



INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

PACE SATELLITE

PACE aims to study how climate change impacts ocean phytoplankton blooms, which are crucial for the marine food web.



12 FEB - 17 FEB 2024

WEEKLY CURRENT AFFAIRS

WWW.INSIGHTSONINDIA.COM

INSIDE

GENERAL STUDIES – 2

Topics: Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure; Comparison of the Indian constitutional scheme with that of other countries.

1. Review of the working of Free Legal aid 3

Topics: Parliament and State Legislatures – structure, functioning, conduct of business, powers & privileges and issues arising out of these.

2. PRS Report on the Functioning of 17th Lok Sabha 4

Topics: Statutory, regulatory and various quasi-judicial bodies.

3. National Green Tribunal (NGT) and its functioning 6

Topics: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

4. SC strikes down Electoral Bonds Scheme 8

Topics: Important aspects of governance, transparency and accountability, e-governance applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.

5. Evaluation of Smart Cities Mission: Parliamentary Committee 9
6. DARPG Releases NeSDA Way Forward Annual Report 2023 10

Topics: India and its neighbourhood- relations.

7. Action Taken Report on 'India's Neighbourhood First Policy' 12

GENERAL STUDIES – 3

Topics: Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.

1. Report on the Development and Promotion of Jute Industry 14

Topics: Conservation related issues, environmental pollution and degradation, environmental impact assessment.

2. 'Pollution caused by plastic' Report by Public Accounts Committee (PAC) 15

CONTENT FOR MAINS ENRICHMENT

1. Ocher Studio preserving Dhokra Shilpkala 18

FACTS FOR PRELIMS

GS-1

1. Ajanta and Ellora Caves under Swadesh Darshan scheme 19
2. Bharat Ratna 19

3. Category 6 Hurricanes 21
4. Swami Dayanand Saraswati 21
5. Hori Habba 22
6. Kotravai sculpture 22

GS-2

1. Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana 22
2. SARATHI portal 23
3. SWATI 23
4. Kilkari program and Mobile Academy 23
5. PM Surya Ghar Muft Bijli Yojana 24
6. Smart Gram Panchayat: Revolution towards Digitization of Gram Panchayat 24
7. Weimar Triangle 24
8. India's Request for Full Membership of IEA 24
9. World Governments Summit 2024 25

GS-3

10. Nematodes 25
11. 'InfexnTM' 25
12. Future Circular Collider 25
13. Ultracold atoms 26
14. The high-altitude pseudo satellite vehicle (HAPS) 26
15. PACE satellite 26
16. Trichoglossum syamviswanathii 26
17. Prabhaav 27
18. Tokenisation of assets and government bonds 27
19. Three new initiatives to bolster 'Crop Insurance' 27
20. Frozen smoke 28
21. 3D-printed brain tissue 28
22. Micellar water 28
23. State of the World's Migratory Species report 28
24. Kaji Nemu 28
25. Terai Arc Landscape (TAL) 29
26. 'E-Jagriti' Portal 29
27. Nuclear Fusion: Joint European Torus (JET) 29
28. Cuscuta dodder 30
29. Data Exclusivity 30
30. Sodium catalysed synthesis of carbon nanotubes 31
31. Diphtheria 31
32. Intuitive Machines (IM) mission 31
33. Species Threat Abatement and Restoration (STAR) metric 31
34. Kochi's Green Hydrogen Plant 32

MAPPING

1. Aral Sea 32
2. Gupteswar forest in Koraput district (Odisha) 32
3. Kazakhstan 33
4. Baltic Sea 33

GENERAL STUDIES – 2

Topics: Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure; Comparison of the Indian constitutional scheme with that of other countries.

1. REVIEW OF THE WORKING OF FREE LEGAL AID

Context:

Department-related Parliamentary standing committee on personnel, public grievances, law and justice has reviewed legal aid under the Legal Services Authorities Act, 1987.

What is the Legal Services Authorities (LSA) Act of 1987?

It aims to **provide free and competent legal services to the weaker sections of society**, in line with **Article 39A**. It establishes the **National Legal Services Authority (NALSA)** as the apex organization to frame and monitor legal aid policies. The Act also mandates the **formation of various legal service committees** at different levels, including the Supreme Court, high courts, and districts. Activities include **legal aid, advice, alternative dispute resolution, and victim compensation schemes**.

