra Mudra**
The gesture of teaching usually interpreted as turning the Wheel of Law. The hands are held level with the heart, the thumbs and index fingers form circles.

**Vitarka Mudra**
Intellectual argument, discussion. The circle formed by the thumb and index finger is the sign of the Wheel of Law.

**Tarjani Mudra**
Threat, warning. The extended index finger is pointed at the opponent.

**Namaskara Mudra**
Gesture of greeting, prayer, and adoration. Buddhas no longer make this gesture because they do not have to show devotion to anything.

**Jnana Mudra**
Teaching. The hand is held at chest level and the thumb and index finger again form the Wheel of Law.

**Karana Mudra**
Gesture with which demons are expelled.

**Ksepana Mudra**
Two hands together in the gesture of 'sprinkling' the nectar of immortality.

**Uttarabodhi Mudra**
Two hands placed together above the head with the index fingers together and the other fingers intertwined. The gesture of supreme enlightenment.
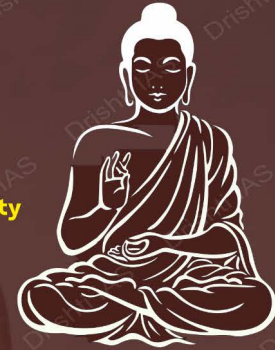
Note:

# GAUTAM BUDDHA

**Drishti IAS**

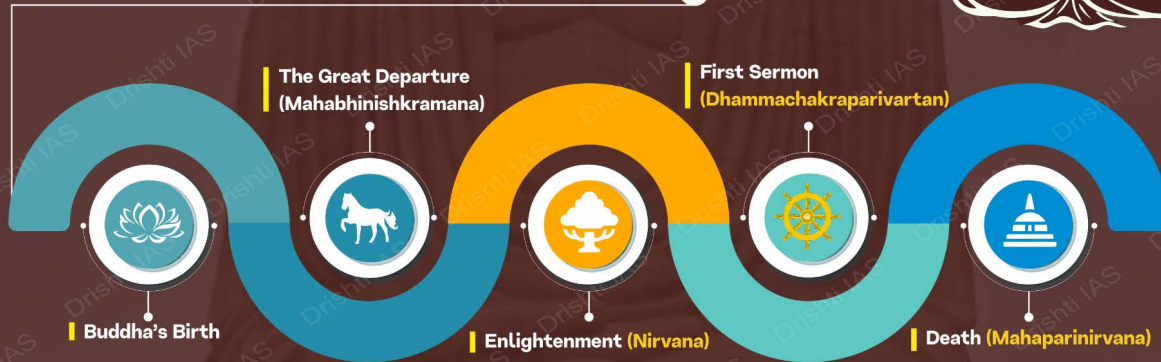*Believed to be 8th of the 10 incarnations of Lord Vishnu (Dashavatar)*

## BIRTH

- Born as Siddhartha (563 BC)
- Birthplace - Lumbini (Nepal) near Kapilavastu

## PARENTS

- Father - elected ruler of Kapilvastu; headed Shakya republican clan
- Mother - princess from Koshalan dynasty

## IMPORTANT EVENTS

**The Great Departure (Mahabhinishkramana)**

**First Sermon (Dhammachakraparivartan)**

Buddha's Birth

Enlightenment (Nirvana)

Death (Mahaparinirvana)

*Buddha referred to himself as Tathagata (one who has thus come/gone) and has been addressed as Bhagavat (in Buddhist texts)*

## CONTEMPORARIES

- Vardhaman Mahavira
- Bimbisara
- Ajatshatru

## OTHER IMPORTANT PLACES ASSOCIATED WITH BUDDHA

- Bodh Gaya (Enlightenment) (named Buddha after attaining enlightenment)
- Sarnath (first sermon)
- Vaishali (last sermon)
- Kushinagara (death place (487 BC))

Note:

**drishti**

# BUDDHISM

**Drishti IAS**

## ORIGIN

- 6th century BC, based on the teachings of Gautam Buddha

## MAIN FEATURES

- **Essence -** Attainment of enlightenment (Nibbana)
- **Supreme Deity -** None

## PRINCIPLES

- Avoid the extremes; follow Madhyam Marg (middle path)
- Individualistic component (everyone is responsible for their own happiness)
- 4 Noble Truths:
  - Dukkha (suffering)
  - Samudya (cause of suffering)
  - Nirodha (suffering could be ended)
  - Atthanga Magga (8-fold path to achieve this)
- 8-Fold Path:
  - Right - view, intention, speech, action, livelihood, mindfulness, effort and concentration

## BUDDHISM REJECTS

- Authenticity of Vedas
- Concept of soul (atman) (unlike Jainism)

## MAJOR BUDDHIST TEXTS

- **Sutta Pitaka** (main teachings of Buddha - Dhamma)
- **Vinaya Pitaka** (rules of conduct for monks/nuns)
- **Abhidhamma Pitaka** (philosophical analysis)
- Other imp texts - **Divyavadana, Dipavamsa, Mahavamsa, Milind Panha**

*Budhha's teachings were rehearsed, authenticated & divided in 3 Pitakas at the 1st Buddhist Council*

*These teachings were written down c. 25 BC in Pali*

## 4 BUDDHIST COUNCILS

| Buddhist Council | Patron | Venue | Chairman | Year |
|---|---|---|---|---|
| First | Ajatashatru | Rajgriha | Mahakashyapa | 483 BC |
| Second | Kalashoka | Vaishali | Sabbakami | 383 BC |
| Third | Ashoka | Patliputra | Mogaliputra | 250 BC |
| Fourth | Kanishka | Kundalban (Kashmir) | Vasumitra | 72 AD |

...

Note:

**drishti**

# History

## Santhal Hul of 1855

### *Why in News?*

Recently, the 169th anniversary of the **Santhal Hul of 1855** was commemorated on **30th June 2024,** marking a pivotal peasant revolt against British colonial oppression.

➤ This uprising led to the enactment of the **Santhal Pargana Tenancy Act of 1876** and the **Chotanagpur Tenancy Act of 1908,** crucial in preserving tribal land rights and cultural autonomy in India.

### *What is the Santhal Hul of 1855?*

➤ **Historical Background**: The Santhal Hul of 1855 was one of the earliest peasant uprisings against British colonial rule in India. **Led by four brothers - Sidho, Kanho, Chand, and Bhairav Murmu - along with sisters Phulo and Jhano,** the revolt began on 30thJune 1855.

   ❍ The revolt targeted not only the British but also **upper castes, zamindars, darogas, and moneylenders, collectively termed 'diku'.**

   ❍ It aimed to protect the economic, cultural, and religious rights of the Santhal community.

➤ **Genesis of the Uprising:**

   ❍ In 1832, certain areas were designated as **'Santhal Pargana' or 'Damin-i-Koh',** which includes present-day Sahibganj, Godda, Dumka, Deoghar, Pakur, and parts of Jamtara, in present-day Jharkhand.

      ● The area was given to the Santhals who were displaced from various regions under the Bengal Presidency.

   ❍ The Santhals were promised **settlement and agriculture in Damin-i-Koh,** but instead they faced repressive land-grabbing and begari (bonded labour).

      ● Two systems of bonded labour emerged in Santhal territory, known as **kamioti and harwahi.**

➤ Under kamioti, the **borrower had to work for the lender until the loan was repaid,** while under harwahi, the borrower had to provide **personal services and plough the lender's field as needed.** The terms of the bond were so strict that it was nearly impossible for the Santhal to repay the loan in their lifetime.

➤ **Guerrilla Warfare and Suppression**:

   ❍ The Murmu brothers led around 60,000 Santhals in **guerrilla warfare** against the East India Company. Despite fierce resistance lasting six months, the revolt was crushed in January 1856 with severe casualties and devastation.

      ● More than 15,000 Santhals lost their lives, and over 10,000 villages were destroyed.

      ● The Hul highlighted early resistance against British colonial rule and remains a symbol of tribal resilience.

➤ **Impact:** The uprising led to the enactment of the **Santhal Pargana Tenancy Act of 1876 (SPT Act)** prohibits transfer of Adivasi lands to non-Adivasis, allows land inheritance only within the community and preserves Santhals' right to self-govern their land.

Note:

### Santhal Tribe

➤ It is the **third largest scheduled tribe in India after the Gonds and Bhils,** known for their calm and peaceful nature. They originally led a **nomadic life but settled in Chota Nagpur plateau** and migrated to Santhal Parganas in Bihar and Odisha.

  ❍ They are located in Jharkhand, Odisha, and West Bengal, and are involved in cultivation, industrial labour, mining, and quarrying.

➤ They follow an autonomous tribal religion and worship nature at sacred groves. Their language is *Santhali* and they have their own script called *'OL chiki'* is recognised as one of the **scheduled languages in the Eighth Schedule.**

➤ Their artforms like **Phuta Katcha pattern saree and dress are popular.** They celebrate various festivals and rituals related to agriculture and worship. Santhal houses, known as **'Olah',** are easily recognizable due to their large, neat, and attractive appearance, adorned with multi-coloured paintings on the exterior walls.

## What are the Other Tribal Revolts in Chota Nagpur Region?

➤ **Munda Rebellion:** The **Munda Ulgulan (rebellion)** was a significant tribal revolt during Indian Independence, highlighting the tribal people's ability to raise their voice against exploitation.

  ❍ The Munda tribe in Chota Nagpur, Jharkhand, primarily engaged in agriculture, faced oppression from British colonists, zamindars, and missionaries. Their land was seized, and they were forced to work as labourers.

  ❍ **Birsa Munda spearheaded the movement,** striving to reclaim the tribe's lost land and rights.

  ❍ The **Chotanagpur Tenancy Act, (CNT Act)** enacted by the British in 1908 as a result of the **Birsa Movement,** allows land transfers within the same caste and certain geographical areas with the approval of the District Collector.

    ● This Act also restricts the sale of Adivasi and Dalit land, while allowing land transfers between Adivasi individuals from the same police station and Dalits in the same district.

➤ **Tana Bhagat Movement:** Started in April 1914 under the leadership of **Jatra Bhagat,** aiming to stop the evil practices in the **Oraon community of Chotanagpur** and oppose the exploitation by Zamindars.

  ❍ The movement promoted **non-violence, influenced by Mahatma Gandhi.** As a result of the movement, animal sacrifices were stopped and drinking alcohol was prohibited.

➤ **Chuar Uprising:** Chuar Uprising took place in the region between Chota Nagpur and the **plains of Bengal from 1767 to 1802, led by Durjan Singh**. The tribes rebelled and used guerrilla tactics in response to the British taking away their land.

➤ **Tamar Revolt:** It was an uprising by the **Oraon tribes** of Tamar in the Chotanagpur region between 1789 and 1832, led by **Bhola Nath Sahay.**

  ❍ The tribes revolted against the faulty alignment system implemented by the British government, which had failed to secure the land rights of the tenants, causing unrest among the Tamar tribes in 1789.

### Tribal Revolts in Colonial India

➤ Tribal revolts in colonial India were diverse and multifaceted, reflecting deep-seated **grievances against British colonial policies and their impact on tribal communities.**

➤ These movements, categorized into **mainland and frontier tribal revolts,** spanned from the late 18th century to the eve of Indian independence, influencing regional dynamics and challenging British authority.

| Aspect | Mainland Tribal Revolts | Frontier Tribal Revolts |
| --- | --- | --- |
| **Geographical Focus** | Central and west-central India. | Northeast region of India |
| **Characteristics** | Agrarian and forest-based; focused on land and forest policies. | Political autonomy and cultural preservation; less impacted by land settlement policies. |
| **Causes** | Land revenue settlements, Forest policies, Influx of outsiders, and Christian missionaries | Political autonomy, Control over land and forests, and De-sanskritization movements |

Note:

| Goals | Local autonomy, cultural preservation | Political autonomy, independence |
|---|---|---|
| **Cultural Resistance** | Aimed at preserving tribal identities and customs | Resisted cultural influences, particularly Sanskritisation |
| **Impact** | Contributed to regional identity and autonomy movements | Focused on preserving indigenous practices and political autonomy |
| **Examples of Movements** | Paphariya Rebellion (1778, RajMahal Hills), Chuar Uprising (1776, Midnapore and Bankura), Khond Uprisings (1837-56 and 1914), Koya Revolts (1879-80, Eastern Godavari tract of Andhra Pradesh), and **Rampa Revolts (1922-1924, Andhra Pradesh**) | Ahom Revolt (1828, Assam), Singphos' Rebellion (early 1830, Assam), Kukis' Revolt (1817-19, Manipur), Naga movement (1905-31;Manipur), and Zeliangsong Movement (1920s; Manipur) |

# MAJOR TRIBAL REVOLTS IN INDIA

| TRIBE (REVOLT) | REGION | YEAR | LEADER/S |
|---|---|---|---|
| Pahariya | Rajmahal Hills | 1778 | Raja Jagannath |
| Chuar *(Jungle Mahal Rebellion)* | Jungle Mahal (b/w Chota Nagpur & Bengal plains) | 1798 | Durjan/Durjol Singh, Madhab Singh, Raja Mohan Singh, Lachman Singh |
| Oraon and Munda *(Tamar Revolt)* | Tamar (Chhotanagpur) | 1798; 1914-15 | Bholanath Sahay/Singh (1798) Jatra Bhagat, Balram Bhagat (1914-15) |
| Ho and Munda | Singhbhum and Ranchi (Chhotanagpur region) | 1820-37; 1890s | Raja of Parahat (Ho) Birsa Munda (1890s) |
| Ahom | Assam | 1828-30 | Gomdhar Konwar |
| Khasi | Hilly region b/w Jaintia and Garo hills | 1830s | Nunklow ruler – Tirath Singh |
| Kol | Chhotanagpur (Ranchi, Singhbhum, Hazaribagh, Palamau) | 1831 | Buddho Bhagat |
| Santhals | Rajmahal Hills | 1833; 1855-56 | Sidhu Murmu and Kanhu Murmu |
| Khond | Orissa, Andhra Pradesh | 1837-56 | Chakra Bisnoi |
| Koya | Eastern Godavari track (Andhra) Rampa (Andhra) | 1879-80; 1886 1916; 22-24 | Tomma Sora, Raja Anantayyar Alluri Sitarama Raju *(Rampa revolt)* |
| Bhil | Western Ghats, Khandesh (MH), south Rajasthan | 1817-19; 25; 31; 46 & 1913 | Govind Guru *(1913 Mangarh Massacre)* |
| Gond | Adilabad (Telangana) | 1940 | Komrum Bheem |

**Drishti IAS**

Note:

# Foundation Day of Puducherry

## *Why in News?*

Every year, the **1st July** is marked as the foundation day of **Puducherry** as on this day the **Government of Union Territories Act 1963** providing **Puducherry** with **Legislative Assemblies and Council of Ministers** came into force.

## *What are Key Facts about Puducherry?*

➢ **About:**

❍ The present **UT of Puducherry** was formed in **1962** out of the four former colonies of French **(Puducherry, Karaikal, Mahe and Yanam)** India.

❍ The **Puducherry** and **Karaikal** regions are surrounded by the state of **Tamilnadu** while **Mahe** is surrounded by the state of **Kerala** and **Yanam** by the state of **Andra Pradesh**.

❍ To accommodate the diverse culture, due to its multi-state location, Puducherry has been recognized as a Union Territory.
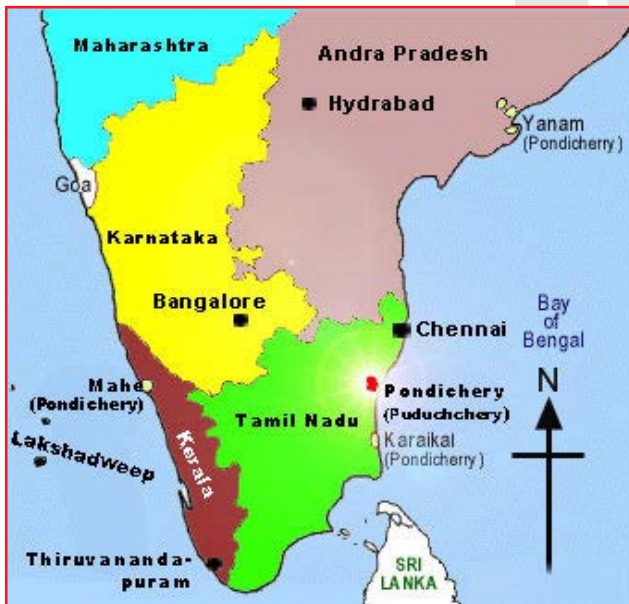


➢ **History of Pondicherry:**

❍ **Ancient History:**

● Puducherry has a flourishing maritime history and **excavations at Arikamedu show** that **Romans** came here to trade in the **1st Century AD**.

● In around the fourth century A.D. Puducherry area was part of the **Pallava Kingdom** of Kanchipuram after which **Chola** took over it.

● After short rule of Muslim rulers of the North, the **Vijayanagar Empire** took control of almost all the South of India which lasted till **1638, after which Sultan of Bijapur took control.**

❍ **Colonial History:**

● The foundation of modern **Puducherry** was laid in the year **1673** after the **French East India Company successfully** obtained firman (a permit) from the Qiladar of Valikondapurarm under the **Sultan of Bijapur**.

● Puducherry was captured by the **Dutch** in 1693 but was returned to the French company by the **Treaty of Ryswick** in 1699.

● In 1674, **Francois Martin** was appointed as the **first Governor** by the **French East India Company** which undertook the ambitious project to transform Pondicherry from a small fishing village into a flourishing port town.

➢ **Joseph Francis Dupleix** got a high post at Pondicherry in 1720.

● After becoming Governor in **1674**, **Francois Martin** developed it as a place of importance and as the stronghold of the French in India.

● **The Battle of Wandiwash (1960)** which was the decisive battle of the **Third Carnatic War** was won by the English and **Treaty of Peace of Paris (1763),** that followed the war, restored to the French their factories in India (including Puducherry).

● Under **Treaty of Peace of Paris (1763) Puducherry and Chandannagar** were returned to **France** but they could only have trading activities in them.

❍ Post Independence:

● **On 1st November 1954,** Puducherry became a **Union Territory** after the French possessions in India were transferred to the Indian Union and 280 years of French rule came to an end.

● However, **Puducherry** became officially an integral part of India after the French Parliament in Paris ratified the Treaty with India in **1963**.

➢ **Political Status of Pondicherry:**

❍ In accordance with **Article 239 of the Constitution of India** and the **Government of Union Territories Act 1963,** the President of India has framed the **Business of the Government of Puducherry (Allocation) Rules 1963**.

Note:

○ Puducherry has **elected legislatures** with the **Lieutenant Governor of Puducherry** being guided by the **Government of Union Territories Act 1963**.

○ The Puducherry Assembly can legislate on any issue under the **Concurrent and State Lists**.

○ The name of **Pondicherry** was changed to **Puducherry** by **The Pondicherry (Alteration of Name) Act 2006**.

○ **Puducherry has long demanded <u>statehood</u> to gain greater powers** for attracting industries, creating employment opportunities, and enhancing infrastructure for tourism.

➢ **Culture:**

○ **Sri Aurobindo Ashram** (a well planned town with **Franco Tamil architecture**) **and Auroville** (an experimental township) was an attempt to implement **Sri Aurobindo's vision** of new forms of individual and collective life, preparing the way towards a brighter future for the whole earth.

○ Puducherry is an Indian Union Territory that **offers a taste of France in India (due to its colonel history)**.

**Read more: <u>Statehood Demand by Puducherry</u>, <u>Bills for Women's Quota in J&K and Puducherry</u>**
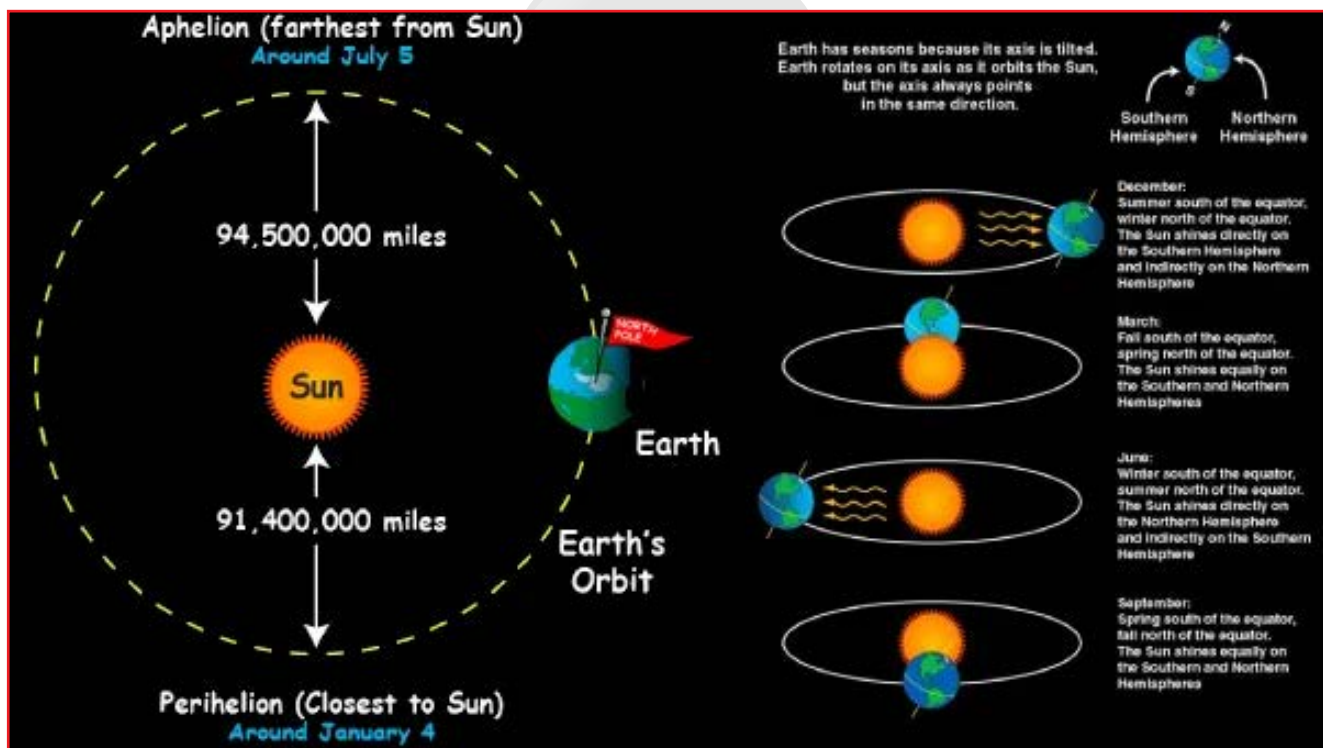
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Note:

# Geography

## Highlights

- *Aphelion*
- *New Study on Spiral Galaxies*
- *International Asteroid Day*

## Aphelion

### Why in News?

Recently, on **5th July 2024 , Earth reached the farthest point in its elliptical orbit** around the sun called **aphelion**. Earth moves around the sun in elliptical orbit and thus its distance from the sun fluctuates slightly throughout the year.