As per the Legal Services Authorities Act, 1987, the following categories of people are entitled to receive free legal aid:

- A member of a **Scheduled Caste or Scheduled Tribe**
- A **victim of trafficking in human beings** or beggars as referred to in **Article 23** of the Constitution
- **A woman or a child**
- **A mentally ill** or otherwise disabled person;
- **A person under circumstances of undeserved want** such as being a victim of a mass disaster, ethnic violence, caste atrocity, flood, drought, earthquake or industrial disaster; or An industrial workman; or In custody.
- **A person in receipt of annual income less than the amount mentioned** in the following schedule (or any other higher amount as may be prescribed by the State Government),

Role of the National Legal Services Authority (NALSA) in rendering free legal aid in India:

- **Legal Aid Clinics:** NALSA has established **legal aid clinics at the grassroots level** to provide free legal assistance to disadvantaged communities. These clinics offer legal advice, aid, and representation.
- **Mobile Legal Aid Units:** NALSA operates **Mobile Legal Aid Units in rural and remote areas** to

reach underserved populations. These units offer legal services, awareness programs, and legal literacy campaigns.

- **Para-Legal Volunteers:** NALSA trains and deploys para-legal volunteers who assist individuals in understanding their rights, filling out legal forms, and accessing legal aid.
- **Special Initiatives:** NALSA conducts special initiatives and camps for specific groups, such as prisoners, women in distress, and victims of natural disasters, to provide timely legal aid.
- **Public Interest Litigations (PILs):** NALSA has been instrumental in filing PILs to address systemic issues and protect the rights of marginalized groups.
 - For example, NALSA played a significant role in the landmark judgment **recognizing transgender rights** in the case of **NALSA vs. Union of India**.
- **Awareness Programs:** NALSA conducts awareness programs and legal literacy campaigns to educate people about their legal rights and the availability of free legal aid.
 - For legal awareness among prisoners **Haq Hamara bhi to hai campaign** was recently launched by NALSA.

Challenges faced by NALSA in providing free legal aid (as also identified by the Parliamentary Committee)

- **Limited adoption of Alternate Dispute Resolution:** Former Chief Justice of India has noted that the Legal Services Authority is involved in **resolving only 1% of the total litigation**, indicating a low acceptance of alternate dispute resolution methods.
- **Funding:** Static grants-in-aid to NALSA and decline in the allocated funds
- **Limitations of Lok Adalat:** Limited power, lack of proper procedure, Inadequate infrastructure
- **Low awareness:** A significant portion of the economically disadvantaged and less educated population remains unaware of their fundamental constitutional and legal rights.
- **Inadequate empowerment of Lok Adalats:** Lok Adalats, while crucial for dispute resolution, lack specific powers to impose penalties on non-compliant parties.
 - Additionally, their authority is comparatively limited when **compared to civil courts**.
- **Underutilization of Para-legal volunteers:** The underutilization of para-legal volunteers is partly due to inadequate training, capacity-building efforts, and a lack of effective monitoring and accountability mechanisms.
- **Limited engagement of Advocates and Lawyers:** There is a general lack of enthusiasm among advocates and lawyers for pro-bono cases, which can hinder the provision of free legal aid to those in need.
 - **only about 17%** of the legal aid cases were handled by lawyers
 - There is reluctance of lawyers to provide **pro bono services**

Recommendations of the Parliamentary Committee:

- a) **Increase grant-in-aid to NALSA.** Search for innovative funding mechanisms including CSR funds
- b) **Extensive mass media campaign** for legal education
- c) **Monitor efficacy and accountability** of lawyers providing free legal aid services
- d) **Strengthen Lok Adalats** and other alternative dispute redressal mechanisms
- e) **Capacity Building** of Para-Legal Volunteers

Conclusion

NALSA plays a pivotal role in ensuring that free legal aid reaches those who need it the most in India, thus fulfilling the constitutional mandate of justice for all, irrespective of economic or other disabilities.

Insta Links:

- [Supreme Court Legal Services Committee \(SCLSC\)](#)

Mains Links:

Q. Who is entitled to receive free legal aid? Assess the role of the National Legal Services Authority (NALSA) in rendering free legal aid in India. (UPSC 2023)

Topics: Parliament and State Legislatures - structure, functioning, conduct of business, powers & privileges and issues arising out of these.

2. PRS REPORT ON THE FUNCTIONING OF 17TH LOK SABHA

Context:

PRS legislative research has released a report on the functioning of the 17th Lok Sabha (from June 2019 to February 2024)

About Lok Sabha:

The Lok Sabha, **India's lower house of parliament**, is constituted under **Article 79** of the Indian Constitution. It comprises representatives elected through direct adult suffrage, with a **maximum strength of 552 seats** (Currently, there are 543 seats filled by elected representatives) The Lok Sabha's term is **five years** from the date of

its first meeting, unless dissolved earlier.