### What is Aphelion?

➢ **About: Aphelion** refers to the point in Earth's orbit when it is **farthest from the Sun**, occurring around **3 to 6th July** each year **(According to NCERT, Aphelion is on 4th July).**
   ○ The Earth's perihelion and aphelion **dates are not fixed** due to v**ariations in its orbit eccentricity**.

Note:

| Event | Year | Date/Time | Distance(in AU) |
|-------|------|-----------|-----------------|
| Aphelion | 2015 | Jul 6/1940 UT | 1.0166 |
| Perihelion | 2016 | Jan 2/22:49 UT | 0.9833 |
| Aphelion | 2016 | Jul 4/16:24 UT | 1.0168 |
| Perihelion | 2017 | Jan 4/14:18 UT | 0.9833 |
| Aphelion | 2017 | Jul 3/20:11 UT | 1.0167 |
| Perihelion | 2018 | Jan 3/5:35 UT | 0.9832 |
| Aphelion | 2018 | Jul 6/16:47 UT | 1.0167 |
| Perihelion | 2019 | Jan 3/5:20 UT | 0.9833 |
| Aphelion | 2019 | Jul 4/22:11 UT | 1.0168 |
| Perihelion | 2020 | Jan 5/7:48UT | 0.9832 |
| Aphelion | 2020 | Jul 4/11:35 UT | 1.0167 |

- ○ At this juncture, the distance between Earth and the Sun extends to approximately **152.5 million kilometres**.
- ○ **Perihelion:** At **Perihelion**, **Earth is closest to the Sun**, occurring around January 3 annually, with a distance of approximately **147.5 million kilometres**.
- ➤ Significance of Aphelion:
  - ○ **Variation in Solar Radiation:** During early July, Earth's aphelion slightly reduces the sunlight

reaching India, but this has a **minor impact on temperatures.**

- ● **Seasonal changes**, due to Earth's tilt, are much more important. The **difference in solar radiation** caused by Earth's elliptical orbit is only about **3%**, showing that seasonal factors are the main influence on India's temperatures, even at aphelion.
- ○ **Stability of the Orbit:** The aphelion is a natural consequence of Earth's elliptical orbit, which **is a result of the gravitational interactions** between the planets. Maintaining this **slightly elliptical orbit is crucial for the long-term stability** of the Earth's climate and habitability.

**Note:**

- ➤ The **Earth's seasons are primarily determined by the tilt of the Earth's axis**, not the distance from the Sun.
- ➤ The **Earth's tilt causes the uneven distribution of solar radiation,** leading to the four seasons: **spring, summer, fall (autumn),** and **winter**.



**Earth's Orbit, Axial Tilt, and the Seasons**
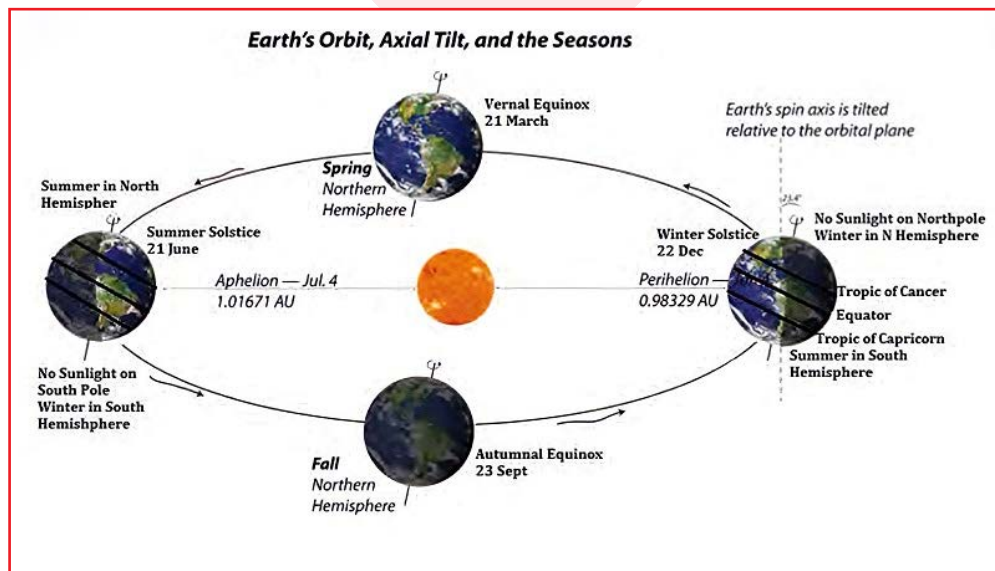
**Perigee and Apogee**

- ➤ **Perigee** is the point in the **moon's elliptical orbit** that is **closest to the Earth.** At perigee, the moon is at its **smallest apparent size** and its **gravitational pull on the Earth is strongest**.
- ➤ Apogee is the point in the moon's elliptical orbit that is **farthest from the Earth**. At apogee, the **moon is at its largest apparent size** and its **gravitational pull on the Earth is weakest**.

Note:
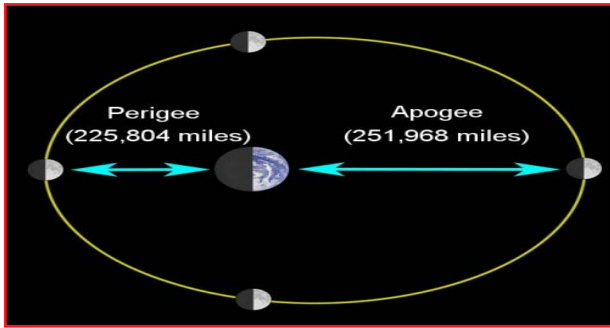
Read More: **Types of Orbit**

# New Study on Spiral Galaxies

### *Why in News?*

Recently, a **new study has shown that there were more spiral galaxies** in the early universe than astronomers had previously anticipated

### *What are the Key Highlights of the Research on Spiral Galaxies?*

➢ **Existing Theory:** In astronomy, it's believed that as the **universe cooled from a hot,** dense state, it **contained a lot of hot gas.** This gas formed clumps that eventually **came together to form galaxies.**

❍ These early galaxies **were irregular in shape** and didn't have flat disks like we see in spiral galaxies today.

❍ Over billions of years, as these galaxies **continued to cool down,** they **developed thick, hot disks** that later flattened out into the spiral arms humans recognise now.

➢ **Unexpected Early Formation:** Contrary to the above theory, the new study suggests that spiral galaxies may **have formed much earlier,** around the same time as other types of galaxies were evolving.

❍ The study used data from NASA's **James Webb Space Telescope** to analyse 873 galaxies, identifying at least 216 as spiral galaxies.

❍ The research found that between 3 billion and 7 billion years after the **Big Bang**, the proportion of galaxies with **spiral shapes increased significantly,** from about 8% to 48%.

➢ **Implications for Star Formation:** The study's results could impact **current understanding of star formation rates** and the conditions necessary for **earth-like planets** to form within spiral galaxies.

❍ The presence of heavy elements in spiral arms, derived from **supernovae**, is crucial for planet formation.

| James Webb Space Telescope (JWST) |
|---|
| ➢ JWST, successor of **Hubble Space Telescope** is a large, **infrared telescope** designed to observe the most distant objects in the universe. <br> ❍ It is a collaboration between **NASA**, the European Space Agency (ESA), and the Canadian Space Agency (CSA). |

### *What are the Various Types of Galaxies?*

| Type | Description | Examples |
|---|---|---|
| **Spiral Galaxies** | Flattened disk with spiral arms (regions of active star formation), central bulge. Can be barred or unbarred. | **Milky Way**, Andromeda Galaxy |
| **Elliptical Galaxies** | Smooth, oval or round shape, little gas and dust, mostly old stars. | Messier 87 |
| **Lenticular Galaxies** | Intermediate between spiral and elliptical, have a disk but no arms. | Sombrero Galaxy |
| **Irregular Galaxies** | No regular shape, can be dwarf or large. | Large Magellanic Cloud |
| **Active Galaxies** | Emit 100x more light from the center than stars, powered by **supermassive black hole.** | Various subtypes |
| **Seyfert Galaxies** | Most common active galaxy, emit **infrared and X-rays.** | Type I & II Seyfert galaxies |
| **Quasars** | Most luminous active galaxy, emit light across spectrum and powerful jets. | Markarian 231 |
| **Blazars** | Active galaxies with jets pointed at Earth, appear very bright. | TXS 0506+056 |

Note:

# International Asteroid Day

## *Why in News?*

International **Asteroid Day is** observed on **30th June to commemorate the Tunguska event** in **1908** and aims to raise awareness about the threat of asteroid impacts.

## *What is the Tunguska Event?*

➤ **About Event:**

  ○ The Tunguska event was caused by an **asteroid explosion in Siberia,** flattened 80 million trees over an area of **830 square miles**.

  ○ The explosion resulted in minimal human casualties due to the remote location and the shock wave was felt hundreds of miles away.

➤ United Nations Recognition:

  ○ International Asteroid Day was designated by the **United Nations in 2016** to promote global efforts in planetary defence.

  ○ **National Aeronautics and Space Administration (NASA)** stated that a collision of **Near-Earth Objects (NEOs)** with Earth is the only natural disaster humanity could completely prevent.

➤ **What are Initiatives Related to Monitoring of Near-Earth Objects:**

  ○ **Double Asteroid Redirection Test (DART) Mission**

  ○ ESA's Hera Mission

  ○ NETRA Project & Space Junk

  ○ **Apophis Mission:**

    ● **Indian Space Research Organisation (ISRO)** expressed interest in participating in the international mission to study the asteroid Apophis.

    ● **Apophis** is a **near-earth object (NEO)** and it is believed that it may hit Earth in 2029, however, NASA recently dispelled such reports.

➤ It will pass by Earth at a distance of **38,012 kilometres** on **14th April 2029**

    ● This event will be visible to observers in the **Eastern Hemisphere** without any telescopes or binoculars.

➤ The Apophis was first **discovered in 2004.** It measures **335 metres in size.**

➤ It will be moving at a speed of **29.98 KM per second.**

> **Note:**
>
> ➤ The planet bears evidence of past impacts that had catastrophic results.
>
>   ○ The **Chicxulub crater in Mexico**, caused by an asteroid impact **65 million years ago, is linked to the extinction of the dinosaurs and 75% of Earth's species.**
>
>   ○ The Meteor Crater in Arizona and the Chelyabinsk event in Russia in 2013.

## *What are Asteroids?*

➤ **About:**

  ○ Asteroids, also referred to as **minor planets**, are remnants from the early stages of our solar system's formation approximately **4.6 billion years ago.**

  ○ They predominantly exhibit **irregular shapes**, though some **display nearly spherical forms.**

  ○ Many asteroids are accompanied by **small moons**, with some even having two moons.

  ○ Additionally, binary asteroids consist of **two similar-sized rocky bodies** orbiting each other, and there are also triple asteroid systems.

➤ **Categorization of Asteroids:**

  ○ **Main Asteroid Belt**: This region, located between **Mars and Jupiter**, houses the majority of known asteroids.

  ○ **Trojans**: These asteroids share an orbit with a larger planet, residing near stable points called **Lagrangian points (L4 and L5)**, where the gravitational forces of the Sun and the planet are balanced.

    ● This configuration prevents collisions with the larger planet.

  ○ **Near-Earth Asteroids (NEAs)**: These asteroids have orbits that approach Earth's orbit. Those that **intersect Earth's orbital path** are specifically termed Earth-crossers.

Note:

# What is a....?

## Comet

A comet is a mass of ice, rock, and dust, and often has a tail that is made up of dust and other materials.

## Asteroid

An asteroid is made up of metallic or non-metallic rocks, and orbits the sun. They can range in size from a few centimeters wide to almost a thousand kilometers across!

## Meteoroid

Meteoroids are usually fragments of asteroids or comets, often smaller than 1 meter wide, that fly through space.

## Meteor

A meteor is a meteoroid that enters Earth's atmosphere. It burns up as it travels through the atmosphere, producing a streak of light behind it.

## Meteorite

If a meteor doesn't completely burn up in the Earth's atmosphere, the fragment found on Earth is called a meteorite.

**Read more: Eta Aquariid Meteor Shower - Drishti IAS**

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Note:

# Disaster Management

## Highlights

- *Assam Floods*
- *Disaster Management and Stampedes*

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# Assam Floods

## *Why in News?*

Recently, floods in Assam have resulted in over 50 deaths, displacing 360,000 people.

➢ More than 40,000 hectares of crops and 130 wild animals have been affected by flooding.

## *What is Flood?*

➢ **About:**
- **Floods** are the most frequent type of natural disaster and occur when an **overflow of water submerges land** that is usually dry.
- Between 1998-2017, 2 Billion people have been affected worldwide due to floods.

➢ **Causes:**
- These are often caused by **heavy rainfall, rapid snowmelt or a storm surge** from a **tropical cyclone** or **tsunami** in coastal areas.

➢ **Types of Floods:**
- **Flash Floods:** These are caused by **rapid and excessive rainfall** that raises water heights quickly, and rivers, streams, channels or roads may be overtaken.
- **River Floods:** These are caused when **consistent rain or snow melt** forces a river to exceed capacity.
- **Coastal Floods:** These are caused by **storm surges** associated with tropical cyclones and tsunami.

➢ **State of Flood in India:**
- India has a total geographical area of 329 million hectares, out of which more than **40 million hectares** are **flood-prone**.
- **Flood-related damages** have shown an **increasing trend**, with the average annual flood damage between 1996-2005 being Rs. 4745 crore, compared to Rs. 1805 crore in the previous 53 years.

➢ **Floods Prone Area in India:**
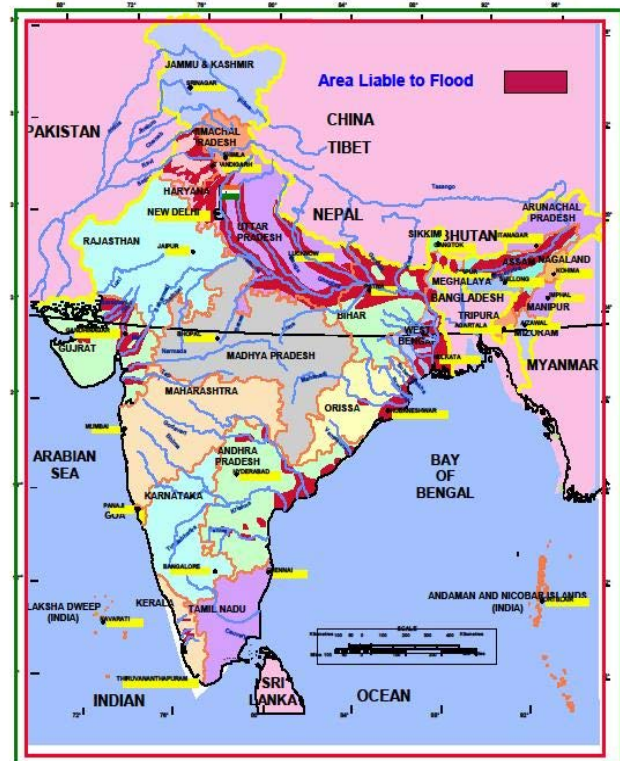


## NDMA Guidelines for Floods

➢ **Preparing for Floods:**
- Avoid building in flood-prone areas unless **you elevate and reinforce your home**.
- Elevate furnace, water heater, and electrical panel if susceptible to flooding.
- Install **check valves in sewer traps to prevent flood water backup.**
- Contact officials about flood barriers being constructed in your area.

Note:

○ Seal basement walls with waterproofing compounds.

➢ **When a Flood is Likely:**

○ Listen to radio/TV for information.

○ Be aware of flash flooding **- move to higher ground immediately if risk.**

○ Be **aware of areas known to flood suddenly.**

➢ **If Evacuating:**

○ **Secure your home** - bring in outdoor furniture, move items upstairs.

○ Turn off utilities **if instructed.**

○ Do not **walk or drive through moving floodwater.**

## *What are the Causes of Regular Floods in Assam?*

➢ **Large Number of Rivers:**

○ Assam has **more than 120 rivers**, several of which **originate from the hills and mountains** of extreme rainfall hotspots in Arunachal Pradesh and Meghalaya as well as in China and Bhutan.

○ The Brahmaputra river, flowing through Assam, accumulates significant sediment as it reaches the lower elevation of Assam, **slowing down and depositing sediment and debris**.

● In summer, sedimentation intensifies due to soil erosion from glacier melting.

➢ **The Monsoon:**

○ The **monsoon** is **intense in the Northeast.** According to the **State Disaster Management Authority,** annual rainfall averages around **2900 mm** with maximum precipitation in June and July.

● As per data from Assam government, **85%** of the annual rainfall in the Brahmaputra basin takes place during the monsoon months.

○ It also gets a good amount of rainfall in April and May due to **thunderstorm (Kalbaisakhi)** activities which account for flooding during heavy rain in June.

➢ **Climate Change:**

○ The **melting of glaciers and snow caps** in the Tibetan Plateau due to global warming and climate change is causing **increased water flow in the Brahmaputra River**, impacting downstream regions like Assam with more frequent flooding.

➢ **Human Intervention:**

○ **Construction of Embankments:** Construction of embankments first started in Assam in the 1960s to control floods. However, six decades later, most of these embankments have either **outlived their utility or are in bad condition**.

○ **Population Boom:** Population boom has put more pressure on the State's ecology.

● The population density of Brahmaputra valley has increased from **9-29 people per sq. km. in 1940-41** to **398 per sq. km** in the plain areas of Assam as per the **2011 census**, according to a report by the Brahmaputra Board. This has led to human settlements in river basin areas becoming more vulnerable to floods.

○ **Jhum cultivation:** It is also known as **shifting cultivation**, involves slash-and-burn practices that strip the soil's protective layer, leading to **accelerated erosion and reduced water absorption capacity**. Soil and plant material runoff contribute to sedimentation in river basins.

## *What are the Implications of Floods in Assam?*

➢ **Loss of Wildlife:** The floods have resulted in the death of over 130 wild animals, including at least 6 rare one-horned rhinos in **Kaziranga National Park,** Assam. Other animals that have perished include 117 hog deer, 2 sambar deer, a rhesus macaque, and an otter.

○ **Kaziranga is home to the world's largest population of one-horned rhinos**.

➢ **Damage to Infrastructure:** The floods have caused extensive damage to roads and other infrastructure, hampering rescue and relief efforts.

➢ **Displacement of People:** The floods in Assam have displaced over 2 million people, with many seeking shelter in relief camps. This has put additional strain on the resources and management.

## *What are the Steps Taken to Manage Floods in India?*

➢ **National Flood Management Programme (NFMP):** It was launched in 1954 to provide a flexible framework **for states to choose site-specific interventions,** considering geographical realities and resource constraints. It emphasises both structural (dams, embankments) and non-structural (floodplain zoning) measures.

➢ **Rashtriya Barh Ayog (1976):** This established an integrated approach for flood control, prioritizing scientific analysis and national planning.

Note:

➢ **National Water Policy (2012):** This policy advocates **strategic reservoir operation to create flood cushions and minimise sedimentation** during floods. Floodplain zoning is emphasized for regulated development in flood-prone areas.

➢ **National Hydrology Project (2016):** This project strengthens flood forecasting through real-time hydro-meteorological data accessible at all levels (state, district, village).

➢ **Flood Management and Border Areas Programme (FMBAP):** This program focuses on catchment area treatment to reduce sediment load in rivers, thereby enhancing their carrying capacity and minimizing overflow.

➢ **Flood Plain Zoning:** This strategy aims to demarcate flood-prone areas and regulate land use to prevent encroachment and minimise damage.

➢ **Flood Proofing:** Elevating vulnerable settlements and crucial infrastructure above flood levels can significantly reduce losses.

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### National Disaster Response Force (NDRF)

➢ It is an Indian specialised force constituted under the **Disaster Management Act, 2005.**

➢ The responsibility of managing **disasters in India is that of the state governments.** The 'Nodal Ministry' in the central government for management of natural disasters is the Ministry of Home Affairs (MHA).

➢ It refers to trained professional units that are called upon for specialised response to disasters.

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# Disaster Management and Stampedes

## Why in News?

Recently, India witnessed another tragic **stampede that claimed over 100 lives in Uttar Pradesh's Hathras district.**

➢ This **devastating incident adds to a long list of similar tragedies** that have occurred during religious gatherings and festivals across the country over the past two decades.

➢ These events highlight the ongoing **challenges of managing large crowds** in confined spaces and underscore the urgent need for improved safety measures.

## What is a Stampede?

➢ **About:** A stampede is an impulsive mass **movement of a crowd** that often results in injuries and deaths. It is often triggered by response to a perceived danger, loss of physical space and a collective will to attain something seen as gratifying.