Several significant Bills were passed during the tenure of the 17th Lok Sabha.

1. **Women's Reservation Bill, 2023**, aimed at promoting gender equality and political representation.
2. **J&K Reorganisation Bill, 2019**, marked a historic move in restructuring the governance of Jammu and Kashmir.
3. **Appointment of CEC Bill, 2023**, aimed at reforming the process of appointing the Chief Election Commissioner
4. **Passage of three Labour Codes** signalled reforms in labour laws to adapt to changing economic dynamics
5. **Digital Data Protection Bill, 2023**, addressed concerns regarding data privacy and security in the digital age.
6. **Replacement Bills for the IPC, CrPC, and Indian Evidence Act:** It signifies ongoing efforts to update and modernize India's legal framework.

Functions of Lok Sabha:

1. **Legislative Functions:** The Lok Sabha enacts laws (examples given above)
2. **Scrutiny of Government:** It holds the executive accountable by questioning ministers, participating in debates, and raising issues. In 2023, MPs questioned the **government's handling of the COVID-19 pandemic** during parliamentary sessions.
3. **Budgetary Functions:** The Lok Sabha approves the national budget. For example, it debated and passed the Union Budget for the financial year 2024-2025, presented by the Finance Minister.
4. **Representation of People:** Members represent their constituencies. For instance, MPs advocate for infrastructure development in their regions, such as the construction of roads and schools.
5. **Committee System:** The Lok Sabha has parliamentary committees for specialized tasks. For instance, the **Standing Committee on Agriculture** examines agricultural policies and suggests improvements to benefit farmers.

Challenges in the Functioning of the 17th Lok Sabha:

| Challenges | Description |
|-----------------------------|--|
| Fewest sittings | The 17th Lok Sabha held only 274 sittings , the lowest among full-term Lok Sabhas. |
| | Compared to the first Lok Sabha, the average annual sitting days in the 17th Lok Sabha decreased significantly (from 135 to 55) |
| Deputy Speaker not selected | Despite Article 93 of the Constitution , the Deputy Speaker was not elected during the entire term of the 17th Lok Sabha |

| | |
|--|---|
| Passing of Bills without Scrutiny | Only 16% of bills were referred to committees for detailed scrutiny with the passage of the majority of bills without recorded voting. |
| | Majority of Bills passed without recorded voting; only 9% passed with recorded voting |
| | 80% of the budget passed without discussion on an average |
| | Limited participation in Private Members' business |
| Disruptions and Obstructionism | Members resort to disruptive tactics such as shouting slogans and staging walkouts. |
| | Amongst all full-term Lok Sabhas, 206 instances of suspension of Members of Parliament. |
| | In the five years, Lok Sabha functioned for 88% of its scheduled time , while Rajya Sabha worked for 73%. |
| Low Attendance | Many MPs not actively engaging in legislative processes or attending sessions. |
| Question Hour | Question Hour functioned for 60% of the scheduled time in Lok Sabha |
| Lack of Diversity and Inclusivity | The Lok Sabha not reflecting the diversity of India in terms of gender, caste, religion, and regional representation. |
| Party Discipline and Whipping | Excessive party discipline leads to MPs voting along party lines rather than independently. |
| Limited Role of Opposition | Weakened role of opposition in holding the government accountable in a majority government scenario. |

15-point reform charter for better functioning of Parliament

1. **Parties need to ensure the attendance of at least 50%** of their legislators all through the proceedings of the Houses by adopting a roster system.
2. Review of **anti-defection law**.
3. **Review of the whip system** which is "stifling reasonable dissent even on non-consequential matters".
4. **Set up special courts for time-bound adjudication** of criminal complaints against legislators.
5. **Pre and post-legislative** impact assessment.
6. **Address the problem of the rising number of legislators** with criminal backgrounds.
7. **Governments should be responsive to opposition** and opposition to be responsible and constructive while resorting to available parliamentary instruments
8. Consensus on the proposal for **simultaneous elections**.
9. Steps should be taken for the **effective functioning of the Parliamentary Committees**.
10. The representation of **women in legislatures needs to be raised**.

What More is needed:

To strengthen the Election Commission of India, providing statutory backing to the Model Code of Conduct is imperative, eliminating any ambiguity in its enforcement. Additionally, **enhancing the role of the opposition** can be achieved through the **establishment of a shadow cabinet**, mirroring the British system, thereby fostering balanced governance and preparing future ministers. **Introducing statutory reforms**, such as implementing a

hybrid voting system, combining first-past-the-post and proportional representation, can ensure better representation of diverse societal segments. Moreover, **codifying the privileges of legislators** is essential to uphold the autonomy of Parliament and state legislatures, potentially requiring amendments to **Article 105** for clarifications on parliamentary privileges.

Conclusion:

Moving forward, **resolving these challenges demands** collaborative efforts from MPs, political parties, presiding officers, and the public. Enhancing parliamentary norms, encouraging constructive debates, ensuring accountability, and promoting inclusivity are vital steps to improve the functioning and efficacy of the Lok Sabha.

Insta Links:

[15-point reform charter for better functioning of Parliament](#)

Mains Links:

Q. Discuss the procedures to decide the disputes arising out of the election of a Member of the Parliament or State Legislature under The Representation of the People Act, 1951. What are the grounds on which the election of any returned candidate may be declared void? What remedy is available to the aggrieved party against the decision? Refer to the case laws. (UPSC 2022)

Prelims Links:

Q. We adopted parliamentary democracy based on the British model, but how does our model differ from that model? (UPSC 2021)

1. As regards legislation, the British Parliament is supreme or sovereign but in India, the power of the parliament to legislate is limited.
2. In India, matters related to the constitutionality of the Amendment of an Act of Parliament are referred to the Constitution Bench by the Supreme Court.

Select the correct answer using the code given below.

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: C

Topics: Statutory, regulatory and various quasi-judicial bodies.

3. NATIONAL GREEN TRIBUNAL (NGT) AND ITS FUNCTIONING

Context:

The Supreme Court has **criticized the National Green Tribunal (NGT)** for frequently **issuing ex parte orders** without hearing affected parties and imposing substantial damages amounting to crores of rupees.

What are Ex-Parte orders?

They are those **that can be granted without waiting for a response from other sides**. Issues with ex parte orders include **lack of fairness, potential for incorrect decisions due to one-sided information, and undermining procedural integrity**.

Recommendation of SC:

1. **Review of orders:** The Supreme Court set aside one such ex parte order and instructed NGT to **reevaluate such cases by issuing notices to all relevant parties**, hearing their arguments, and then making appropriate decisions.
2. Maintain **procedural integrity and balanced decision-making** in environmental safeguarding
3. There is a need for NGT to ensure **fair hearings and due process to maintain its credibility** as a guardian of environmental protection.
4. **Imposition of huge sums for damages proved to be counterproductive** in safeguarding the environment.

Background of NGT

Taking into account the **increasing number of environ-**

mental cases across the country the Government of **India enacted the National Green Tribunal (NGT) Act in 2010** for the effective and expeditious disposal of cases relating to environmental **protection, conservation of forests and other natural resources**.

Objectives of the National Green Tribunal:

- **To provide effective and expeditious disposal of cases** relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to the environment.
 - **Giving relief and compensation for damages to persons and property** and other related matters.

Powers of the National Green Tribunal:

- **Adjudication:** The NGT has the authority to hear and decide cases related to environmental protection, conservation of forests and other natural resources, and enforcement of any legal right relating to the environment.
- **Civil and Criminal Jurisdiction:** It possesses **both civil and criminal jurisdiction**, allowing it to hear cases related to environmental violations and offences.
- **Applicability of Laws:** NGT has jurisdiction over all civil cases under the **Water (Prevention and Control of Pollution) Act 1974**, the **Water (Prevention and Control of Pollution) Cess Act 1977**, the **Air (Prevention and Control of Pollution) Act 1981**, and the **Environment (Protection) Act 1986**, **Forest Conservation Act 1980**, **Public Liability Insurance Act, 1991**, and **Biological Diversity Act 2002**.
- **Penalties for Non-compliance:** The NGT Act outlines penalties, including imprisonment up to three years, fines up to ten crore rupees, or both, based on the violation's nature and seriousness.
- **Suo Motu Powers:** The NGT has "**unique**" **forum status**, granting it the authority to take up environmental issues nationwide **without awaiting specific case filings**.
- **Review of Government Decisions:** The NGT can review and challenge decisions, acts, or omissions of the government or any public authority that have caused environmental harm.
- **Adherence to Principles of Natural Justice:** Although the NGT is not constrained by the procedural rules of the **Code of Civil Procedure 1908**, it follows the principles of natural justice, ensuring **fairness and due process** in its proceedings and rulings.
- **Composition:** Headed by a Chairperson who sits in the Principal Bench, and **at least 10 but not more than 20 judicial members**, and **at least 10 but not more than 20** expert members. They shall hold office for **a term of 5 years** and are **not eligible for reappointment**.