➢ **Types: Two main types of stampedes are Unidirectional stampedes** occur when a crowd moving in the same direction encounters a sudden change in force, triggered by forces like sudden stops or negative forces like broken barriers.

   ○ **Turbulent stampedes** happen in situations with uncontrolled crowds, induced panic, or crowds merging from multiple directions.

➢ **Fatalities in Stampedes:** Stampedes can cause fatalities through:

   ○ **Traumatic Asphyxia: It is the most common cause that occurs** due to external **compression of the thorax or upper abdomen.** Can happen even in moderate crowds of 6-7 people pushing in one direction.

   ○ **Other causes:** Myocardial infarction (heart attack), Direct crushing injuries to internal organs, Head injuries and Neck compression.

➢ **Factors Contributing to Stampedes:**

   ○ **Psychological Factors:** Panic is a primary trigger or amplifier of stampedes.

      ● Loss of cooperative behaviour in emergencies. In panic-producing situations, cooperation is initially beneficial. Once cooperative behaviour is disturbed, individual survival instincts take over and result in stampedes.

   ○ **Environmental and Design Elements:**

      ● Lack of proper lighting.

      ● Poor crowd flow management (Failure to divide crowd flow for different groups).

      ● Collapse of barriers or buildings.

      ● Blocked exits or evacuation routes.

      ● Fire hazards.

      ● **High crowd density,** when density approaches 3-4 persons per square metre. At this density, evacuation time increases dramatically, raising panic and stampede risk.
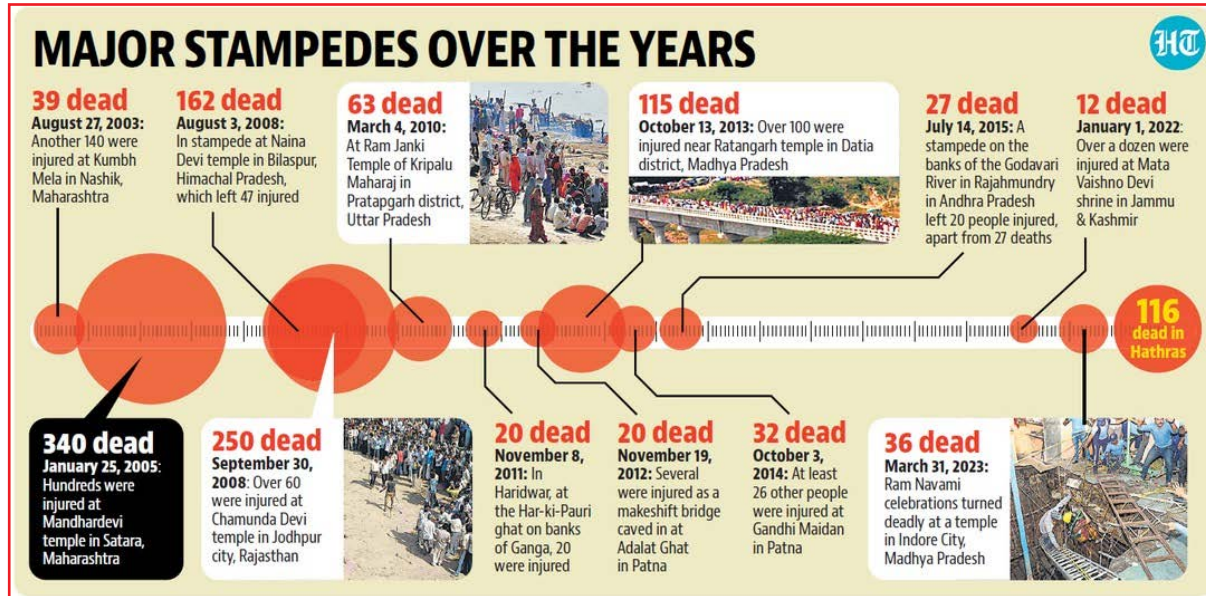
Note:

**Crowd Management**
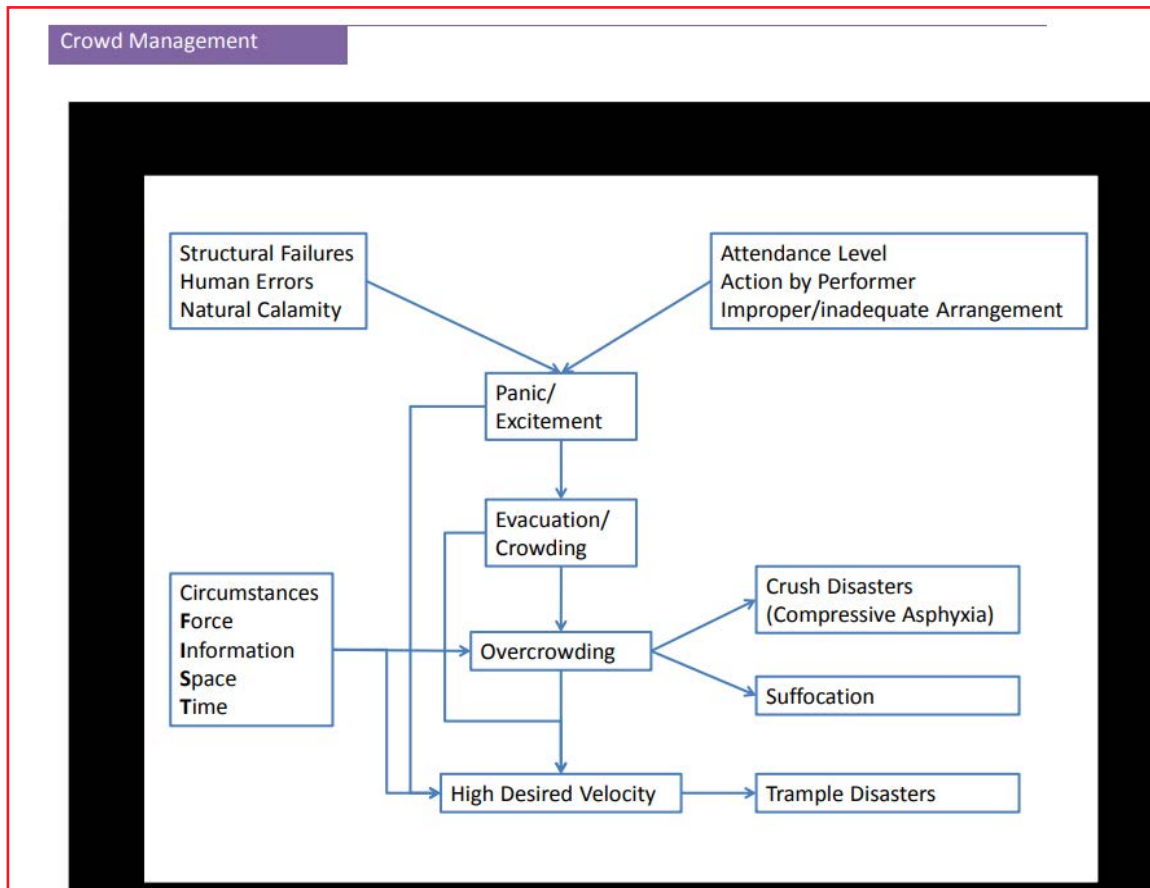


> **Impact of Stampedes:**
>   ○ **Psychological Trauma:** Survivors and witnesses may experience long-term psychological trauma, including **Post-traumatic Stress Disorder (PTSD)**.
>   ○ **Economic Consequences:** Stampedes primarily affect economically disadvantaged individuals, **leaving families without primary earners** and causing significant economic hardship in the community.
>     ● Medical expenses, compensation, legal costs, and loss of economic productivity due to injuries.
>   ○ **Social Impact:** Includes **loss of trust** in event organisers and authorities, social **unrest and blame,** and negative impact on community morale and cohesion.
>     ● The aftermath can have far-reaching consequences, requiring efforts to address the underlying issues and prevent similar incidents.
>   ○ **Impact on Infrastructure:** It can cause damage to physical infrastructure, such as barriers and buildings. The costs associated with repairs and upgrades to infrastructure can be significant.

**What were the Circumstances of Previous Deadly Stampedes in India?**

> **Mata Vaishno Devi Shrine (2022):** 12 killed in a crowd surge during a Hindu pilgrimage in Kashmir.
> **Mumbai Pedestrian Bridge (2017):** 22 died in a stampede during rush hour.
> **Varanasi Bridge (2016):** 24 killed crossing a crowded bridge for a religious ceremony.
> **Godavari River (2015):** 27 dead in a stampede during a Hindu bathing festival.
> **Ratangarh Temple (2013):** 115 died in a stampede caused by a collapsing bridge.
> **Allahabad Train Station (2013):** 36 killed due to a platform change during Kumbh Mela.
> **Jodhpur Temple (2008):** 168 deaths in a stampede during Navratra festival celebrations.
> **Naina Devi Temple (2008):** 145 killed in a stampede triggered by rumors of a landslide.
> **Wai Temple (2005):** 258 lives lost in a stampede and subsequent fire.

Note:

## MAJOR STAMPEDES OVER THE YEARS

**39 dead**
**August 27, 2003:** Another 140 were injured at Kumbh Mela in Nashik, Maharashtra

**162 dead**
**August 3, 2008:** In stampede at Naina Devi temple in Bilaspur, Himachal Pradesh, which left 47 injured

**63 dead**
**March 4, 2010:** At Ram Janki Temple of Kripalu Maharaj in Pratapgarh district, Uttar Pradesh

**115 dead**
**October 13, 2013:** Over 100 were injured near Ratangarh temple in Datia district, Madhya Pradesh

**27 dead**
**July 14, 2015:** A stampede on the banks of the Godavari River in Rajahmundry in Andhra Pradesh left 20 people injured, apart from 27 deaths

**12 dead**
**January 1, 2022:** Over a dozen were injured at Mata Vaishno Devi shrine in Jammu & Kashmir

**116 dead in Hathras**

**340 dead**
**January 25, 2005:** Hundreds were injured at Mandhardevi temple in Satara, Maharashtra

**250 dead**
**September 30, 2008:** Over 60 were injured at Chamunda Devi temple in Jodhpur city, Rajasthan

**20 dead**
**November 8, 2011:** In Haridwar, at the Har-ki-Pauri ghat on banks of Ganga, 20 were injured

**20 dead**
**November 19, 2012:** Several were injured as a makeshift bridge caved in at Adalat Ghat in Patna

**32 dead**
**October 3, 2014:** At least 26 other people were injured at Gandhi Maidan in Patna

**36 dead**
**March 31, 2023:** Ram Navami celebrations turned deadly at a temple in Indore City, Madhya Pradesh

### What are the Initiatives of India to Control Stampedes?

➤ The **National Disaster Management Authority (NDMA)** provides guidelines for safe crowd management and precautions during festive seasons.

○ **Traffic and Crowd Management:** NDMA advises **regulating traffic, displaying route maps,** and using barricades to control pedestrian flow around festive venues.

○ **Security Measures:** Emphasising **CCTV surveillance** and increased police presence to deter crimes, NDMA urges organisers to manage unauthorised parking and stalls effectively.

○ **Medical Preparedness:** NDMA recommends having **ambulances** on standby and medical staff ready, with clear signage directing to nearby hospitals.

○ **Crowd Safety Tips:** Educating attendees on exit routes and calm behaviour during gatherings, NDMA stresses preparedness for handling stampede scenarios.

○ **Fire Safety:** NDMA highlights precautions such as safe electrical wiring, monitoring LPG cylinder usage, and caution with fireworks to prevent fires.

○ **Disaster Risk Reduction:** NDMA supports government initiatives and upcoming conferences like the Asian Ministerial Conference in collaboration with **United Nations International Strategy for Disaster Reduction (UNISDR),** focusing on disaster resilience and recognizing the **sendai framework.**

○ **Community Responsibility:** NDMA underscores collective responsibility in disaster prevention and promoting safety during festive events.

### National Disaster Management Authority (NDMA)

➤ The NDMA, led by the Prime Minister of India, is the **apex statutory body for Disaster Management** in the country. It was established as per the **Disaster Management Act, 2005** to create institutional mechanisms at the State and District levels.

➤ NDMA is **responsible for setting policies, plans,** and guidelines for Disaster Management, with a focus on prevention, mitigation, preparedness, and response.

➤ It aims to create a safer and disaster-resilient India through a proactive and sustainable development strategy.
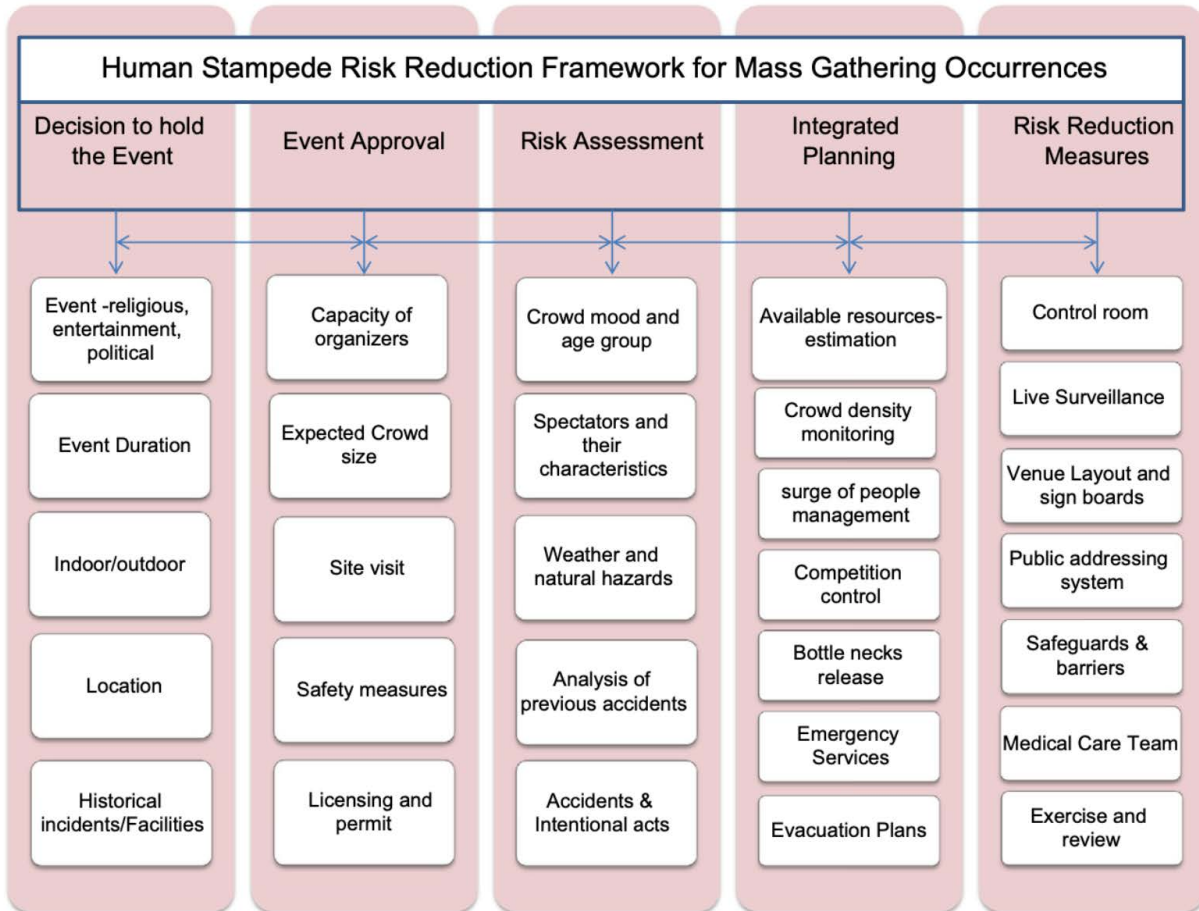
### What Can be Done Better to Prevent Stampedes?

➤ **Real-time Density Monitoring**: Deploy a **network of sensors (thermal, LiDAR)** to monitor crowd density in real-time. This data can feed into AI models to predict crowd surges and trigger early warnings.

○ Introduce **Radio Frequency Identification (RFID) tags** in tickets or wristbands. This allows for real-time tracking of crowd movement, identifying congested areas, and enabling targeted communication via displays.

○ **Utilise drones equipped with high-resolution cameras** and thermal imaging for real-time crowd

Note:

surveillance and anomaly detection. These can also project calming messages or announcements on large screens.

➢ **Intelligent Lighting Systems:** Implement crowd-responsive lighting that can adjust brightness and colour based on crowd density to guide movement or calm situations.

  ❍ Implement pathways and walkways embedded with **bioluminescent materials that automatically glow brighter** in case of emergencies. This can guide movement and reduce panic in low-light situations.

➢ **Interactive Communication Displays:** Install interactive displays that show real-time wait times, evacuation routes, and essential information in multiple languages.

➢ **Campaigns:** Launch public awareness campaigns to educate people on crowd safety protocols and proper behaviour during large gatherings.

## Human Stampede Risk Reduction Framework for Mass Gathering Occurrences

| Decision to hold the Event | Event Approval | Risk Assessment | Integrated Planning | Risk Reduction Measures |
|---|---|---|---|---|
| Event -religious, entertainment, political | Capacity of organizers | Crowd mood and age group | Available resources-estimation | Control room |
| Event Duration | Expected Crowd size | Spectators and their characteristics | Crowd density monitoring | Live Surveillance |
| Indoor/outdoor | Site visit | Weather and natural hazards | surge of people management | Venue Layout and sign boards |
| Location | Safety measures | Analysis of previous accidents | Competition control | Public addressing system |
| Historical incidents/Facilities | Licensing and permit | Accidents & Intentional acts | Bottle necks release | Safeguards & barriers |
| | | | Emergency Services | Medical Care Team |
| | | | Evacuation Plans | Exercise and review |

■■■

Note:

# Ethics

## Highlights

- *NHRC Notice to Odisha Govt Over Custodial Death*

## NHRC Notice to Odisha Govt Over Custodial Death

### Why in News?

Recently, the **National Human Rights Commission (NHRC)** issued a notice to the Odisha government, requiring an explanation as to why the Commission should not recommend a payment of monetary compensation to the next of kin of a person, who allegedly died in police custody.

### What is Custodial Death?

➢ Custodial death refers to a **death that occurs while a person is in the custody of law enforcement officials** or a correctional facility. It can occur due to **various causes such as the use of excessive force, neglect, or abuse** by the authorities.

➢ According to the **Law Commission of India**, the violence committed by a public servant against the arrested or the detained person who is in custody amounts to **custodial violence.**

➢ **Judicial Pronouncements on Custodial Death:**

- **Kishore Singh Vs. State of Rajasthan (1981):** The Supreme Court held that the **use of third degree** by the police **is violative of Article 21 of the Constitution** of India.

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**CUSTODIAL DEATH**

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*CD is a death that occurs while a person is in the custody of law enforcement officials or in a correctional facility*
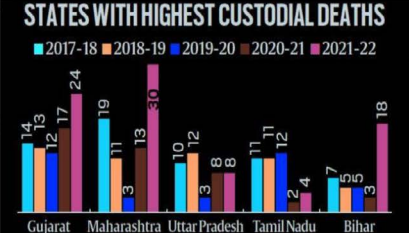
**CAUSES**

- Use of excessive force, (medical) neglect, abuse by authorities etc.

**HIGHEST CDs IN INDIA (2017-18 to 2021-22)**

- Uts: Delhi (29), J&K (4)
- States: Gujarat (80), Maharashtra (76), UP (41), TN (40) and Bihar (38)

**STATES WITH HIGHEST CUSTODIAL DEATHS**

■ 2017-18  ■ 2018-19  ■ 2019-20  ■ 2020-21  ■ 2021-22

Gujarat: 14, 13, 12, 17, 24
Maharashtra: 19, 11, 3, 13, 30
Uttar Pradesh: 10, 12, 3, 8, 8
Tamil Nadu: 11, 11, 12, 2, 4
Bihar: 7, 5, 5, 3, 18

**LEGAL PROVISIONS**

- CrPC Section 41 - Amended in 2009; arrests and detentions for interrogation to have reasonable grounds and documented procedures
- IPC Sec 302, 304, 304A, and 306 – Include crime of custodial torture
  - Sec 330, 331 – Punishment for injury inflicted for extorting confession

*Complaints of such human rights violations are received by the NHRC under Protection of Human Rights Act, 1993*

**MAJOR ISSUES REGARDING CDs**

- No anti-torture legislation
- Opaque, poor prison system
- Excessive force used against marginalised/ protesters
- Lengthy, expensive judicial processes

*India signed the UN Convention against Torture (1985) in 1997 but hasn't ratified it yet*

**CD V/S FUNDAMENTAL RIGHTS**

- Protection from torture (Article 21)
- Protection against arrest and detention in certain cases, Right to Counsel (Article 22)

**SOLUTIONS**

- Multi-pronged strategy encompassing legal enactments, technology, accountability, training and community relations
- Taking stringent action against personnel breaching the commandments issued by the SC in *D.K. Basu v. State of West Bengal (1997)* (such as - All police personnel to wear name tags clearly indicating their name, designation)

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Note:

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○ **Nilabati Behera vs. State of Orissa (1993):** The Supreme Court held that the **state is liable to pay compensation for custodial deaths** resulting from police **negligence or brutality,** recognizing the state's responsibility for **protecting the right to life.**

○ **Joginder Kumar v. State of Uttar Pradesh (1994):** The Supreme Court dealt with **violation of human rights** because of indiscriminate arrests. They referred to the recommendations made in the **Third Report of the National Police Commission** that police should **avoid arrest provided only in heinous offence.**

○ **D.K. Basu vs. State of West Bengal (1997):** The Supreme Court laid down specific guidelines to prevent custodial torture and deaths, including **requirements for arrest memos, the right to medical examination, and access to legal counsel.**

**Note:**

➤ **Custodial Death Guidelines Laid Down in DK Basu Case:**

○ It is the duty of the Police Officer **not to use third-degree methods while having investigation and interrogation** from the accused.

○ Attention must be required in **checking the working environment, training, and orientation of the Police Officials** with the basic human values.

○ The **legislature must adopt** the recommendations suggested by the **Law Commission Report by inserting Section 114-B.**

○ A **balanced approach** should be used by the police to extract the information from hardened criminals.

○ There must be a memo made by the Police Officer in charge at the time of arrest and at least one family member of the accused must be present when the arrest is made.

○ The requirements under the Constitution under **Article 21 and 22 (1) of Constitution of India must be followed** by Police Officers.

○ **Awareness must be created to the arrestee** so that he can understand his basic rights at the time of the arrest.

○ Also, the Court has given certain **preventive measures** that must be followed by the Police Officer in charge at the time of the arrest of an accused.

➤ **Section 114-B:** It was recommended in the **113th Report of Law Commission (however, not yet included).** It says that in a prosecution of a police officer for causing bodily injury to a person in custody, the court may presume the injury was caused by the officer if evidence shows the injury occurred during custody. In deciding this, the court will consider:

○ (a) The period of custody,

○ (b) Any admissible statement by the victim about the injury,

○ (c) Medical evidence,

○ (d) Evidence from any magistrate who recorded or attempted to record the victim's statement.

### *What are the Ethical Concerns Associated with Custodial Deaths?*

➤ **Violates Human Rights and Dignity:**

○ Every person possesses inherent dignity and deserves to be treated with respect and fairness. Custodial violence violates this fundamental principle by inflicting physical and psychological harm, stripping individuals of their dignity, and denying them basic human rights.

➤ **Undermines Rule of Law:**

○ It undermines the core principles of the rule of law and due process. Law enforcement officers are tasked with upholding and enforcing the law, yet engaging in violence directly contradicts the fundamental principles of justice, equality, and the safeguarding of human rights.

➤ **Presumption of Guilt:**

○ It undermines the foundational principle of **"innocent until proven guilty".** Subjecting individuals to torture before they have been convicted of a crime violates their fundamental rights to a fair trial and due process.

➤ **Opposing Professionalism and Integrity:**

○ Police officers and authorities are expected to maintain high ethical standards, which include professionalism, integrity, and a commitment to respecting human rights. Custodial violence breaches these ethical principles and stains the reputation of the profession overall.

### *What Measures can be Taken to Prevent Custodial Torture?*

➤ **Strengthening Legal Systems:**

○ Strengthen laws against torture and ensure that they are strictly enforced.

Note:

- ○ Ensuring **prompt and impartial investigations into allegations** of custodial torture.
- ○ Holding perpetrators accountable through fair and expeditious trials.
- ➢ **Police Reforms and Sensitisation:**
  - ○ Improving police training programs to uphold **human rights and dignity.** Oversight mechanisms to **effectively monitor and address cases** of custodial torture.
  - ○ Promoting a culture of accountability, professionalism, and empathy within law enforcement agencies.
    - For example, in the **Prakash Singh Case 2006,** the Supreme Court issued **seven directives** to drive **police reforms in India,** acknowledging widespread issues such as politicization, **lack of accountability, and systemic weaknesses** impacting overall police performance.
- ➢ **Empowering Civil Society and Human Rights Organisations:**
  - ○ Promoting **active advocacy by civil society organizations for victims** of custodial torture.
  - ○ The **National Human Rights Commission (NHRC)** should **be allowed to inquire** into any matter **even after one year** from the date of the alleged human rights violation.
  - ○ Providing **support and legal aid** to **victims and their families.**
  - ○ Collaborating with international human rights bodies and organisations to seek redress and justice.

## NATIONAL HUMAN Rights COMMISSION (NHRC)

*According to NHRC, Human Rights are the rights relating to life, liberty, equality and dignity of the individual guaranteed by the Constitution or embodied in the International Covenants and enforceable by courts in India*

- ▪ Watchdog of Human Rights in India
- ▪ **Estd:** 1993 (in conformity with Universal Declaration of Human Rights)
- ▪ **Act:** Protection of Human Rights Act (PHRA), 1993

*State Human Rights Commissions*
- ▪ Also constituted under the PHR Act, 1993
- ▪ **Appointment of Members:** by Governor
- ▪ **Removal of Members:** by President

### Human Rights Day: 10 December

**Functions**
- Investigates Complains of human rights violations
- *Suo Moto* cognizance of cases
- Reviews and recommends human rights implementation
- Spreading human rights awareness
- Conduct studies, publish reports on human rights issues

**Powers**
- Summon individuals, examine witnesses, and receive evidences
- Inspect prisons and other institutions to ensure conditions are humane
- Intervene in court proceedings relating to human rights

### Members of NHRC

**Composition**
- 5 full-time members and 7 deemed members
- **Chairperson:** Retired CJI/Judges of the SC
- **Administrative Head:** Secretary-General

**Appointment**
- All members appointed by **President** on recommendations of a **6-member** committee (PM, Speaker of LS, Deputy Chairman of RS, Union Home Minister and Leaders of Opposition of both Houses of Parliament)

*Global Alliance of National Human Rights Institutions (GANHRI) Status*
- ▪ **NHRC** has been accredited '**A**' **Status** since **1999**
- ▪ **Retained 'A' Status:** 2006, 2011 and 2017
- ▪ **Suspension of 'A' Status:** 2023 and 2024

**Tenure**
- 3 years / till age 70 (whichever is earlier)

**Removal**
- President can remove the chairman or any member
- **Ground:** Charges of proved misbehaviour or incapacity

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**Note:**
- ➢ **International Conventions on Human Rights and Custodial Torture to which India is a Signatory:**
  - ○ United Nations Convention Against Torture (UNCAT)
  - ○ Universal Declaration of Human Rights (UDHR)
  - ○ The International Covenant on Civil and Political Rights (ICCPR)
  - ○ The international convention on the elimination of all forms of racial discrimination.
  - ○ The convention on the elimination of all forms of discrimination against women (CEDAW)
  - ○ The convention on the rights of the child
  - ○ Convention on the Rights of Persons with Disabilities
  - ○ **The International Covenant on Economic Social and Cultural Rights (ICESCR)**

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# Miscellaneous

## Highlights

- *Gallantry Awards 2024*
- *Death Anniversary of Swami Vivekananda*
- *India Won the 2024 T20 World Cup*

## Gallantry Awards 2024

### Why in News?

Recently, the **President of India**, presented **Gallantry Awards** at the **Defence Investiture Ceremony-2024** held at Rashtrapati Bhavan.

### What are the Gallantry Awards?

➤ **About:**
  - ❍ **Gallantry Awards** have been instituted to honour the **acts of bravery** and sacrifice of the officers/ personnel of the **Armed Forces,** other **lawfully constituted Forces and civilians.**
  - ❍ These gallantry awards are **announced twice in a year,** first on the occasion of the **Republic Day** and then on the occasion of the **Independence Day.**

➤ **Types:**
  - ❍ **Gallantry Award in the Face of Enemy:**
    - **Param Vir Chakra (PVC):** It shall have embossed on the obverse four replicas of **"Indra's Vajra"** with the State Emblem embossed in the centre.
    - **Mahavir Chakra (MVC):** It shall have embossed on the obverse a **five-pointed heraldic star** with the points of the star just touching the rim. The star shall have in the centre a domed gilded State Emblem.
    - **Vir Chakra:** The star will feature a Chakra at its centre, with a domed centerpiece inside the Chakra bearing the gilded State Emblem.
  - ❍ **Gallantry Award Other than in the Face of Enemy:**
    - **In case of Ashok Chakra, Kirti Chakra and Shaurya Chakra** the obverse of the medal shall be embossed a replica of respective chakra in the centre, surrounded by a lotus wreath. Along the rim, on the inner side, shall be a pattern of lotus leaves, flowers and buds.
    - On its reverse shall be embossed the respective words both in Hindi and English the two versions being separated by two lotus flowers.



Param Vir Chakra | Ashoka Chakra | Maha Vir Chakra | Kirti Chakra | Vir Chakra | Shaurya Chakra

Note:

➢ **Order of precedence of the Award:**
  ○ Param Vir Chakra
  ○ Ashoka Chakra
  ○ Mahavir Chakra
  ○ Kirti Chakra
  ○ Vir Chakra
  ○ Shaurya Chakra

• **Param Vir Chakra:** For **most conspicuous bravery** or some daring or pre-eminent act of valour or self-sacrifice.

• **Maha Vir Chakra:** For **acts of conspicuous gallantry**

• **Vir Chakra:** For **acts of gallantry**

➢ **Ashoka Chakra, Kirti Chakra & Shaurya Chakra:**
  ○ Officers and men and women of all ranks of the Army, the Navy and the Air Force, of any of the Reserve Forces, of the Territorial Army, Militia and of any other lawfully constituted forces.
  ○ Members of the Nursing Services of the Armed Forces.
  ○ Civilian citizens and members of Police Forces including Central Para-Military Forces and Railway Protection Force.
  ○ **Conditions of Eligibility:** These awards are given for acts in the face of the enemy.
    • **Ashoka Chakra:** For **most conspicuous bravery or some act of daring** or pre-eminent act of valour or self-sacrifice

## CIVILIAN AND GALLANTRY AWARDS

### CIVILIAN AWARDS

**Bharat Ratna**
○ India's **highest civilian award**; instituted in **1954**
○ Awarded for exceptional service/performance of the highest order in any field of human endeavour
○ Award includes certificate & medallion **(no monetary grant)**
○ Recommended **to President by the PM**
○ Can be given **(max) thrice per year**

**Padma Awards**
○ Instituted in **1954**; announced annually on **eve of Republic Day**
○ Recognises achievements in all fields/disciplines involving **public service**
○ Categories: Padma **Vibhushan** > Padma **Bhushan** > Padma **Shri**
○ Recommended by **Padma Awards Committee** (constituted by PM annually)
○ **Suspended twice** – 1978-79 and 1993-97
○ Max no. of awards per year – **120**

### GALLANTRY AWARDS
○ **Wartime** Gallantry instituted on **26ᵗʰ January 1950**
○ **Peacetime** Gallantry instituted on **4ᵗʰ January 1952**
○ **Announced twice** a year – Republic Day and Independence Day
○ Order of Precedence – **Param Vir** Chakra > **Ashoka** Chakra > **Mahavir** Chakra > **Kirti** Chakra > **Vir** Chakra > **Shaurya** Chakra

○ Eligibility –
  » All officers of all ranks **(Army, Navy, IAF), Reserve forces, Territorial army**
  » **People providing nursing services** under any of the above forces

**Wartime Gallantry Awards**
Param Vir Chakra    Maha Vir Chakra    Vir Chakra

**Peacetime Gallantry Awards**
Ashoka Chakra    Kirti Chakra    Shaurya Chakra

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***What is the Eligibility and Selection Criteria to be Awarded the Gallantary Awards?***

➢ **Param Vir Chakra, the Maha Vir Chakra and the Vir Chakra:**
  ○ Personnel **of all ranks** of the Naval, Military and Air Forces, Reserve Forces, Territorial Army, Militia and of any other lawfully constituted Armed Forces.
  ○ Matrons, Sisters, Nurses and the Staff of the Nursing Services and other Services pertaining to Hospitals and Nursing, and Civilians serving under the directions of any of the above-mentioned Forces.
  ○ **Conditions of Eligibility:** These awards are given for action against the enemy, whether on land, at sea, or in the air.

Note:

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- **Kirti Chakra**: **For conspicuous gallantry**
- **Shaurya Chakra**: **For gallantry**

➢ **Selection process:**
  ○ **Ministry of Defence invites** recommendations **twice in a year** from the **Armed Forces and Union Ministry of Home Affairs** for gallantry awards.
  ○ **In respect of the Armed Forces**, a case for the gallantry award is initiated by the Unit recommended by Commanders.
  ○ Recommendations in respect of civilian citizens (other than Defence personnel) are received from the **Union Ministry of Home Affairs (MHA).**
  ○ Recommendations received directly from private individuals, including **VIP references are not accepted**.
  ○ In any case, the **time limit for considering gallantry awards** should not be **beyond two calendar years** from the date on which the act of gallantry is performed.
  ○ Recommendations from the Armed Forces and MHA are considered by th**e Central Honours & Awards Committee (CH&AC)** composed of Defence Minister, three Service Chiefs & Defence Secretary.

➢ **Awardee in the Defence Investiture Ceremony 2024:**
  ○ The President awarded 10 Kirti Chakras (7 posthumously) and 26 Shaurya Chakras (7 awarded posthumously).
  ○ **Inspector Dilip Kumar, head constable Raj Kumar Yadava,** constable Bablu Rabha and Sambhu Roy of the 210 CoBRA Battalion, CRPF, were posthumously presented the **Kirti Chakra for a collective act against the Maoists' ambush** in Chhattisgarh's Bijapur on 3rd April 2021.
  ○ **Major Vikas Bhambhu and major Mustafa Bohara** were posthumously awarded the Shaurya Chakra.
    - The **two officers had steered their chopper had caught fire**, away from human habitation and were killed after crash landing in Arunachal Pradesh's Upper Siang district.

# Death Anniversary of Swami Vivekananda

## *Why in News?*

Every year, **4th July** is observed as the **death anniversary** of **Swami Vivekananda.** He is considered as the **father of modern Indian nationalism** and is also credited with **raising interfaith awareness** and bringing **Hinduism to the status of a major world religion** in the late 19th century.

## *What are the Key Points About Swami Vivekananda?*

➢ **About:** Vivekananda was born as **Narendranath Datta** on **12th January 1863** in Calcutta.
  ○ In **1893**, upon the request of **Maharaja Ajit Singh of the Khetri State**, he **took the name 'Vivekananda.'**
  ○ He is credited for introducing **yoga and Vedanta** to the West.
  ○ He **died at Belur Math (1902) in West Bengal**. It is the headquarters of Ramakrishna Math & Ramakrishna Mission.
  ○ **National Youth Day** is held every year on **12th January** to observe the **birth anniversary** of Swami Vivekananda.

➢ **Spiritual Contribution:**

➢ He was one of **India's greatest spiritual leaders and intellectuals** and was the chief disciple of the **Ramakrishna Paramhansa.**

➢ Vivekananda's message to the world about **human values is rooted in the teachings of the Upanishads and the Gita,** as well as the examples set by the **Buddha and Jesus.**
  ○ His mission was to **bridge the gap between paramartha (service) and vyavahara (behavior),** as well as between spirituality and daily life.
  ○ He advocated the **doctrine of service.** Serving jiva (living beings) is considered worship of Siva.

➢ His landmark speech at the Parliament of the **World's Religions in Chicago in 1893** introduced Hindu philosophy (neo-Hinduism) to the Western world.

➢ He laid emphasis on education for the **regeneration of our motherland.** He advocated a man-making character-building education.

➢ He gave the four pathways of attaining moksha from the worldly pleasure and attachment in his books- **Raja-yoga, Karma-yoga, Jnana-yoga and Bhakti-yoga.**

➢ He **founded the Ramakrishna Mission in 1897** to propagate the ideals of service, education, and spiritual upliftment.

Note:

| **Ramakrishna Mission** |
| --- |

➢ **Ramakrishna Mission** carries out extensive **educational and philanthropic work** and expounds a modern version of **Advaita Vedanta**, a school of Indian philosophy.

➢ **Two objectives of the Ramakrishna movement were:**

   ❍ to establish a group of **monks committed to a life of renunciation and practical spirituality**, that can **disseminate the universal message of Vedanta.**

   ❍ **preaching and engaging in philanthropic and charitable activities,** viewing all men, women, and children, regardless of caste, creed, or color, as true manifestations of the Divine.

➢ The mission was **founded near Kolkata by Vivekananda in 1897** with a twofold purpose: to **spread the teachings of Vedanta** as embodied in the life of the saint Ramakrishna (1836–86) and to **improve the social conditions of the Indian people.**

➢ **Motto: "ATMANO MOKSHARTHAM JAGAD HITAYA CHA"** ("For one's own salvation and for the welfare of the world").

# India Won the 2024 T20 World Cup

### *Why in News?*

   Recently, India secured their **first ICC title since the 2013 Champions Trophy** by winning the ICC T20 World Cup in Barbados.

➢ This victory was seen as the end of a drought in major ICC tournaments.



### *How has the Journey of the T20 World Cup been Over the Years?*

➢ **About:**

   ❍ The T20 World Cup, **first played in 2007**, is an international cricket championship, usually held once **every two years.**

   ❍ While the T20 World Cup began as a 12-team competition in 2007, it was **expanded to 16 teams** from the 2014 edition.

     ● The **2024 edition had 20 sides** competing in four groups.

Note:

- ➤ **India's Journey Over the Years:**
  - ○ India won the **first men's Twenty20 World Cup** in South Africa, defeating Pakistan in the final led by MS Dhoni.
  - ○ India **finished runners-up in 2014**, losing to Sri Lanka in the final.
- ➤ **Winners:**
  - ○ Teams to win two T20 WCs
    - ● India (2007 & 2024)
    - ● West Indies (2012 & 2016)
    - ● England (2010 & 2022)
  - ○ With the 2022 victory, **England** became the **first team** to simultaneously hold both men's World Cups - **the 2019 ODI World Cup and the 2022 T20 World Cup.**

### T20 World Cup winners list

| Year | Winner | Runners-Up | Hosts |
|------|--------|------------|-------|
| 2007 | India | Pakistan | South Africa |
| 2009 | Pakistan | Sri Lanka | England |
| 2010 | England | Australia | West Indies |
| 2012 | West Indies | Sri Lanka | Sri Lanka |
| 2014 | Sri Lanka | India | Bangladesh |
| 2016 | West Indies | England | India |
| 2021 | Australia | New Zealand | UAE and Oman |
| 2022 | England | Pakistan | Australia |
| 2024 | India | South Africa | USA and West Indies |

- ➤ **Individual Feats of 2024 Cup:**
  - ○ India's **Virat Kohli** is the **leading run-getter** in the T20 World Cup history with 1292 runs in 35 matches, since his debut in 2012.
  - ○ Bangladesh all-rounder **Shakib Al Hasan** is the **top wicket-taker** in the T20 World Cup, recording 50 scalps in 43 matches between 2007 and 2024.
- ➤ **Key Highlights of the 2024 T20 Final:**
  - ○ **Player of the Match:** Virat Kohli
  - ○ **Player of the Tournament:** Jasprit Bumrah
  - ○ Most wickets in a T20 WC Edition:
    - ● 17 - Arshdeep Singh (IND, 2024)
    - ● 17 - Fazalhaq Farooqi (AFG, 2024)
  - ○ Lowest Economy Rate in a T20 WC Edition:
    - ● 4.17 - Jasprit Bumrah (2024)
  - ○ Only the 3rd time a team won the T20 WC final while **defending the target** after India in 2007 and West Indies in 2012.
  - ○ India became the **first team** to win a T20 World Cup by being **unbeaten through** the **tournament.**
  - ○ Post World Cup win, three Indian players namely, **Virat Kohli, Rohit Sharma, and Ravindra Jadeja** have announced their retirement from T20 internationals.
    - ● **BCCI**, the cricket governing body of India has **announced Rs 125 crore prize money** for Team India after the T20 World Cup win.

■■■

Note:

# Rapid Fire Current Affairs

## Highlights

- Kharchi Puja
- IMO Honours for Exceptional Bravery at sea
- Restoration of Interest Equalization Scheme
- RBI's Financial Inclusion Index
- Dark Net
- National One Health Mission
- National Gopal Ratna Award 2024
- Jagannath Rath Yatra and Ashadhi Bij
- Successful Launch of Ariane 6 Rocket
- World Population Day 2024
- Gold Smuggling at China Border
- 12th India-UAE Joint Defence Cooperation Committee Meeting
- Global Energy Independence Day
- Groynes
- Birth Anniversary of Dr. Shyama Prasad Mukherjee
- Cognitive Test
- India and Pakistan Exchange List of Prisoners
- SEHER Program
- 4,000-year-old Temple in Peru
- Indigenous Defence Production Hits Record
- World Zoonoses Day
- Mount Etna and Stromboli Eruption
- Gharials

- US to Kill Barred Owls
- Samayapuram Temple
- India's Indigenous Light Tank Zorawar
- CJI Advocates for More SAT Benches
- Comprehensive Immunisation Schedule for Women
- Sampoornata Abhiyan
- India and ADB to Bolster Pandemic Preparedness
- Windfall Tax
- Zinc's Role in Enhancing Legume Crop Health and Yield
- India's Crude Oil Imports Surge from Russia
- Havaldar Adbul Hamid
- International Conference on Steel Slag Road
- Certificates of Deposit
- New Nanocomposite for Cleaning Organic Waste
- Committee to Revise Base Year
- Front Running and Insider Trading
- National Statistics Day
- Araku Coffee
- Borneo Elephants
- National Financial Reporting Authority
- Mainland Serow
- Glucagon Manufacturing in PLI Scheme

## Kharchi Puja

Recently, **Kharchi Puja**, which is observed annually on the **Shukla Ashtami day** of the lunar month of **Ashadha,** was celebrated.

➤ **Kharchi Puja,** also known as the **'Festival of 14 Gods,'** this traditional event centers around the worship of **Chaturdasa Devata**, housed in the ancient **Ujjayanta Palace**, the ancestral deity of the Tripuri people.

  ❍ During the Puja day, the 14 gods are ceremonially taken by the royal priests known as **"Chantai"** to the river **"Saidra"** for bathing in its holy waters, after which they are reverently returned to the temple.

  ❍ Throughout the festival, the Tripuri people not only venerate their **14 deities** but also pay homage to the earth.

  ❍ A significant ritual of the celebration involves the construction of the **Chaturdasha Mandapa**, a structure symbolising the royal palace of the Tripuri kings.

➤ **History:**

  ❍ Although the festival has its roots in tribal customs, it is now celebrated by both **tribal and nontribal** communities in Tripura.