Performance of the National Green Tribunal:

1. **Strengthening Enforcement of Forest Laws:** The NGT has been a staunch advocate for strict

enforcement of forest laws, particularly the **Forest (Conservation) Act, of 1980**.

- a. **Example:** In 2018, the NGT ordered the closure of 248 **illegal mining operations** in the **Western Ghats**, highlighting the Tribunal's commitment to enforcing environmental regulations.
 - b. **Example:** In 2015, the NGT cancelled the diversion of over 20,000 hectares of forest land in **Chhattisgarh** for a **mining project**, citing irregularities in the clearance process and the potential harm to wildlife habitat.
2. **Promoting Sustainable Forest Management:** The Tribunal has advocated for **afforestation** programs, conservation of biodiversity, and ecological restoration of degraded forest areas.
 - a. **Example:** The NGT has directed the Forest Department of **Uttarakhand** to implement a comprehensive **afforestation program**, aiming to restore 100,000 hectares of degraded forest land.
 3. **Protecting Wildlife Habitats:** The NGT has recognized the importance of protecting wildlife habitats to safeguard **endangered species** and maintain **ecological balance**.
 - a. **Example:** In 2019, the NGT directed the Karnataka government to relocate a proposed highway project to avoid disrupting a **critical wildlife corridor** in the **Western Ghats**.
 4. **Enhancing Public Participation:** The Tribunal has encouraged individuals and communities to voice their concerns and participate in **environmental impact assessments**. This has increased transparency and accountability in forest management practices.
 - a. **Example:** In 2020, the NGT held a public hearing to gather feedback from local communities on a proposed hydroelectric project in **Arunachal Pradesh**.
 5. **Promoting Environmental Justice:** The NGT has addressed issues of environmental injustice, ensuring that forest conservation efforts do not disproportionately impact **marginalized** communities.
 - a. **Example:** The 2021 NGT order on the rights of **Banni pastoralists** in the pristine Banni grasslands.
 6. **Speedy Disposal:** In several instances, it has succeeded in delivering relatively quick judgments, ensuring that environmental concerns are addressed promptly.
 - a. **E.g.** from July 2018 to July 2023, the NGT **received 15,132 new cases and disposed of 16,042 cases**
 7. **Public Interest Litigation:** The NGT allows for public interest litigation (PIL), enabling concerned citizens and environmental activists to raise crucial issues related to the environment.

Challenges before the National Green Tribunal:

- **Staffing and Infrastructure Issues:** The NGT has faced challenges related to staffing and infrastructure. Resignations by key members due to inadequate facilities prompted **Supreme Court**

intervention in 2012, urging the Ministry of Environment to provide essential resources.

- **Inadequate Member Appointments:** Despite the NGT Act mandating a minimum of ten judicial and ten expert members, it has **consistently operated with fewer members**.
- **Zonal Benches Shutdown:** Due to the shortage of members, **all four zonal benches** have been **non-operational for over a year**. Video-conference hearings have become the norm, causing inconvenience and financial burden for lawyers and clients alike.
- **Delays and Cancellations:** Video conference hearings often face delays and last-minute cancellations, leading to inefficiencies.
- **Lack of Diverse Expertise:** The NGT lacks a diverse pool of expert members to address complex environmental issues comprehensively.
 - **E.g.** majority from forest and administrative services.
- **Appeals and Enforcement Challenges:** NGT decisions face Supreme Court challenges with hefty penalties. Weak enforcement of orders, including Ganga and Delhi pollution cases.

Way forward:

- **Jurisdiction Reforms:** The quintessential legislations, the Wildlife (Protection) Act of 1972 and Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act of 2006, have been kept out of NGT's jurisdiction. These laws need to be brought under the NGT
- **Institutional capacity:** To effectively handle the growing volume of environmental cases, the NGT's **benches** should be expanded to include **additional judges and newer locations**, and provide needed staff and infrastructure.
- **Data-driven decision-making:** Embracing data analytics and **GIS-based tools** can provide valuable insights for informed forest management decisions.
- **Community engagement initiatives:** Engaging communities in forest conservation activities, such as tree planting **campaigns, biodiversity surveys, and environmental education** programs, can strengthen local ownership and participation in forest management.
- **Alignment with Global Conservation Goals:** The NGT's influence should align national forest conservation policies with global goals such as the **Aichi Biodiversity Targets** and the **Sustainable Development Goals**, fostering international collaboration.
- **NGT must put internal checks and balances** for efficient and transparent delivery of justice.