  ❍ According to belief, **Tripura Sundari**, the Mother Goddess and **guardian deity of Tripura**, menstruates

Note:

during June also called as **Ambubachi**. There is a widespread belief that the Earth becomes impure during her menstruation.

○ Therefore, **Kharchi Puja** is performed to ceremonially cleanse the Earth once her menstruation ends, purifying the land and absolving its people of sin.



**Kharchi Puja**

**Read more: Ambubachi Mela Cancelled**

# IMO Honours for Exceptional Bravery at sea

Captain Avhilash Rawat and his crew from an oil tanker have received the **2024 International Maritime Organisation (IMO) Award for Exceptional Bravery at Sea.**

➢ They were honoured for their "determination and endurance" during a rescue mission in the **Red Sea**, where they faced a serious fire after their ship was hit by an anti-ship missile believed to be fired by **Iranian-backed Houthi rebels.**

➢ The IMO annually invites nominations from member countries to honour seafarers for exceptional bravery at sea who were reviewed by an Assessment Panel of experts.

○ The panel's recommendations were then reviewed by a Panel of Judges chaired by the **Chairperson of the IMO Council.**

○ The final recommendations led to prestigious recognitions being bestowed on Indian seafarers.

➢ The annual awards ceremony will be held at **IMO Headquarters in London** on 2nd December 2024 during the **109th session of the Maritime Security Committee.**

➢ The IMO, a specialised agency of the UN, regulates shipping and prevents marine pollution from ships. It was established in 1948 after a **UN conference in**

**Geneva and officially came into existence in 1958.** It has 175 Member States, three Associate Members, India became a member in 1959.

○ The IMO's main role is to create a **fair and effective regulatory framework for the shipping industry** that is universally adopted and implemented. Additionally, IMO celebrates **World Maritime Day every last Thursday of September** to emphasise the importance of shipping and maritime activities.



**Read more: Escalating Threat in Red Sea, India Re-elected to International Maritime Organisation Council**

# Restoration of Interest Equalization Scheme

The engineering exporters' body **Engineering Export Promotion Council (EEPC India)** has requested to restore the **Interest Equalization Scheme (IES) for all exporters and increase benefits for Micro, Small and Medium Enterprises (MSME).**

➢ The IES for pre and post shipment rupee credit availed by exporters was started in 2015 and it lapsed in June 2024 for all exporters, except MSMEs.

➢ IES is a commerce ministry program that helps exporters get bank loans at a subsidised interest rate. EEPC urges to restore interest subvention rate to **3% for 410 tariff lines** and raise the rate to **5% for MSMEs exporting under any tariff line.**

➢ EEPC India, established in 1955, has played a significant role in the growth of Indian engineering exports, which have increased from USD 10 million in 1955 to USD 109.32 billion in the fiscal year 2023-2024.

○ It is recognised as the model EPC in India by the Union Ministry of Commerce and Industry and is

Note:

sponsored by the Government of India. It actively contributes to government policies and serves as a bridge between the Indian engineering industry and the government.

➤ **Remission of Duties and Taxes on Export Products (RoDTEP)** introduced in 2021 replaces the existing MEIS (Merchandise Exports from India Scheme).

  ○ It also ensures exporters **receive refunds on previously non-recoverable embedded taxes and duties,** while IES aims to provide interest rate equalisation on **pre- and post-shipment export credit to boost exports.**

  **Read more: Boosting Exports from MSMEs: NITI Aayog**

## RBI's Financial Inclusion Index

The **Reserve Bank of India (RBI)** has announced that the **Financial Inclusion Index (FI-Index)** has risen to 64.2 in March 2024, up from 60.1 in March 2023, indicating significant progress in **financial inclusion** across the country.

➤ The FI-Index is a comprehensive measure of financial inclusion, ranging from **0 to 100**, with 0 representing complete financial exclusion and 100 indicating full financial inclusion.

  ○ The FI-Index is published **annually in July** every year.

➤ It consists of **three main parameters: Access (35%), Usage (45%), and Quality (20%).** The index is based on **97 indicators** covering banking, investments, insurance, postal services, and pensions.

  ○ It was developed in consultation with the government and sectoral regulators to measure ease of access, availability, usage, and quality of financial services.

  ○ The improvement in the index was driven by growth across all sub-indices, with the usage dimension contributing the most to the overall increase.

➤ The index has been constructed **without a base year,** reflecting the cumulative efforts of all stakeholders towards financial inclusion over the years.



**Main Parameters of Fi-Index**
- Access (35%)
- Usage (45%)
- Quality (20%)
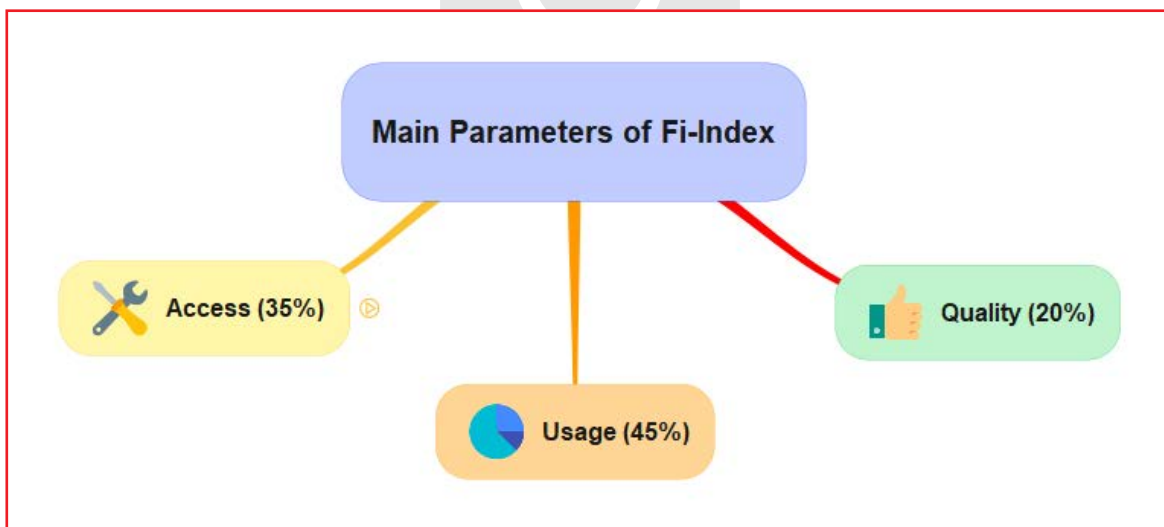
**Read more: Nine Years of Pradhan Mantri Jan Dhan Yojana**

## Dark Net

Recently, the **National Eligibility Entrance Test (NEET-UG)** and **University Grants Commission-National Eligibility Test (UGC-NET)** exam paper leaks on the **dark web** before the exam have sparked nationwide protests and concerns.

➤ **Dark Net:**

  ○ The dark net is a **concealed section of the internet** that regular search engines do not index. It can only be accessed using specialised browsers such as **Tor (The Onion Router).**

Note:

○ It was **initially developed to facilitate secure, anonymous communication, primarily for government and military use.**

  ● However, it has recently become **associated with criminal activities** such as the sale of **illegal weapons and drugs.**

○ Conversations on the dark net are **heavily encrypted,** leaving **no trace of communication between sender and receiver**, ensuring high anonymity for users.

➢ **Indian law does not penalize the use or access of the Dark Net,** as accessing it is legal in India. However, **using it for illegal purposes is punishable under the law.**

➢ **Malware Risk on Dark Net:**

○ **Malware flourishes on the dark net**, where it is actively traded on certain platforms, **providing cybercriminals with tools for launching cyberattacks.**

  ● Similarly, it lurks on dark net sites, poised to infect unsuspecting users, much like it does on the surface web.

○ Dark net users often encounter **keyloggers, botnet malware, ransomware, and phishing malware** among the various types of malicious software available.

## Surface Web vs. Deep Web vs. Dark Web

### Surface Web
- Searchable websites
- E-commerce sites
- News sites
- Public blogs and forums

### Deep Web
- Websites requiring a login
- Email accounts
- Online banking accounts
- Subscription services

### Dark Web
- Sites requiring access through Tor
- Websites not indexed on search engines
- .onion domains
- Decentralized marketplaces
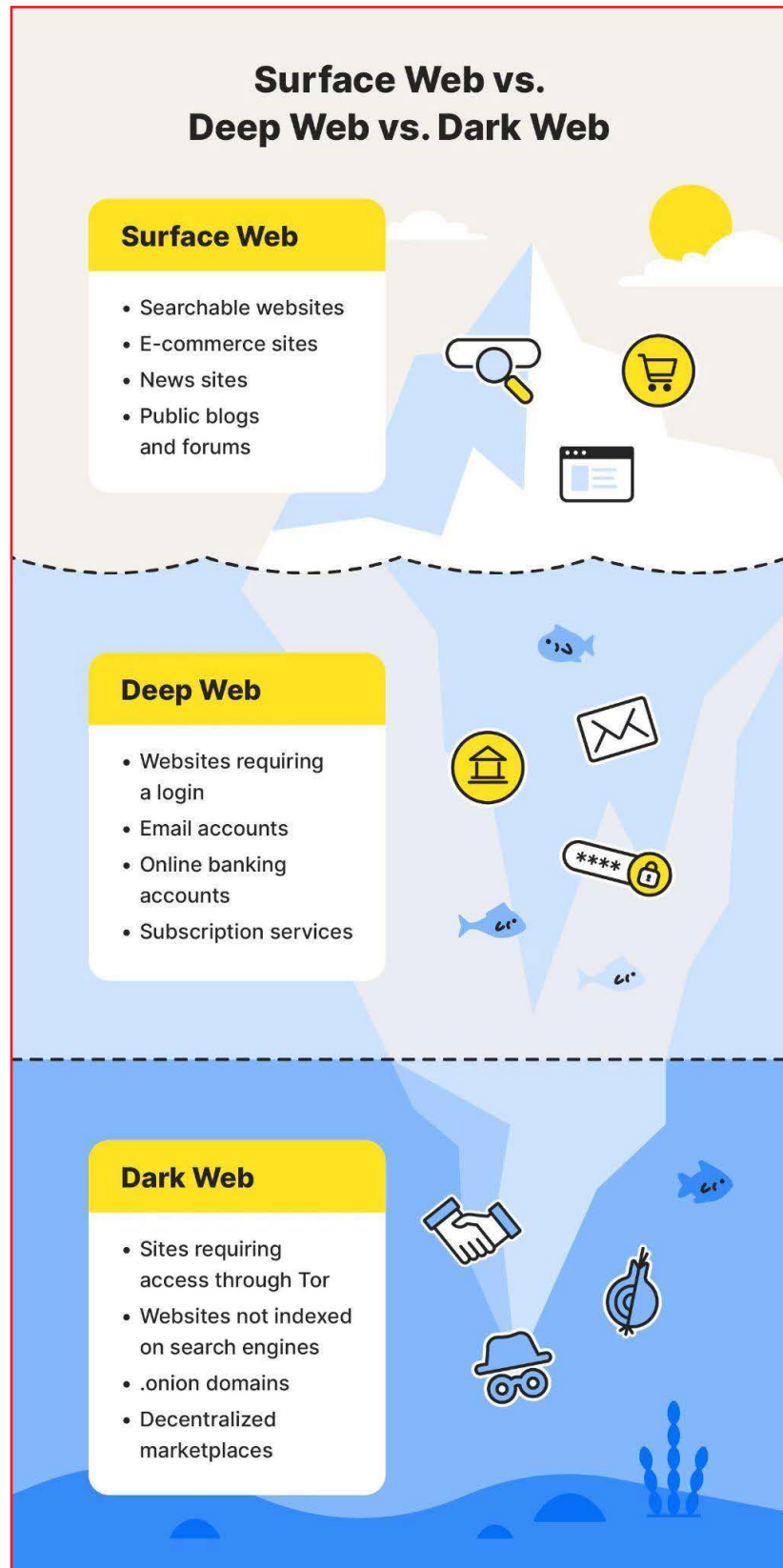
**Read More: NEET and UGC Leak Controversy, Dark Net**

Note:

# National One Health Mission

Recently, the **Union Health Minister** chaired the **first executive committee meeting** of the **National One Health Mission.**



> ➤ The National One Health Mission was approved by the **Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC)** in 2022.
> ➤ The mission aims to **coordinate across ministries** in achieving overall **pandemic preparedness and integrated disease control** against priority diseases of **both human and animal sectors.**
> ➤ The mission will help in institutionalising the **'One Health'** **approach.**
>    ○ **One Health** is an approach that recognises that the health of people is closely connected to the health of animals and our shared environment.
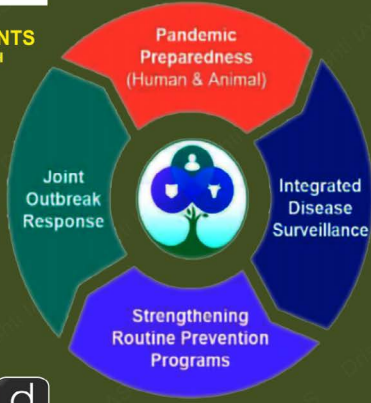
Note:

➢ The specific efforts under the **National One Health Mission** include:
  - Implementing Integrated Disease Surveillance
  - Environmental Surveillance System
  - Develop Robust Outbreak Investigation Mechanisms
➢ Critical pillars of preparedness in the form of **targeted R&D** to develop important tools such as **vaccines, diagnostics and therapeutics, clinical care, streamline data and information** across sectors as well as close **community participation** will also be addressed by the mission.

  **Read more: One Health**

# National Gopal Ratna Award 2024

   The **Department of Fisheries, Animal Husbandry and Dairying** has been conferring the **National Gopal Ratna Award** every year with the objective of encouraging **the Milk stakeholders.**

➢ In the field of livestock and dairy sector, the National Gopal Ratna Award is **one of the highest National Awards.**
➢ The Department has incorporated a **Special award for North Eastern Region (NER)** States so as to **encourage and boost the dairy development activities** in the North Eastern Region (NER).
➢ **The Award is conferred into the following categories:**
  ○ **Best Dairy farmer rearing Indigenous Cattle/ buffalo breeds**
  ○ **Best Dairy Cooperative Society** (DCS)/**Milk Producer Company** (MPC)/ **Dairy Farmer Producer Organization** (FPO).
  ○ **Best Artificial Insemination Technician** (AIT).
➢ The **Department** of Animal Husbandry and Dairying has been **conferring the National Gopal Ratna Award** every year **since 2021, under the Rashtriya Gokul Mission (RGM).**

○ The RGM was **launched in December 2014,** with a view **to conserve and develop indigenous bovine breeds in a scientific manner.**

  **Read more: National Gopal Ratna Award**

# Jagannath Rath Yatra and Ashadhi Bij

   Recently, the **PM greeted the people** on the auspicious occasion of **Jagannath Rath Yatra** and **Ashadhi Bij, the Kutchi New Year.** The **CM of Gujarat** performed the **'Pahind Vidhi,'** the **symbolic cleaning of the path for Jagannath's chariot** for the Rath Yatra.

➢ **Jagannath Rath Yatra:** It is an annual Hindu festival that celebrates the journey of Lord Jagannath, his elder brother Lord Balabhadra, and his younger sister Goddess Subhadra from their home temple in Puri, Odisha to their aunt's temple in Gundicha, about three kilometres away.
  ○ The festival dates back to at least the 12th century CE, when the Jagannath temple was built by **King Anantavarman Chodaganga Deva.**
  ○ The festival is also known as **Festival of Chariots**, as the deities are carried on **three massive wooden chariots that are pulled by devotees with ropes.**
  ○ It begins on the **second day of the bright fortnight of the month of Ashadha (June-July)** and lasts for **nine days.**
➢ Ashadhi Bij:
  ○ It falls on the **second day of Shukla paksha of Ashada month** of Hindu calendar.
  ○ The festival is associated with the **beginning of rains** in the Kutch region of Gujarat.
  ○ During Ashadhi Bij, the moisture in the atmosphere is checked to predict which crop would do best in the coming moa
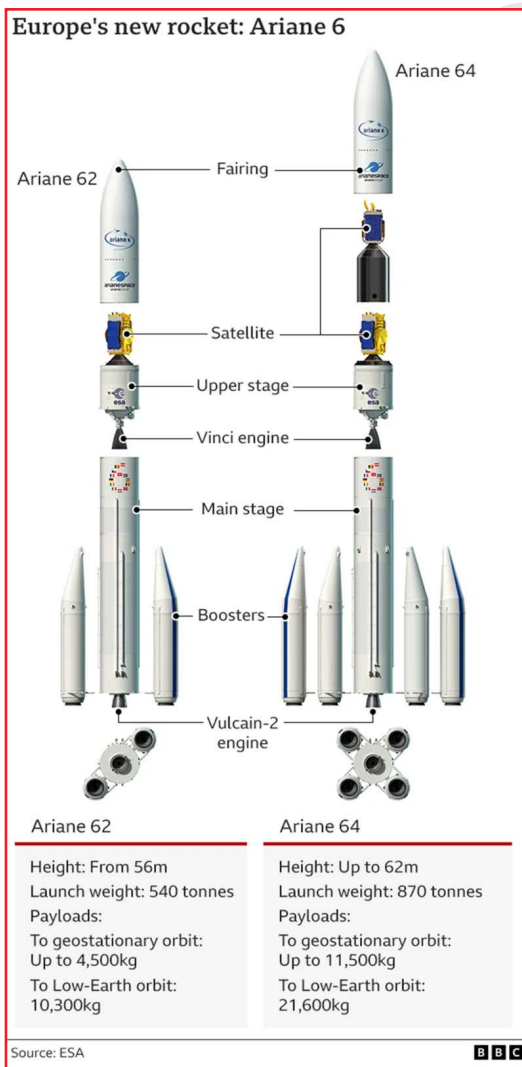
| Traditional New Year Festivals in India | |
|---|---|
| **Name** | **Features** |
| Chaitra Shukla Pratipada | ➢ Marks the beginning of the new year of the Vikram Samvat also known as the Vedic (Hindu) calendar. |
| Gudi Padwa and Ugadi | ➢ Celebrated in the Deccan region including Karnataka, Andhra Pradesh and Maharashtra. |

Note:

| Navreh | ➢ Lunar New Year celebrated in Kashmir. Falls on the first day of the Chaitra Navratras. |
|---|---|
| Sajibu Cheiraoba | ➢ Celebrated by Meiteis in Manipur. Observed on the first day of Manipur lunar month Shajibu. |
| Cheti Chand | ➢ Celebrated by Sindhi community. Birth anniversary of Ishta Deva Uderolal/Jhulelal, the patron saint of Sindhis. |
| Bihu | ➢ Celebrated thrice a year - Rongali or Bohag Bihu in April, Kongali or Kati Bihu in October and Bhogali or Magh Bihu in January. |
| Baisakhi | ➢ Celebrated as the Indian thanksgiving day by farmers. Foundation of the Khalsa Panth was laid on this day by Guru Gobind Singh. |
| Losoong | ➢ Also known as Namsoong, is the Sikkimese New Year. |

**Read More: Jagannath Rath Yatra, Ashadhi Bij**

# Successful Launch of Ariane 6 Rocket



Europe's new rocket: Ariane 6

Ariane 64 / Ariane 62 — Fairing, Satellite, Upper stage, Vinci engine, Main stage, Boosters, Vulcain-2 engine

**Ariane 62**
Height: From 56m
Launch weight: 540 tonnes
Payloads:
To geostationary orbit: Up to 4,500kg
To Low-Earth orbit: 10,300kg

**Ariane 64**
Height: Up to 62m
Launch weight: 870 tonnes
Payloads:
To geostationary orbit: Up to 11,500kg
To Low-Earth orbit: 21,600kg

Source: ESA

Recently, **the European Space Agency (ESA)** successfully launched the **Ariane 6 rocket,** for the first time, from **French Guiana**, marking Europe's return to independent space access after delays and setbacks.

➢ It is the latest rocket in **Europe's Ariane** rocket series (taking over from **Ariane 5**) that can launch missions from **low-Earth orbit** and farther out into **deep space**.

○ **Ariane-5 Rocket** has been used to launch **ISRO's communication satellites** like **GSAT-11**, **GSAT-30**, **GSAT-31**, **ESA's Juice mission** and NASA's **James Webb Space Telescope (JWST)**.

➢ This debut flight carried **nine cubesats** into orbit, including **NASA's CubeSat Radio Interferometry Experiment (CURIE)** and other satellites studying **Earth's climate and weather.**

➢ The **Vinci engine** used in the upper stage is designed to restart repeatedly, allowing the operating agency to place payloads into several different orbits.

➢ **29 missions** will be launched by **Ariane 6** over the next several years and aims for up to 12 flights a year.

**Read More: European Space Agency's Juice Mission**

# World Population Day 2024

**World Population Day** is observed on **11th July every year** to **raise awareness about global population issues** and the **importance of reproductive health and rights**. It was established by the **United Nations in 1989.**

➢ **History:**

○ In 1989, the **United Nations Development Programme (UNDP)** proposed that July 11th be designated as World Population Day to draw global attention to the urgency and significance of population-related issues.

Note:

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○ UNDP was inspired by the public interest and awareness that was created by **"Five Billion Day" on 11th July 1987 when the world's population reached 5 billion.**

➤ **Theme:**

○ The theme of this 2024 WPD is *"Leave no one behind, count everyone"*.

➤ In 2011, the global population reached the 7 billion mark, it stands at almost **7.9 billion in 2021,** and it's **expected to grow to around 8.5 billion in 2030,** 9.7 billion in 2050, and 10.9 billion in 2100.

○ According to the **UN's World Population dashboard, India's population 2024** stands at slightly over **1.428 billion.**

**Read more:** World Population Day

# Gold Smuggling at China Border

Recently, the **Indo-Tibetan Border Police (ITBP)** under the **operation Jazba** arrested two men near the **China border in Eastern Ladakh** for allegedly smuggling 108 kg of gold biscuits from China.

➤ While smuggling of smaller items was common, it was the first time that an alleged gold smuggling racket was exposed in the area which was **the largest haul of gold ever by ITBP.**

➤ ITBP is authorised to **carry out search and seizures** by the **Union Ministry of Home Affairs (MHA)** and also incorporated in **the ITBP Act** to exercise the **powers of Customs on the border** to keep a check on smuggling activities.

**Read more: Countering the Menace of Smuggling**

## CENTRAL ARMED POLICE FORCES (CAPF)

*The CAPF includes the seven security forces in India functioning under the Ministry of Home Affairs.*

### Assam Rifles (AR)

- **Origin:** 1835, as militia called '**Cachar Levy**'
  - **Erstwhile objective:** To protect British Tea estates
- **Current Objectives:**
  - Conducting anti-terrorist operations in NER
  - Ensuring security at India-China and India-Myanmar borders
- **Imp Role in:**
  - Sino-India War 1962
  - Indian Peace Keeping Force (IPKF) to Sri Lanka (1987)

*Due to long association with tribal belts, Assam Rifles are also called 'Friends of the North East'*

### Border Security Force (BSF)

- **Origin:** 1965
- **Objectives:**
  - Securing land borders with Pakistan and Bangladesh
  - Also performing Anti-Infiltration in Kashmir Valley
  - Counter Insurgency in NER
  - Anti-Naxal Operations in Odisha and Chhattisgarh
- **Wings:** Air wing, marine wing, an artillery regiment, and commando units

*BSF is India's First Line of Defence and the world's largest border guarding force*

### Central Reserve Police Force (CRPF)

- **Pre-Independence Origin:** 1939 (Crown Representative's Police)
- **Post Independence:** 1949 - under CRPF Act, became Central Reserve Police Force
- **Objective:** Crowd control, riot control, counter militancy/insurgency operations, etc.

*CRPF is the principle central police force for internal security*

### Indo-Tibetan Border Police (ITBP)

- **Origin:** 1962
- **Objectives:**
  - Deployed on border from Karakoram Pass (Ladakh) to Jachep La (Arunachal Pradesh) (~3488 km of Indo-China Border)
  - Manning Border Outposts on altitudes 9000 ft - 18700 ft in Western, Middle and Eastern sectors of Indo-China Border

*ITBP is India's specialised mountain force & the first responder to natural disasters*

### National Security Guard (NSG)

- **Origin:** 1984 (came into being in 1986), following **Operation Blue Star**
- **Objectives:** Counter-terrorism unit/Federal Contingency Force
- **Task-oriented Force - Two complementary elements:**
  - Special Action Group (SAG)
  - Special Ranger Groups (SRG)

### Sashastra Seema Bal (SSB)

- **Origin:** 1963
- **Objectives:**
  - Guarding Indo-Nepal and Indo-Bhutan borders
  - Enhance border security, curb trans-border crimes, prevent unauthorised entry/exit, halt smuggling, etc.

### Central Industrial Security Force (CISF)

- **Origin:** Central Industrial Security Force Act, 1968
- **Objectives:** Ensuring security of major critical infrastructure installations

*CISF is the sole CAPF unit with a specialised fire wing*

Drishti IAS

Note:

# 12th India-UAE Joint Defence Cooperation Committee Meeting

Recently, the 12th edition of the **Joint Defence Cooperation Committee (JDCC)** meeting between **India and the United Arab Emirates (UAE)** was held in Abu Dhabi focusing on enhancing bilateral defence and security cooperation.

➢ The meeting covered a wide range of areas, including training, joint exercises, defence industrial cooperation, and R&D, demonstrating a comprehensive approach to strengthening the partnership.

    ❍ The India-UAE JDCC was established in 2006. Since then, 11 rounds have been held. India and UAE have seen steady growth in bilateral defence interaction.

    ❍ **India-UAE Defence Collaboration:**

      ● **Air Force:** Trilateral Air Exercise on Humanitarian Assistance & Disaster Relief (HADR) in 2018.

      ● **Navy:** Exercise "Gulf Star 1", **Zayed Talwar,** and **IDEX/NAVDEX**.



➢ The UAE is located on the **Arabian Peninsula**, bordering the **Gulf of Oman** and the **Persian Gulf**. It is bordered by Saudi Arabia to the south and west, and the Sultanate of Oman (southeast), while Qatar lies to the northwest

    ❍ The UAE, along with **Iran and Oman,** shares a coastline with the **Strait of Hormuz,** making it one of the three countries bordering this strategic waterway.

➢ The UAE is governed by a Federal Supreme Council and is made up of seven Emirates of: **Abu Dhabi (largest emirate)**, Dubai, Ajman, Fujairah, Sharjah, Ras al-Khaimah, and Umm al-Qaiwain.

   **Read More: India-UAE Relations**

# Global Energy Independence Day

**Global Energy Independence Day**, celebrated globally on 10th July every year, marks a **pivotal moment for countries** striving to achieve **energy self-sufficiency and sustainability.**

➢ It is a **call to action for individuals**, businesses, and governments to recognize the importance of reducing dependence on **non-renewable energy sources** and transitioning to cleaner, more sustainable energy solutions.

➢ It has since become widely recognized worldwide and **highlights the significance of energy autonomy** and a variety of sustainable energy sources.

➢ The theme for the year 2024, *"Energy Transition Now: Embrace the Future,"* encapsulates the urgency and importance of adopting sustainable energy practices.

➢ With **climate change** accelerating and the demand for energy increasing, this day serves as a **reminder of the critical need** for innovation and commitment to sustainable energy.

   **Read more: Global Energy Equity**

# Groynes

Groynes are **low-lying wood or concrete structures** which are situated out to sea from the shore.

➢ They are **designed to trap sediment**, dissipate wave energy, and **restrict the transfer of sediment** away from the beach through longshore drift.

    ❍ **Longshore drift is caused** when prevailing winds blow waves across the shore at an angle that carries sediment along the beach.

    ❍ Groynes **slow the process of erosion at the shore.**

➢ They can also be **permeable or impermeable**, permeable groynes allow some sediment to pass through and some longshore drift to take place.

    ❍ However, **impermeable groynes are solid** and prevent the transfer of any sediment.

Note:

➤ They are **very effective at protecting the coastline** in the short-term as they are immediately effective as opposed to some longer-term soft engineering methods.

  ❍ However, they are **often intrusive and can cause issues** elsewhere in other areas along the coastline.

  **Read More: Coastal Erosion**

# Birth Anniversary of Dr. Shyama Prasad Mukherjee

The **Prime Minister** recently paid tribute to **Dr. Shyama Prasad Mukherjee** on his **birth anniversary.**
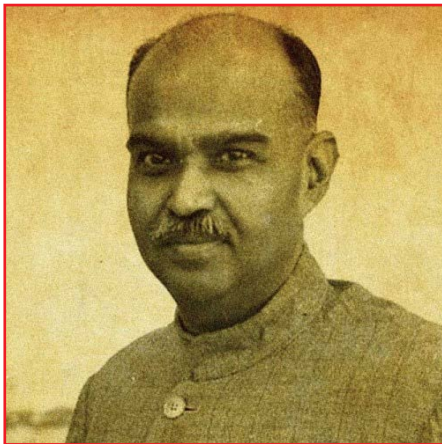


➤ Shyama Prasad Mukherjee was born in a Bengali Brahmin family on the **6ᵗʰ July 1901**, in Calcutta.

➤ He was an **Indian politician, barrister, and academician** who served as the Minister for Industry and Supply in Prime Minister **Jawaharlal Nehru's** cabinet.

➤ He started **"Bang Wani"**, a **Bengali journal, in 1922** and **The Nationalist in 1940's.**

➤ At the age of 33, Shyama Prasad Mukherjee became the **youngest vice-chancellor of Calcutta University in 1934.**

➤ He **demanded the partition of Bengal in 1946** to prevent the inclusion of its Hindu-majority areas in a Muslim-dominated East Pakistan.

➤ He also **opposed a failed bid for a united but independent Bengal** made in 1947 by Sarat Bose, the brother of Subhas Chandra Bose, and Huseyn Shaheed Suhrawardy, a Bengali Muslim politician.

➤ He **founded the Bharatiya Jana Sangh (BJS)**, the predecessor of the modern-day Bharatiya Janata Party (BJP).

➤ He died in mysterious circumstances during detention in 1953 while protesting against the **special status given to Kashmir**.

  **Read more: Dr. Shyama Prasad Mukherjee**

# Cognitive Test

Recently, the US President is facing calls to take a **cognitive test** amid concerns over his fitness for the presidency.

➤ The **cognitive test** evaluates **mental function** and **how the brain processes thoughts** by **asking basic questions** and having **individuals perform simple tasks**.

  ❍ **Cognition** is the brain's ability to process all the information it takes in from your senses.

➤ It identifies **cognitive deficits, their causes**, and the **affected brain regions.**

  ❍ Based on the test results, a **diagnosis is made** of **cognitive impairment, dementia**, or **pseudo-dementia**, leading to interventions such as **behaviour and cognitive therapies**.

➤ It is recommended for people experiencing **memory deficits, perceived memory loss** or **forgetfulness, difficulty focusing or making judgments.**

**Common Cognitive Screening Tests:**

➤ **Montreal Cognitive Assessment (MoCA)** involves tasks like memorising words, naming objects, and copying shapes.

➤ **Mini-Mental State Exam (MMSE)** includes counting backwards, identifying objects, and stating the date.

➤ **Mini-Cog** requires memorising words, drawing a clock, and adding time points.
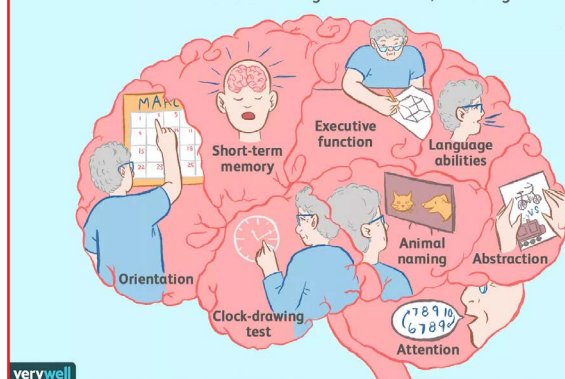


**Read more: Cognitive Dissonance**

Note:

# India and Pakistan Exchange List of Prisoners

Recently, **India and Pakistan** exchanged lists of **civilian prisoners and fishermen** held in each other's custody through diplomatic channels simultaneously at New Delhi and Islamabad.

➢ Under the provisions of the **bilateral Agreement on Consular Access 2008**, such lists are exchanged **every year on 1st January and on 1st July.**

   ❍ **Section 4** of the agreement states that **both nations' governments must offer consular access to citizens** of the other nation within three months of their arrest, detention, or imprisonment.

   ❍ **Section 5** of the agreement stipulates that **both governments must release and repatriate individuals** within one month of confirming their national status and completing their sentences.

➢ The Government of India has called for **early release and repatriation of civilian prisoners**, fishermen along with their boats, and missing Indian defence personnel from Pakistan's custody.

    **Read more: India-Pakistan**

# SEHER Program

Recently, the **Women Entrepreneurship Platform (WEP)** and **TransUnion CIBIL** launched the **SEHER program** to empower women entrepreneurs in India.

➢ It aims to **increase awareness among women entrepreneurs** about **finances, accessing and managing credit** by providing personalised resources and tools.

➢ India has the potential to create **more than 30 million** new women-owned enterprises and **150-170 million more jobs** by accelerating women's entrepreneurship.

➢ Women in Business in India:

   ❍ India has **63 million Micro, Small, and Medium Enterprises (MSMEs)**, with around **20%** owned by women, **employing 27 million** people.

   ❍ The **demand for business loans by women** has grown **3.9 times** in the last 5 years (FY 2019 - FY 2024).

   ❍ The **share of women borrowers** holding a business loan increased by **10%** between FY 2019 and FY 2024.

   ❍ **Rural areas** have a slightly **higher share of women-owned** enterprises **(22.24%)** compared to urban areas (18.42%).

➢ WEP was launched in **2018** by **NITI Aayog** and transitioned into a **Public-Private Partnership (PPP)** in 2022 with the goal of **supporting women entrepreneurs** in India.

➢ TransUnion CIBIL is India's leading **credit information company** with one of the largest collections of consumer information.

    **Read More: India's MSME Sector, UNDP and DAY-NULM for Women Entrepreneurs**

# 4,000-year-old Temple in Peru

A team of archaeologists has unearthed a **4,000-year-old ceremonial temple** buried in a sand dune in Zana, Lambayeque region, northern **Peru**, near the Pacific Ocean revealing skeletal remains that suggest offerings for ancient religious rituals.

➢ **Skeletal remains of three adults were found within the multi-story structure**. One of the remains was accompanied by offerings and possibly wrapped in linen or clothing.

➢ A high-relief drawing on one temple wall depicts a mythological figure with a human body and a bird's head, predating the **pre-Hispanic Chavin culture.**

   ❍ The **Chavín civilization developed** in the northern **Andean highlands** of Peru between 900-250 BCE. It was located in the Mosna Valley , where the Mosna and Huachecsa rivers merge. It is now a **UNESCO World Heritage site (Chavin de Huantar).**

➢ Nearby excavations revealed another temple belonging to the **late Moche culture,** dating back about 1,400 years.

   ❍ The **Moche culture, also known as the Mochica culture**, thrived on the northern coast of Peru between roughly 100 CE and 800 CE. Flourished in the river valleys along the arid north coast of Peru.

➢ **Northern Peru** is known for ancient ceremonial complexes like the **Sacred City of Caral (5,000 years old).**

   ❍ Peru's most prominent archaeological site is the **Incan citadel Machu Picchu,** built in the mid-15th century.

Note:

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# MAJOR CIVILISATIONS OF THE WORLD

## MESOPOTAMIA, 4000–3500 BC

- Modern-day Iraq and parts of **Iran, Syria, Kuwait,** and **Turkey,** between **Tigris** and **Euphrates Rivers**
- Known as **Fertile Crescent/Cradle of civilization**
- Diverse collection of cultures bound by their script, gods, and views on women
- **Highly esteemed education system** (law, medicine, and astrology, reflecting rich cultural and religious landscape)
- Both **men and women were involved in diverse occupations**
- **Cities built around ziggurats,** step-pyramid temples, honoured their patron deity
- Cities, made of **sun-dried brick,** were the world's first

## ANCIENT EGYPT, 3100 BC

- Set along fertile **Nile River**
- Most known for **pyramids, tombs, and mausoleums** practice of mummification to prepare corpses for afterlife
- Left legacy of monumental writing and mathematics systems
- Civilization **ended in 332 BC** with Alexander the Great's conquest

## INDUS VALLEY CIVILISATION, 3300 BC

- Located in modern-day **India, Afghanistan, and Pakistan**
- Relatively peaceful compared to other ancient civilizations, with little evidence of widespread warfare
- **Organised city planning,** complete with **uniform baked-brick homes,** a grid structure, and drainage, sewage, and water supply systems
- **Declined around 1800 BC,** actual reasons behind demise still debated (theories propose Aryan invasion or climatic & natural factors for decline)

## ANCIENT CHINA, 2000 BC

- Protected by the Himalayan Mountains, Pacific Ocean, and Gobi Desert, and **situated between Yellow and Yangtze rivers**
- Flourished in isolation from invaders and other foreigners for centuries
- Generally divided into four dynasties—**Xia, Shang, Zhou, and Qin** - ancient China was ruled by a succession of emperors
- Credited with developing the **decimal system, abacus, and sundial,** as well as **the printing press**
- Mobilised populations to build massive infrastructure projects (like Egyptians)

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Read more: **Discovery of Ancient Maya City**

# Indigenous Defence Production Hits Record

Recently, India's **indigenous defense production** reached a record high of **Rs 1.27 lakh crore** in **2023-24**, a **growth of 16.7%** over the FY 2022-23.

➢ The value of defense production in FY 2022-23 was **Rs 1.08 lakh crore.**

➢ India's annual defense production **target** is set to reach **Rs 3 lakh crore by 2028-29**.

➢ **79.2%** of the total value of production came from **Defence Public Sector Undertakings (DPSUs)** and other PSUs, while **20.8%** was from the **private sector.**

➢ The **growth in defense production value** has been over **60%** since 2019-20.

➢ **Defense exports grew by 32.5%** from Rs 15,920 crore in FY 2022-23 to reach **Rs 21,083 crore** in **2023-24**. It is expected to reach Rs 50,000 crore by 2028-29.

➢ The defence budget for 2024-25 has been allocated **Rs 6.21 lakh crore**. **Capital acquisition projects** worth over Rs 4,35,000 crore have been approved in 2023-24.

Note:

- ❍ 75% of the capital acquisition budget has been earmarked for procurement from local companies.
- ➤ The significant growth in the Indian defence sector is attributed to policy reforms, **Ease of Doing Business** initiatives, and comprehensive digital solutions, reflecting global acceptance of Indian defense products and technologies.



# DEFENCE MANUFACTURING

### MARKET SIZE

**Defence Production in India (US$ billion)**

- 2024*: 9.0
- 2025F: 25.0

### SECTOR COMPOSITION

**Defence Production in India by Sector in FY23 (%)**
- DPSUs+ OFB: 19.39%
- Other PSUs and JVs: 6.58%
- Private Companies: 74.03%

**Value of Production by Defence PSUs (US$ billion)**
- 2018-19: 6.5
- 2019-20: 6.8
- 2020-21: 6.4
- 2021-22: 7.5
- 2022-23: 7.7
- 2023-24*: 5.0

Note: *Until November 17, 2023

### KEY TRENDS

**MoD's Resource Projection and Allocation under Defence Services Estimates**
- 2019-20: Projection 57.4, Allocation 40.5, Gap 30%
- 2020-21: Projection 56.4, Allocation 42.4, Gap 25%
- 2021-22: Projection 60.4, Allocation 43.63, Gap 28%
- 2022-23: Projection 66.8, Allocation 48.11, Gap 28%

Legend: Projection (US$ billion), Allocation (US$ billion), Gap

**Breakdown of fund allocation in Defence Industry as per the Budget 2024-25**
- Defence Services (Revenue): 45.5
- Capital Outlay on Defence Services: 27.7
- Defence Pensions: 22.7
- MoD (Civil): 4.

### GOVERNMENT INITIATIVES

Increased Cooperation with Vietnam on Surveillance and Shipbuilding Technology

MINISTRY OF DEFENCE — Defence Production and Export Promotion Policy 2020

Defence Park in Kerala to Promote MSMEs and Boost 'Make in India' Initiative

### ADVANTAGE INDIA

- **Growing demand:** Till April 2023, a total of 606 industrial licences were issued to 369 companies operating in the defence sector. Defence exports rose 240% over five years in FY23, to US$ 1.9 billion (Rs. 15,918.16 crore); India now exports to over 85 countries due to collaborative efforts. Defence exports US$ 2.63 billion in FY24, up by 32.5% from last year
- **Competitive advantage:** India has the world's fourth-largest defence expenditure, as of 2022, and has set a target of US$ 6.02 billion (Rs. 50,000 crore) worth of annual defence exports by 2028-29. India's defence budget of US$ 74.7 billion ranked fourth highest globally in 2023.
- **Government support:** Under the Atmanirbhar Bharat Initiative, five positive indigenization lists of 509 products have been promulgated by the Department of Military Affairs and Ministry of Defence to be manufactured domestically for the defence sector, instead of being sourced via imports.
- **Opportunities:** The government has established 2 Defence Industrial Corridors in Uttar Pradesh and Tamil Nadu. India has around 194 defence tech startups building innovative tech solutions to empower and support the

**Read More: Defence Exports Touch Record High.**

Note:

# World Zoonoses Day

On the eve of **World Zoonoses Day**, the **Department of Animal Husbandry and Dairying (DAHD) organized an interactive session**.

➢ It is celebrated in honour of **Louis Pasteur,** who administered the **first successful rabies vaccine**, a zoonotic disease, on **6th July 1885.**

➢ **Zoonoses are infectious** diseases that can **transfer between animals and humans,** such as **rabies**, **anthrax**, **influenza (H1N1 and H5N1)**, **Nipah**, **Covid-19**, **brucellosis**, and **tuberculosis.**

  ❍ These diseases are caused by various **pathogens, including bacteria**, **viruses**, **parasites**, **and fungi.**

➢ Many **non-zoonotic diseases** affect livestock without posing a risk to human health.

  ❍ Examples include **Foot & Mouth Disease**, **Peste des Petits Ruminants (PPR)**, **Lumpy Skin Disease**, **Classical Swine Fever**, and **Ranikhet Disease.**

➢ **About 60% of all diseases are zoonotic,** and 70% of emerging infections originate from animals.

➢ Prevention and control of zoonotic diseases rely on vaccination, good hygiene, animal husbandry practices, and vector control through the **One Health approach**.

➢ To mitigate the risk, the DAHD has launched a nationwide campaign for **Brucella vaccination of bovine calves** under **National Animal Disease Control Programme (NADCP)** and undertaken **Rabies Vaccination** under **Assistance to States for Control of Animal Diseases (ASCAD)**.

➢ **India accounts 11% and 18% of the global livestock and poultry** population, respectively. Additionally, India is the **largest producer of milk and the second-largest producer of eggs globally.**

  **Read more: World Zoonosis Day**
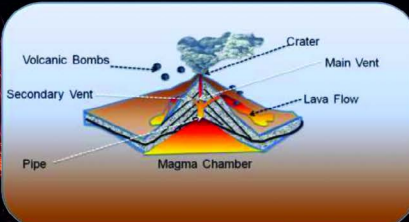
# Mount Etna and Stromboli Eruption

Recently, volcanic eruptions at **Mount Etna** and **Stromboli** in **Italy** have caused the eruption of hot **ash** and **lava** from it.



➢ **Mount Etna** is located on the island of **Sicily**, in the southern part of Italy.

  ❍ It is the highest peak in Italy South of the Alps.