Conclusion:

As we navigate the complex challenges of environmental preservation, a strengthened and empowered NGT is essential. By implementing the suggested measures, India can ensure that the NGT continues to play a pivotal role in safeguarding its rich biodiversity and promoting sus-

tainable forest management practices, fulfilling the goals under the **Indian Forest Act of 1927**, SDGs (**Goal 13, 14, 15, 16**), and directive principles (Art 48A).

Insta Links

[NGT is not a case of extra delegation of powers: SC:](#)

Prelims Links:

Q. How is the National Green Tribunal (NGT) different from the Central Pollution Control Board (CPCB)? (UPSC 2018)

1. The NGT has been established by an Act whereas the CPCB has been created by an executive order of the Government.
2. The NGT provides environmental justice and helps reduce the burden of litigation in the higher courts whereas the CPCB promotes cleanliness of streams and wells, and aims to improve the quality of air in the country.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: B

[Topics: Government policies and interventions for development in various sectors and issues arising out of their design and implementation.](#)

4. SC STRIKES DOWN ELECTORAL BONDS SCHEME

Context:

The Supreme Court **struck down the electoral bonds scheme** as unconstitutional, relying on several grounds in its verdict.

[What is an Electoral Bond?](#)

The rationale behind the Electoral Bonds Scheme (as per the Government)

1. Transparency in **political funding**.
2. Reduced chances of misuse.
3. Protection of **anonymity for donors**.
4. **Political accountability** through submission of details to the Election Commission.
5. **Reduction of black money** in political funding.

[Issues Highlighted by SC Against the Electoral Bond Scheme of the government:](#)

| Issues | Justification |
|---|---|
| Violation of Right to Information under Article 19(1)(a) | SC asserted that transparency regarding funding to political parties is crucial for informed electoral decisions , affirming that the scheme infringes upon the right to information as enshrined in Article 19(1)(a) |
| | The scheme is also contrary to the recommendations of various committees and commissions that have called for more transparency and disclosure in political funding. |
| | The scheme is also in conflict with the Representation of Peoples Act, 1951 , which requires the political parties to disclose their contributions and expenditures. |
| Lack of proportionality between scheme objectives and restrictions imposed | The restrictions imposed by the electoral bond scheme on the right to information are disproportionate to the objectives of curbing black money in electoral financing and protecting donor privacy. |
| Failure to adopt the least restrictive method to curb black money | The scheme does not represent the least restrictive method for achieving the objective of curbing black money in electoral financing, as there are other less restrictive alternatives available. |
| Infringement on the right to donor privacy | The scheme infringes upon the right to donor privacy by not adequately protecting the anonymity of donors and exposing them to potential harassment or discrimination based on their political affiliations. |
| Concerns over unlimited political contributions by companies | Allowing unlimited political contributions by companies enhances their influence over the political process, potentially leading to preferential treatment and undermining the democratic principles of equality and fairness . |
| Violates Principles of Equality | The electoral bond scheme violates principles of equality by favouring certain political parties, creating disparities between donors and voters, and undermining transparency. |

The Supreme Court also mandated the SBI to **disclose details of electoral bonds** to the ECI for transparency by March 31, 2024.

Impact of the judgement:

The Supreme Court’s landmark verdict on electoral bonds **upholds constitutional rights and values**, striking down the scheme as unconstitutional. The judgment will **enhance transparency and accountability** in political funding, reducing the influence of money and corporate power in politics. It will level **the playing field for all political parties**, ensuring fair competition and offering genuine choices to voters.

Way forward:

1. Implement partial **state funding** for political parties (**Indrajit Gupta Committee**)
2. Consider a **National Electoral Fund** (where donors contribute anonymously, and funds are allocated to parties based on their vote share)
3. **Cap anonymous donations** at Rs. 20 crores or 20% of total funding (Law Commission recommendation)
4. Enforce a **complete ban on cash donations**.
5. Strengthen **auditing of party accounts** (**Venkatachaliah Committee Report (2002)**)
6. Learn from global best practices, like **banning corporate funding** (e.g. Brazil and Chile banned corporate donations following corruption scandals associated with corporate funding.)

Mains Links:

Q. Discuss the role of the Election Commission of India in the light of the evolution of the Model Code of Conduct. (UPSC 2022) (10 MARKS)

Topics: Important aspects of governance, transparency and accountability, e-governance applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.