  ❍ Europe's **most active volcano is also one of the largest volcanoes in the world**. Furthermore, it is the highest mountain on a Mediterranean island and the **most active stratovolcano globally**.

Note:

- **Stratovolcanoes** are **tall, conical volcanoes** built up by **layers of hardened lava, ash, and rock** fragments.
- They are typically found above **subduction zones**, and they are often part of **large volcanically active regions**, such as the **Ring of Fire** that frames much of the Pacific Ocean.

➤ **Stromboli** (also a stratovolcano) is a small island in the **Tyrrhenian Sea**, off the northern coast of **Sicily,** Italy.

○ It is one of the most continuously active volcanoes in the world, also known as **"Lighthouse of the Mediterranean."**

**Read More: Volcanism**

# Gharials

A lone female gharial in **Kaziranga National Park and Tiger Reserve, Assam** has sparked hopes for the species' revival in the **Brahmaputra River System (BRS).**

➤ The **gharial** *(Gavialis gangeticus)* is distinct from other **crocodilians** due to its **long snout.** It is thought to have disappeared from the BRS in the 1950s, with some reported sightings in the 1990s.

➤ According to the **Wildlife Institute of India**, gharials were widely distributed in the **Brahmaputra, Ganga, Indus,** and the Mahanadi-Brahmani-Baitarani river systems of India, Bhutan, Bangladesh, Nepal, and Pakistan.

○ Currently, their major populations occur in three **tributaries of the Ganga** (the Chambal and Girwa in India, and the Rapti-Narayani river in Nepal).

➤ According to **the IUCN's Red List** the Gharial is *Critically Endangered* due to construction projects and water extraction impacting its river ecosystems.

## CROCODILE SPECIES IN INDIA

India harbours three diverse crocodile species—Mugger, Saltwater, and Gharial-found in distinct habitats nationwide.

| Aspects | Gharial | Mugger/Indian Crocodile | Saltwater Crocodile |
|---|---|---|---|
| Scientific Name | *Gavialis Gangeticus* | *Crocodylus Palustris* | *Crocodylus Porosus* |
| Distribution: India | **Viable Population:** National Chambal Sanctuary (U.P, Raj, M.P) **Small Non-Breeding Population:** Son, Gandak, Hooghly, Ghagra & Satkosia WLS (Odisha) | Throughout India | East Coast (Odisha's Bhitarkanika WLS, Andaman & Nicobar Islands coast & Sundarbans |
| Distribution: Neighbourhood | Brahmaputra of Bhutan & Bangladesh& Irrawaddy River | Extinct in Bhutan and Myanmar | Across Southeast Asia |
| Special Feature | Longest of all Crocodile, Long and thin Snout | Egg-laying, Hole-nesting, Wide & U-shaped Snout | Largest living reptile, Pointed & V-shaped Snout |
| Habitat | Freshwater | Freshwater | Saltwater, Brackish & Wetlands |
| IUCN Status | CR | VU | LC |
| CITES Status | Appendix I | Appendix I | Appendix I |
| CMS Status | Appendix I | - | Appendix II |
| WPA,1972 Status | Schedule I | Schedule I | Schedule I |
| Threats | Dams, Pollution, Sand mining | Habitat Destruction | Hunted for its skin and Habitat loss |
| Government Initiatives | ▪ Odisha: Rs. 1000 award to conserve Gharial in Mahanadi River Basin ▪ Indian Crocodile Conservation Project,1975 | ▪ Indian Crocodile Conservation Project,1975 ▪ Mugger Conservation Programme ▪ Madras Crocodile Bank Trust | Indian Crocodile Conservation Project,1975 |

**MISCELLANEOUS FACTS**

→ **17th June:** World Crocodile Day

→ **Annual Reptile Census, 2023:** Marginal Increases in number of saltwater crocodiles (**Bhitarkanika National Park and its nearby areas**)

→ **Odisha's Kendrapara District:** Only district in India where **all three species of crocodiles found**

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**Read more: Gharials, Brahmaputra River System (BRS)**

# US to Kill Barred Owls

Recently, US wildlife officials have decided to kill **Barred Owls (*Strix varia*)** to help save the declining **Spotted Owl (*Strix Occidentalis*)** populations in the US.

➤ Under this plan, **trained professionals and landowners** will be allowed to **shoot the barred owls.** However, public hunting of barred owls **will not be allowed.**

➤ Barred owls are native to North America. They look similar to spotted owls.

Note:

➢ Barred owls are **larger, more aggressive, and can readily adapt** to their broad diet.

❍ Their invasion of the west of the US has put a heavy strain on the spotted owl, decreasing their populations by up to **65 to 85%** between 1995 and 2017 in some areas.

❍ Killing would also help other species that they've been preying on such as **salamanders** and **crayfish**.

| | Barred Owls | Spotted Owl |
|---|---|---|
| IUCN Status | Least Concerned | Near Threatened |
| Habitat | Woodlands, wooded river bottoms, wooded swamps in North America | Mature forests of British Columbia and Washington. |

# INDIAN EAGLE OWL

**ABOUT**
- Scientific Name: Bubo bengalensis
- Also called the rock eagle-owl or Bengal eagle-owl.
- It is a large horned owl species native to hilly and rocky scrub forests in the Indian Subcontinent.
- It was earlier known as a subspecies of the Eurasian eagle-owl.

**APPEARANCE AND BEHAVIOUR**
- It is splashed with brown and grey feather.
- It has a white throat patch with black small stripes.
- It is a nocturnal species most of the time seen in pairs.
- It has a deep resonant booming call that may be heard at dawn and dusk.

**FEATURES**
- Hunting: For food they primarily hunt rats and mice, but will also take birds up to the size of peafowl.
- Conservation:
- IUCN Status: Least Concern.

**HABITAT**
- They are seen in scrub and light to medium forests.
- They are especially seen near rocky places within the mainland of the Indian Subcontinent south of the Himalayas and below 1,500 m (4,900 ft) elevation.
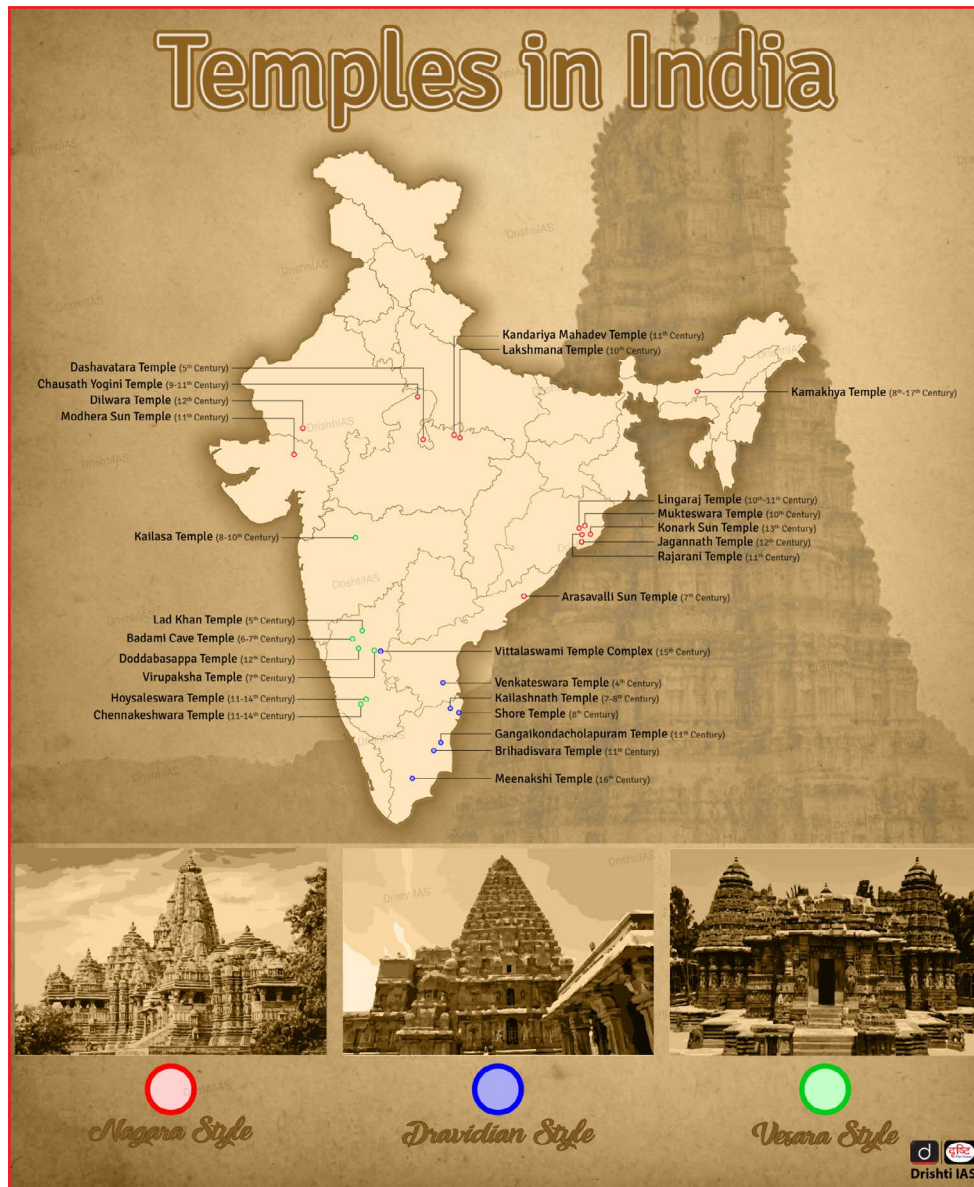- Humid evergreen forest and extremely arid areas are avoided for habitat.

**Read more: Spot Bellied Eagle Owl**

# Samayapuram Temple

The Hindu Group of Publications has released a coffee-table book titled **'Samayapuram - The Sacred Seat of Shakti,'** authored by **Vrinda Ramanan**, which explores the history and cultural significance of the **Samayapuram temple dedicated to Goddess Mariamman.**

➢ The temple located in Tiruchirapalli, Tamil Nadu is over 1,200 years old, is associated with legends of Goddess Mariamman, believed to be an incarnation of Goddess Durga, Mahakali, Adi Shakti, or Nishumbha Sudhini.

➢ The Mariamman temple has no historical evidence of its construction date, but is considered that it existed during the **Chola period.**

➢ The current Temple Complex was built by **Vijayanagara** King Vijayaraya Chakkaravarthi in the 18th century. It is also one of the wealthiest temples of Tamil Nadu.

➢ The **Chithirai Ther Thiruvizha (Chariot Festival in the month of Chithirai - April)** is a major festival celebrated annually at this temple for 13 days, starting on the 1st Tuesday of Tamil month Chithirai.

Note:

**Temples in India**

Kandariya Mahadev Temple (11th Century)
Lakshmana Temple (10th Century)

Dashavatara Temple (5th Century)
Chausath Yogini Temple (9–11th Century)
Dilwara Temple (12th Century)
Modhera Sun Temple (11th Century)

Kamakhya Temple (8th–17th Century)

Lingaraj Temple (10th–11th Century)
Mukteswara Temple (10th Century)
Konark Sun Temple (13th Century)
Jagannath Temple (12th Century)
Rajarani Temple (11th Century)

Kailasa Temple (8–10th Century)

Arasavalli Sun Temple (7th Century)

Lad Khan Temple (5th Century)
Badami Cave Temple (6-7th Century)
Doddabasappa Temple (12th Century)
Virupaksha Temple (7th Century)
Hoysaleswara Temple (11-14th Century)
Chennakeshwara Temple (11-14th Century)

Vittalaswami Temple Complex (15th Century)

Venkateswara Temple (4th Century)
Kailashnath Temple (7-8th Century)
Shore Temple (8th Century)
Gangaikondacholapuram Temple (11th Century)
Brihadisvara Temple (11th Century)

Meenakshi Temple (16th Century)

🔴 *Nagara Style*    🔵 *Dravidian Style*    🟢 *Vesara Style*

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**Read more: Temple Discoveries Highlight Chalukya Expansion**

# India's Indigenous Light Tank Zorawar

The **Defence Research and Development Organisation (DRDO)** has unveiled the prototype of **India's indigenous light tank, Zorawar,** which is set to undergo extensive trials.

➢ It was jointly developed by DRDO and Larsen & Toubro (L&T) with contributions from various Micro, Small, and Medium Enterprises.

➢ The need for a light tank (weighing maximum 25 tonnes) emerged during the **2020 standoff with China in Eastern Ladakh,** highlighting the requirement for lightweight, easily deployable tanks.

　○ In April 2021, the Army issued a **Request for Information (RFI)** for 350 light tanks weighing less than 25 tonnes.

➢ The light tank's design ensures it can be transported by **air, fire at high angles, and perform limited artillery roles**, enhancing tactical and operational mobility.

Note:

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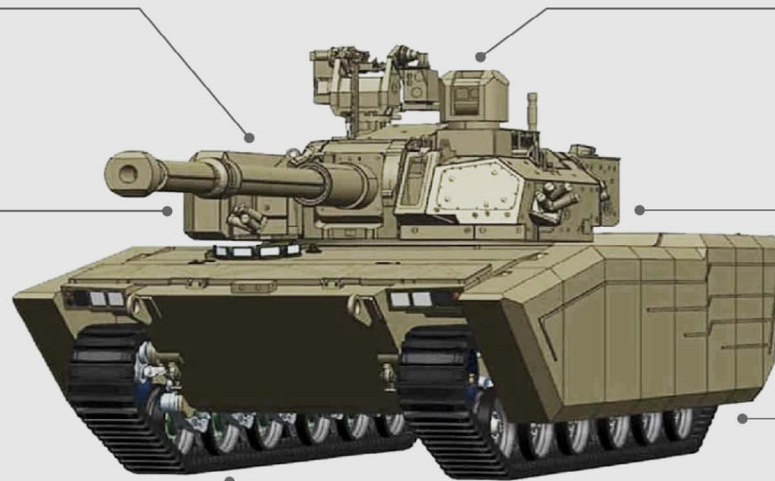## Indigenous Zorawar Light Tank: Why is It Called 'Brave and Strong'?

Developed by L&T in collaboration with DRDO

| | |
|---|---|
| **Field Artillery** FV433, 105mm | **Coaxial machine gun** 7.62 mm |
| **Mass** 25 t | **Persons** 3 |
| | **Speed** 70 km/h |
| **Horsepower** 1000 | **Offroad** 35/40 km/h |

Source: DRDO

SPUTNIK

**Read more: Test-Firing of Indigenous 1500 HP Tank Engine**

## CJI Advocates for More SAT Benches

The **Chief Justice of India** has emphasised the need for **additional Securities Appellate Tribunal (SAT) benches** to keep up with **India's growing markets and financial transactions,** during the inauguration of new SAT premises in Mumbai.

➢ CJI stressed the importance of filling vacancies in the SAT without delay to allow the tribunal to work effectively and at full capacity.

➢ The CJI emphasised that a **legal system with adequate safeguards and effective dispute resolution** is crucial for building investor confidence in India's markets and business landscape, leading to better economic outcomes.

➢ SAT is a **statutory body** established under the **Securities and Exchange Board of India Act, 1992** to hear and dispose of appeals against orders passed by the **Securities and Exchange Board of India.**

➢ The SAT consists of a **Presiding Officer and two other members.** The Presiding Officer of SAT is appointed by the Central Government in consultation with the CJI or his nominee.

Note:

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○ It also has jurisdiction to hear appeals against orders passed by the **Pension Fund Regulatory and Development Authority (PFRDA)** and the **Insurance Regulatory Development Authority of India (IRDAI)** under their respective acts, rules, and regulations.

**Read more: Securities Appellate Tribunal**

# Comprehensive Immunisation Schedule for Women

The **Federation of Obstetric and Gynaecological Societies of India (FOGSI)** has introduced a comprehensive **immunisation schedule for women** aimed at increasing awareness and uptake of adult vaccines across India. This initiative aims to improve women's health quality, recognizing that **women spend 25% more time in poor health compared to men.**

➤ This initiative marks a significant step in addressing **vaccine-preventable diseases (VPDs)** among women.

○ VPDs are caused by **bacteria or viruses** and can be prevented with vaccines. They can result in long-term illness, hospitalisation, and death. Examples of VPDs include **chickenpox,** diphtheria, and **poliovirus infection.**

➤ The Government of India has initiated two major efforts to **increase immunisation coverage in the country.**

○ The **Universal Immunization Programme (UIP)** provides free immunisation immunisation against **12 vaccine-preventable diseases, including 9 nationally targeted diseases** such as **Diphtheria,** Pertussis, Tetanus, **Polio, Measles, Rubella,** severe **Childhood Tuberculosis, Hepatitis B,** and **Meningitis** & **Pneumonia** caused by *Haemophilus influenzae type B.*

○ Additionally, **Mission Indradhanush** was launched in 2014 to reach children who missed their vaccinations under the UIP. It has reached over **2.53 crore children and 68 lakh pregnant women** with life-saving vaccines through its **four phases.**

➤ FOGSI supports Obstetrics and Gynecology practitioners in India by promoting healthcare services, reproductive rights, and reducing **maternal mortality.**

**Read more: WHO Report on Global Immunisation, Exploring the Durability of Modern Vaccines**

# Sampoornata Abhiyan

**NITI Aayog** has launched a **3-month 'Sampoornata Abhiyan'** campaign from 4th-30th September 2024.

➤ It aims to achieve **saturation in 6 identified indicators** in **Aspirational Districts** and 6 indicators in **Aspirational Blocks**.

➤ Aspirational Districts/Blocks are those districts/blocks in India, that are **affected by poor socio-economic indicators**.

*Aspirational Districts Programme (ADP) and Aspirational Blocks Programme (ABP)*

| Programme | Aspirational Districts Programme (ADP) | Aspirational Blocks Programme (ABP) |
|---|---|---|
| **Launched** | 2018 | 2023 |
| **Aim** | To quickly and effectively transform **112 districts** across the country | For saturation of essential government services in **500 Blocks (329 Districts)** across the country |
| **Themes** | ➤ Health & Nutrition<br>➤ Education<br>➤ Agriculture & Water Resources<br>➤ Financial Inclusion & Skill Development<br>➤ Infrastructure | ➤ Health & Nutrition<br>➤ Education<br>➤ Agriculture and Allied Services<br>➤ Basic Infrastructure<br>➤ Social Development |
| **NUMBER OF INDICATORS** | 81 | 40 |

**Read more: Aspirational Blocks Programme.**

Note:

# India and ADB to Bolster Pandemic Preparedness

Recently, **Government of India** and the **Asian Development Bank (ADB)** signed a **USD 170 million** policy-based **loan to strengthen India's health system preparedness** and response capacity to future pandemics.

➢ The loan will help strengthen India's pandemic preparedness and response capabilities through.
  ○ Strengthened **disease surveillance** and multisectoral response.
  ○ Strengthened **human resources** for health.
  ○ Expanded **climate-resilient public health infrastructure** and innovative service delivery.

➢ The ADB's program will be **aligned with** India's **National Health Policy 2017**, **Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM)**, **National One Health Mission**, and efforts to strengthen human resources for health.
  ○ It will set up **laboratory networks** for infectious disease surveillance at state, union, and metropolitan levels.
  ○ It will build **robust data systems** to **monitor and coordinate** national health programs for the poor, women, and other vulnerable groups.
  ○ It will **regulate and maintain standards of education, services, and professional conduct** of nurses, midwives, allied workers, and doctors.

## Asian Development Bank (ADB)

**what is ADB?**
- The Asian Development Bank (ADB) is a multilateral institution that aims to reduce poverty in Asia and the Pacific through environmentally sustainable growth.

**When was it founded?**
- The ADB was founded in 1966 and is headquartered in Mandaluyong, Philippines.

**What is the spread of ADB?**
- The ADB has 31 field offices around the world and 68 members, including 48 regional members and 19 non-regional members.

**The ADB's work includes:**
- Supporting projects in developing member countries that create economic and development impact
- Providing loans and technical assistance for various development activities
- Advisory services and knowledge support
- A Climate Change Action Plan that promotes a just transition to a low-carbon and climate-resilient future

**India** is a founding member.

Asian Development Bank

Leading countries **Japan and US**

Headquarters Manila

**Read more:** Asia Development Outlook Report 2024

# Windfall Tax

Recently, the Indian government has **increased** the **windfall tax** on domestically produced **crude oil** from Rs 3,250 per tonne to Rs 6,000 per tonne.

➢ A **Windfall Tax** is a type of tax that is **levied on companies or individuals** who have **unexpectedly and/or dramatically gained large profits,** often **due to external factors** beyond their control.
  ○ It is commonly levied on industries such as **oil, gas**, and **mining.**

Note:

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❍ The purpose is to **capture a portion of the extraordinary profits** that companies make and **redistribute it for public good**.

❍ It is a strategic measure to promote **transparency and fairness** and **responsible economic practices** in the energy industry.

➢ This hike will **impact the profits of oil companies** operating in India and **reduce their earnings.**

➢ India first implemented **windfall profit taxes on 1st July 2022**, aligning with other countries that tax excessive profits of energy companies.

➢ The **tax rates are reassessed every 2 weeks,** taking into account international crude prices from the preceding fortnight.



**Windfall Tax**

**Benefits**

- Boosts government revenues
- Provide public services and other benefits to the citizens
- Windfall gains can repay interest-bearing consumer
- Invest the windfall proceeds in gold deposits

**Read more: Windfall Tax**

# Zinc's Role in Enhancing Legume Crop Health and Yield

Researchers in France and Denmark, have unveiled a discovery regarding **zinc's critical role in legume crops.** The study reveals that **zinc facilitates nitrogen fixation in legumes, essential for ammonia production and plant nutrition.**

➢ This micronutrient also acts as a secondary signal, managed by the **transcription factor Fixation Under Nitrate (FUN),** which regulates nitrogen fixation efficiency under varying environmental conditions.