5. EVALUATION OF SMART CITIES MISSION: PARLIAMENTARY COMMITTEE

Context:

A parliamentary committee underscores **the importance of launching the next phase of the Smart Cities Mission**, focusing on **tier-2 cities near state capitals**.

About SCM:

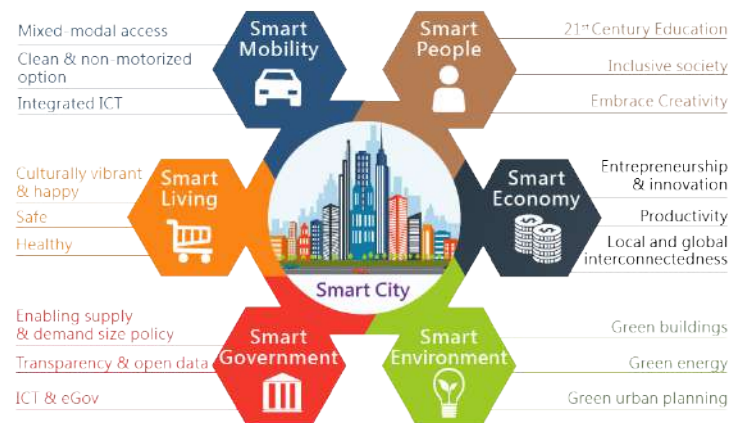
The SCM (Smart Cities mission) was launched in 2015, with the expressed objective of promoting cities that provide **core infrastructure** and give a **decent quality of life** to their citizens. A clean and **sustainable environment** and the application of ‘**smart**’ solutions were the promises made.

The six fundamental principles on which the concept of Smart Cities is based are:



Objectives of SCM:

The Smart Cities Mission aims to **enhance urban life by focusing on core infrastructure, sustainability, and smart solutions**. It seeks to create replicable models for compact, inclusive development, acting as a beacon for other cities to follow. The mission sets **examples for both local and national replication**, catalyzing the development of smart cities across regions in India.



City-wise Progress Report as of December 2023:

1. **Madurai:** Completed 100% of projects.
2. **56 cities:** Completed over 80% of work.
3. **Lagging behind:** 14 cities at 50% progress or below.
4. **Lagging cities primarily from the northeast, Union Territories, and hilly areas.** Examples include Gangtok, Atal Nagar, Shillong, Silvassa, Itanagar, Puducherry, Saharanpur, and Port Blair with completion percentages ranging from 16% to 39%.

Achievements of SCM:

1. **Digital Transformation:** Implementation of smart technologies for efficient governance and service delivery, such as Integrated Command and Control Centres (ICCCs) in all 100 Smart Cities.
2. **Alignment with Sustainable Development Goals (SDGs):** Over 70% of projects align with UN SDGs, particularly SDG11 (inclusive, safe, resilient, and sustainable cities).
3. **Infrastructure Development:** Improvement of urban mobility through metro lines, BRTS, and pedestrian-friendly pathways.

Smart Cities Mission Success Stories:

1. **Ahmedabad:** Sensor-based water network monitoring increased supply by 50 MLD.
2. **Indore:** Gravity-based network prevented 205 MLD

of untreated sewage from entering water bodies.

3. **Visakhapatnam:** Mudasarlova Reservoir Floating Solar Plant generated 3,613 MWh annually, preventing over 3,000 tonnes of CO2 emissions.

Issues with the SCM:

1. **Behind deadlines:** As per the recent mission director's statement, the SCM has completed only about 66% of the projects. Protests and criticisms have been laid against many SCM projects like Warangal and Ludhiana SCMs.
2. **Challenges in Project Management and Implementation:** Frequent changes and dropping of projects, insufficient financial progress, and varying physical progress among cities.
3. **Lack of integrated monitoring mechanism and cross-city learning.** Insufficient emphasis on core infrastructure projects like social infrastructure and smart energy.
4. **Governance and Capacity Issues:** Frequent transfer of Smart City CEOs, undefined governance structure, and monitoring capacity.
5. **Mission Deadline Extension:** The current phase was originally set to conclude by June 2023, but was extended until June 2024 to complete pending projects.
6. **Funding Challenges:**
 - a) **Less funds received:** Some regions, including Lakshadweep, Daman and Diu, Puducherry, and Port Blair, received less than 50% of pledged central funds. **Only 28 cities received 100% of their share** from states/ULBs, with funds released below 60% in 14 cities.
 - b) **Fund utilization:** The SCM has been taking in more funds against the current progress and has utilized 90% of the funds (while completing only 66% of the projects)
 - c) **Failure in Fundraising Mechanisms:** Only 6% of projects are funded through Public-Private Partnerships (PPPs), with about 50 cities unable to generate any funding through this avenue.
7. **Ineffective Advisory Forum Meetings:** State-level advisory forum meetings are irregular, with an average of 1-8 meetings in the first five years. Some cities, like Amravati and Imphal, had no meetings.
8. **Absence of Master Plans:** Master plans, crucial for urban development, are absent in 65% of recognized urban entities, according to a report by NITI Ayog.
9. **Low capacity of local bodies:** The functionaries at local bodies are of inadequate strength and lack the skills to implement the scheme
10. **Scarcity of land within the central part of cities** and other prime locations where the scheme is to come up