➢ The findings highlight zinc's ability to **optimize nitrogen availability in soils**, **potentially boosting crop yields** and reducing dependency on synthetic fertilizers.

➢ This insight opens avenues for enhancing agricultural sustainability amidst climate challenges.

**Read more: Technology in Indian Agriculture**

# India's Crude Oil Imports Surge from Russia

India witnessed a significant rise in **crude oil** imports **from Russia in June 2024**, reaching 1.97 million barrels per day (mbpd), the highest since July 2023.

➢ This increase, up by nearly **15% month-on-month and 2% annually,** was driven by reduced **Russian crude cargoes to China,** redirecting more barrels towards India.

➢ Both public sector giants like **Indian Oil Corporation (IOCL), Bharat Petroleum Corporation (BPCL),** Hindustan Petroleum Corporation (HPCL), and private refiners like Reliance Industries (RIL) saw substantial imports, with private refiners importing a record 871,200 barrels per day.

➢ Concurrently, imports from traditional suppliers in **West Asia, particularly Iraq (India's second largest supplier) and Saudi Arabia,** declined significantly. Iraq's shipments fell by 20% month-on-month, while Saudi Arabia's dropped by 36%, influenced by higher official selling prices.

➢ In contrast, crude oil imports from the US to India continued to rise, signalling shifting global supply dynamics amidst refinery disruptions in Europe.



India's crude oil imports
■ Russia ■ Iraq ■ Saudi Arabia    (Barrels per day - kb/d)
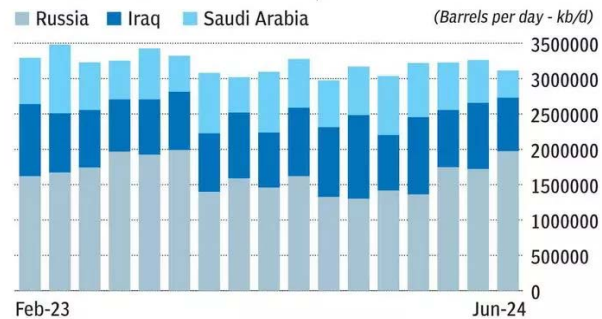
Source: Vortexa

**Read more: Indian Oil Market Outlook to 2030: IEA, Red Sea Disruptions and India's Oil Import Dynamics**

# Havaldar Adbul Hamid

Recently, the **Rashtriya Swayamsevak Sangh (RSS)** chief visited the village **Dhamupur in Ghazipur,** Uttar Pradesh, the native village of 1965 war hero **Abdul Hamid**.

➢ He released two books- **'Mere Papa Paramvir'** on Hamid and **'Bharat ka Musalman'**.

Note:

- ➤ Abdul Hamid was a **soldier in the 4th Grenadiers** in the Indian Army who fought and died during the **Battle of Asal Uttar** in the 1965 India-Pakistan war.

  - ❍ **Asal Uttar** is situated in **Punjab** near the India-Pakistan border.

  - ❍ The **Battle of Asal Uttar** was one of the **largest tank battles** fought during the 1965 war, where the Pakistani 1 Armoured Division's offensive was decimated by the Indian forces.

  - ❍ The battle resulted in the loss of 97 Patton tanks for the Pakistani Army, and the **surrender of an entire Pakistani armoured regiment**.

**INDIA-PAKISTAN HISTORY OF CONFLICT**

| 1940 — 1950 — 1960 — 1970 — 1980 — 1990 — 2000 — 2010 — 2020 |

**Aug. 1947** Indian and Pakistani **Independence** from Britain

**Oct. 1947** First Kashmir War begins

**Aug. 1965** Second Kashmir War begins

**Dec. 1971** Indo-Pakistani War, **Bangladesh** becomes an independent country

**May 1974** Indian Pokhran-I nuclear test, (operation "Smiling Buddha")

**July 1989** Kashmiri Insurgency begins

**May 1998** Indian **Pokhran-II** nuclear tests, Pakistan **Chagai** nuclear tests. India adopts a **No First Use Policy**

**May 1999** Kargil War begins

**Dec. 2001** Indian Parliament Attack

**Feb. 2007** Samjhauta Express bombings

**Nov. 2008** Mumbai Attacks

**Feb. 2019** Pulwama Attack

- ➤ Hamid was deployed near Chima village. On 10th September 1965, he destroyed 3 Pakistani tanks and disabled a 4th one but was **killed in the process.**

- ➤ Hamid was awarded the **Param Vir Chakra**, India's highest gallantry award, posthumously for his bravery.

- ➤ The site of his death is now part of a **war memorial**, with a captured Pakistani Patton tank standing as a tribute.

  **Read More: Kargil Vijay Diwas**
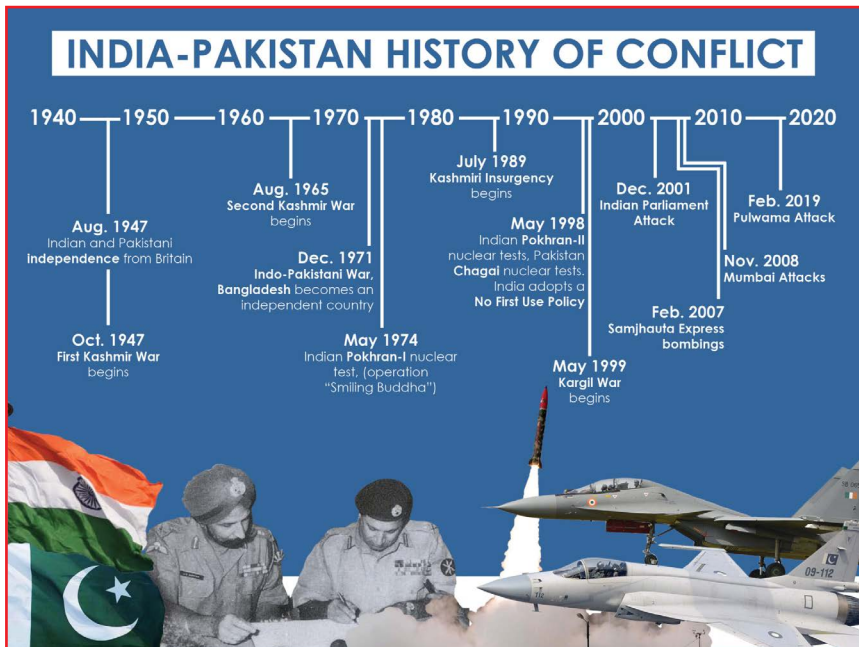
# International Conference on Steel Slag Road

Recently, the 1st **International Conference on Steel Slag Road** was organised by **CSIR** in New Delhi.

- ➤ **NITI Aayog** released the **guidelines for the utilisation of steel slag in road construction**.

**Steel Slag Road Technology:**

- ➤ It uses **steel slag (metal waste)** from steel production, to create stronger and more durable roads.

**KEY BENEFITS OF STEEL SLAG ROAD TECHNOLOGY**

**Technical Benefits**

- Improved durability of road with better service life
- Higher load resistance capacity
- Reduced Road Thickness
- Improved skid resistance
- Economical than conventional bituminous and cement concrete roads

**Environmental Benefits**

- Eco-friendly sustainable utilization of 19 million tons of steel slag waste, generated annually through various steel plants in the country which will be increased to 45 million tons by 2030.
- Saving of Natural Aggregates by utilisation of steel slag aggregates in road utilisation thereby reducing unsustainable quarrying and mining.
- Reduction of Green House Gas emissions & carbon footprint in road construction.
- Prevention of potential land, air and water pollution due to unscientific disposal of steel slag as solid waste

- ➤ The process involves **removing impurities and metal content** from the slag and using it as an aggregate for road construction.

- ➤ This processed steel slag has **high strength, hardness, abrasion resistance, skid resistance**, and **drainage capacity**, making it ideal for road building. It is **eco-friendly, cost-effective** and **durable.**

➤ Every year in India, approximately **1.8 billion tonnes** of natural aggregates are needed for construction and maintenance projects. This demand can be partially met by using processed steel slag aggregates as a substitute.

➤ India's First Steel Slag Road was built at **Surat**.

   **Read more: Steel Slag Road Technology, Council of Scientific & Industrial Research (CSIR)**

# Certificates of Deposit

Recently, the **Clearing Corporation of India** released data that revealed that **Commercial banks** have mobilised **Rs 1.45 trillion** through **Certificates of Deposit (CDs)** to strengthen their balance sheets.

**Certificates of Deposit (CDs):**

➤ A CD is a **negotiable, unsecured money market** instrument offered by banks and credit unions that provides an **interest rate premium** in exchange for the customer agreeing to leave a lump-sum deposit untouched for a **predetermined period**.

   ❍ In other words, it pays **a fixed interest rate** on money held in banks for an agreed-upon period.

➤ CDs can be issued by **scheduled commercial banks** and **All-India Financial Institutions (FIs)** to i**ndividuals (including NRIs), corporations, companies, trusts, funds, associations**, etc.

   ❍ A minimum amount of a CD should be **Rs.1 lakh** and thereafter permits multiples of it.

➤ The **maturity period** of CDs issued by **banks** ranges from 7 days to one year, while for **FIs** this limit is from 1 year to upto 3 years from the date of issue.

**Clearing Corporation of India (CCIL):**

➤ Established in 2001, it provides reliable **clearing and settlement services** in the **Money and Government Securities** markets.

   **Read more: Banking Sector: Opportunities and Challenges**

# New Nanocomposite for Cleaning Organic Waste

Recently, a **new metal oxide nanocomposite** has been developed by researchers at the **Institute of Advanced Study in Science and Technology (IASST)** that can be used as **sustainable technologies** for cleaning up the environment.

➤ These new composites use **photocatalysis** for the decomposition of pollutants.

➤ **Photocatalysts** are materials that **change the rate** of a chemical reaction on exposure to light.

   ❍ In the presence of light, they generate electron-hole pairs that degrade pollutants into harmless by-products.

➤ **Metal oxide photocatalysis** ( eg. Titanium Dioxide, Zinc Oxide, And Tungsten Trioxide), due to its high surface area and stability, offers a sustainable solution for removing **organic pollutants** from water bodies.

➤ These new photocatalytic metal oxides can be used for the degradation of organic pollutants in the **dyes** and **pharmaceutical** sectors.

➤ The **nanocomposite** (a combination of two or more materials, of which at least one is a nanomaterial) can be used in **catalysis, energy storage, sensors, optoelectronics, biomedical fields, coatings**, and **renewable energy** production.

➤ **Institute of Advanced Study in Science and Technology (IASST)**, located in Guwahati, is an autonomous institution of the **Department of Science and Technology (DST)**.

   **Read more: Ratification of 7 Persistent Organic Pollutants, Role of Nanomaterials in Solving Environmental Issues `**

# Committee to Revise Base Year

Recently, a committee to oversee the revision of the **base year** for national accounts has been set up by the **Ministry of Statistics and Programme Implementation (MoSPI)**.

➤ This **26-member committee** will be chaired by **Biswantah Goldar** and will recommend a new base year for national accounts, potentially aligning it with indices like the **Wholesale Price Index, Producer Price Index,** and **Consumer Price Index**.

➤ At present base year is **2011-12** but it is proposed for revision to 2020-21.

➤ This initiative aims to enhance the **accuracy of economic analysis and policy formulation** by reviewing existing databases and incorporating new data sources.

➤ In India, the base year of the GDP series was revised from 2004-05 to 2011-12 in **2015** after adaptation of the sources and methods in line with the **United Nations System of National Accounts (SNA) of 2008**.

Note:

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➢ The **SNA** is the internationally agreed standard set of recommendations on how to compile measures of economic activity.

**Read more: Base Year for GDP Calculations**

# Front Running and Insider Trading

Recently, a mutual fund in India has been under investigation by the **Securities and Exchange Board of India (SEBI)** for suspected **front-running.**

➢ **Front-running or tailgating** is an **illegal practice** under the **Securities and Exchange Board of India (Mutual Funds) Regulations, 1996** where fund managers place their orders ahead of large trades to profit from expected price changes.

○ This occurs when **someone (an insider or broker) trades ahead of others using privileged information.**

➢ **Insider trading** occurs when someone with a vested interest in a company uses **non-public information** to make a trading decision.

○ **Insider trading** usually **involves company executives or employees** leveraging confidential company information to gain an advantage in the stock market.

○ On the other hand, **front-running typically involves brokers or fund managers** exploiting knowledge of their clients' upcoming trades.

➢ In India, insider trading is prohibited under the **SEBI Act, 1992**. **SEBI** has established the **SEBI (Prohibition of Insider Trading) Regulations, 2015,** which outline the rules for prohibiting and restricting insider trading.

➢ These practices undermine **investor confidence** in the **fairness** and **transparency of financial markets.**

**Read more: Mutual Funds and Emerging Indian Economy**

# National Statistics Day

Recently, **National Statistics Day** was celebrated on **29th June 2024** marking the birth anniversary of **Professor Prasanta Chandra Mahalanobis**, a renowned Indian statistician and applied scientist.

➢ The **theme** for Statistics Day 2024 is **"Use of Data for Decision-Making"**.

➢ This day has been celebrated **since 2007** to create **public awareness** of the **role and importance of statistics** in socio-economic planning and policy formulation for the development of the country.

➢ The **e-Sankhyiki data portal** and **Central Data Repository** were launched on this day.

➢ **Prasanta Chandra Mahalanobis** was known for pioneering the **Mahalanobis distance** and **statistical measure**.

○ He was a **member** of India's inaugural **Planning Commission** and was instrumental in establishing the **Indian Statistical Institute (ISI)** in **1931**.

○ He was honoured with the **Padma Vibhushan** for his contribution to science.

➢ **World Statistics Day** is celebrated by the **United Nations** every 5 years on **20th October**.

**Read more: National Statistics Day, Mahalanobis's Approach: Addressing India's Big Data and AI Challenges**

# Araku Coffee

Recently, the **Prime Minister** praised the unique flavour and significance of **Araku Coffee** of **Andhra Pradesh** during his recent episode of 'Mann Ki Baat' radio programme.

➢ **Araku Coffee** is grown in the **Araku Valley in Alluri SitaRam Raju district** of **Andhra Pradesh**, located in the **Eastern Ghats.**

○ This coffee has a **distinct flavour** with notes of **chocolate, caramel, and subtle fruity acidity.**

○ It is grown in a **diverse agroforestry system,** primarily cultivated using **organic farming methods.**

○ It is grown by **tribal farmers** and cooperatives and helps in promoting sustainable livelihoods and community empowerment.

○ Araku Coffee has received international awards, including the **"Best Robusta"** at the **Café de Colombia Competition.**

○ It received a **Geographical Indication (GI) Tag** in 2019 for unique qualities.

● Other Indian coffees that received GI Tag include **Coorg Arabica, Wayanad Robusta**, **Chikmagalur Arabica**, **Bababudangiris Arabica** from Karnataka, and **Monsooned Malabar Robusta** from Kerala.

➢ **Top 3 Producers of Coffee: Brazil, Vietnam and Columbia**.

Note:

❍ **India** is the **6th largest producer** of Coffee in the World.

➤ **Top 3 Producers of Coffee in India: Karnataka, Kerala and Tamil Nadu.**



Read more: India's Coffee, World Coffee Conference 2023

# Borneo Elephants

Recently, **Borneo elephants (*Elephas maximus Borneensis*)** have been classified as **'Endangered'** on the **IUCN Red List**.

➤ Only about 1,000 Borneo elephants remain, with 400 of them being breeding adults.

➤ The main threat to them is **human-elephant conflict**, **poaching**, and **habitat loss** caused by **logging and oil palm plantations**, leading to the loss of about **60% of their forest habitat** in the last 4 decades.

**Bornean Elephants:**

➤ It is a subspecies of the **Asian elephant** (*Elephas maximus*) that is native to the island of Borneo.
 ❍ They are primarily located in **Sabah, Malaysia** and **Kalimantan, Indonesia.**

➤ They are **genetically distinct** from other **Asian elephant** populations, characterised by their **smaller size and unique skull shape**.

➤ They are **herbivores**, and **live in family groups** led by a **matriarch** and typically **found near water sources** such as rivers.

➤ Protection Status of Asian Elephants:
 ❍ **IUCN Red List Status: Endangered.**
 ❍ **CITES: Appendix I.**
 ❍ **Wildlife (Protection) Act, 1972: Schedule I.**

➤ **Borneo** is the world's **3rd largest island**, shared by **Malaysia** and **Brunei** in the north and **Indonesia** in the south.
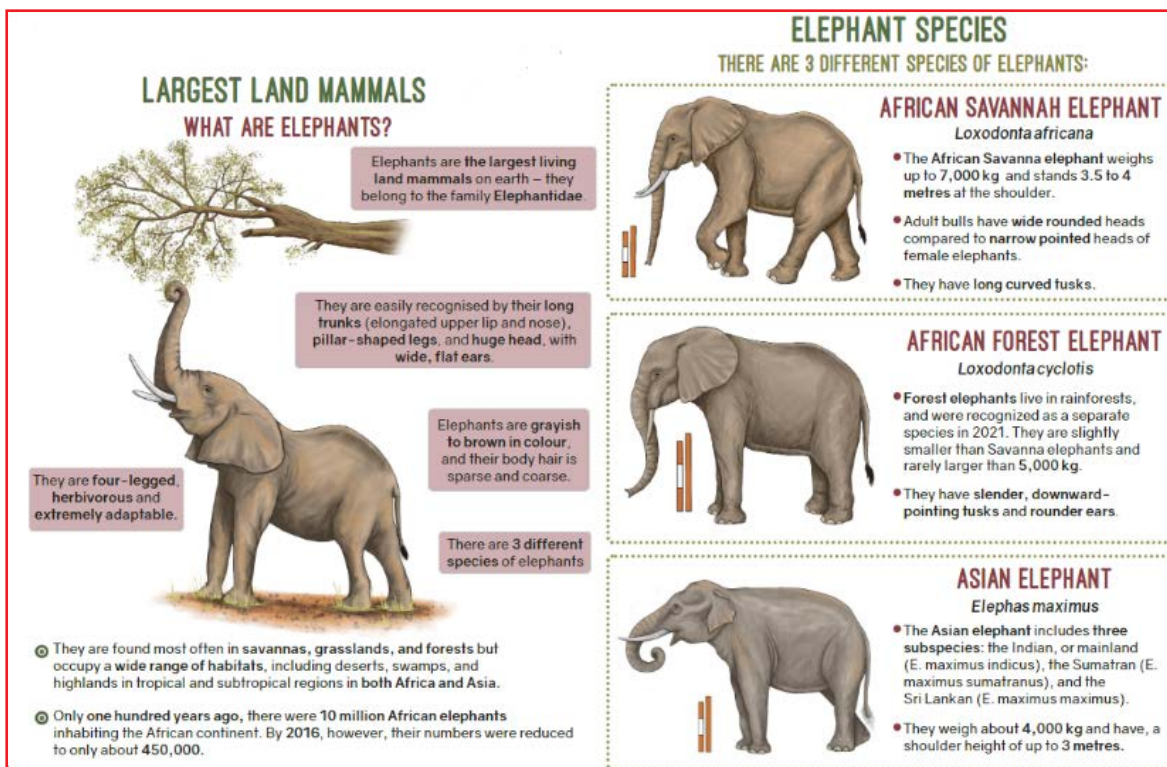
**National Financial Reporting Authority (NFRA):**

# National Financial Reporting Authority

Recently, the **National Financial Reporting Authority (NFRA)** has started inspection of the **audit arms** of **Big-5 firms**.

➢ **Big-5 firms** include **BSR & Co**, **Deloitte Haskins & Sells**, **SRBC & Co**, **Price Waterhouse Chartered Accountants** and **Walker Chandiok & Co**.

○ The **"audit arms"** are responsible for **conducting audits of the company's financial statements**.

➢ Its early reports suggest that most of these firms have already taken steps to segregate their **audit and non-audit services.**

➢ The report highlighted the need for areas of weaknesses to be treated as potential areas for improvement.

Note:

# Mainland Serow

Recently, the Assam Forest Department and conservationists have documented the **first photographic evidence** of the Mainland Serow (*Capricornis sumatraensis thar*), in western **Assam's Raimona National Park.**

**Mainland Serow:**

➤ It is a mammal that appears somewhere between **a goat and an antelope.**

➤ According to the **International Union for Conservation of Nature (IUCN),** the **mainland serow** inhabits areas at **altitudes of 200-3000 metres.**

➤ The animal habitat is across the **India-Bhutan border** in **Phibsoo Wildlife Sanctuary** and the **Royal Manas National Park** in Bhutan.

➤ There are three other species of the animal **Japanese serow, red serow (found in eastern India, Bangladesh, and Myanmar), and Taiwan or Formosan serow.**

➤ Conservation Status:

   ○ **IUCN Red List**: Vulnerable

   ○ **CITES**: Appendix I

   ○ **The Wildlife Protection Act, 1972**: Schedule I

   **Read more: Himalayan Serow**

# Glucagon Manufacturing in PLI Scheme

Recently, the government decided to manufacture a **Glucagon-like peptide receptor agonist (GLP-1RA)** drug in **India** under the **Production Linked Incentive (PLI) scheme** from 2026.

➤ **GLP-1RA** is a class of **anti-diabetic drugs** which are also used for **weight loss**.

➤ Apart from GLP-1RA, investors are planning to make other drugs like **Ozempic (for diabetes)**, and **Wegovy (for obesity)** at the site and the **PLI scheme** will provide manufacturing avenues in India.

➤ The **PLI scheme** is an ambitious central scheme to scale up **domestic manufacturing capability**, accompanied by **higher import substitution** and **employment generation**.

➤ Launched in March **2020**, the scheme at present covers **14 sectors**.

➤ Under the scheme, **Domestic and Foreign companies** receive financial rewards for manufacturing in India, based on a percentage of their revenue over up to five years.

   **Read more: Production Linked Incentive Scheme**

■■■

Note:

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