Recommendations of the parliamentary committee:

1. **Union ministry to lead the master plan** for Greenfield development.
2. **Implement fixed tenure for CEOs** of Smart Cities' Special Purpose Vehicles (SPVs).
3. **Conduct third-party assessments** of Smart Cities Mission (SCM) projects.
4. **Launch Phase II of SCM** covering more cities, utilizing SPVs' experience.
5. **Focus more on Pan City projects**, emphasizing technology-driven solutions for holistic development.
6. There is a need to **protect digital infrastructure from misuse and cyber-attacks**, ensuring privacy rights.
7. **Leverage the expertise gained by Special Purpose Vehicles (SPVs)** and expand the role of **Integrated Command and Control Centres (ICCCs)** in providing various city services.
8. **International Collaboration:** E.g., India is supporting the **Gelephu Smart City Project** in Bhutan, while also seeking lessons from Singapore Smart City.

Conclusion

The foremost idea of smartness in smart cities should be to **make cities resource-neutral or resource-positive**. This means that the city should **collect and process all the aftermaths of consumption** within the city or consume resources within its ability to **replace or regenerate**. This needs attention across all micro sectors to bring forth a **holistic change and 'smartness' to cities**.

Insta Links:

- [Smart Cities Mission](#)

Mains Links:

Q. With a brief background of the quality of urban life in India, introduce the objectives and strategy of the 'Smart City Programme.' (UPSC 2016)

6. DARPG RELEASES NESDA WAY FORWARD ANNUAL REPORT 2023

Context:

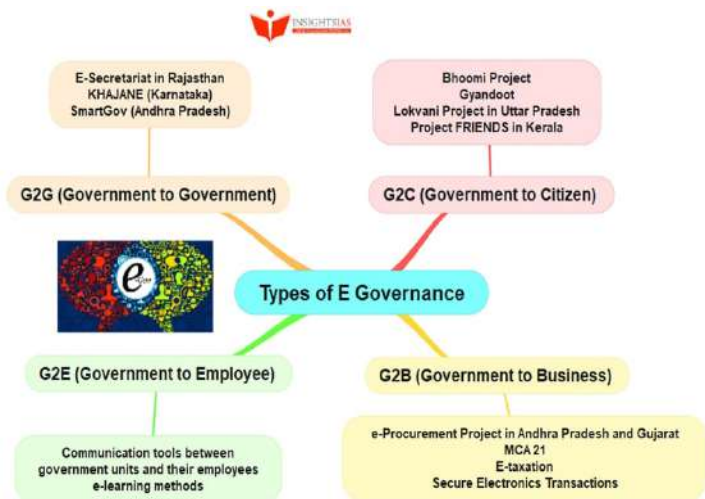
The Department of Administrative Reforms and Public Grievances (DARPG) released a **report (National e-Governance Service Delivery Assessment (NeSDA) Way Forward Annual Report 2023)** showcasing efforts to improve e-Service delivery.

What is E-Governance?

E-governance, **meaning 'electronic governance'** is using **information and communication technologies (ICTs)** at various levels of the government and the public sector for the purpose of enhancing governance.

The application of ICT to **transform the efficiency, effectiveness, transparency, and accountability** of the exchange of information and transactions:

- i. between Governments,
- ii. between Government agencies,
- iii. between Government and Citizens, and
- iv. between Government and businesses.



Salient features of e-governance:

- **De-bureaucratization** - Reducing the gap between the people and government in interactions and so, their dependence on the bureaucracy.
- **E-Services** - Provision of services through the Internet.
- **Public opinions and right to express** - Scope for sharing views with the government on its decisions and functions.
- **Equitable growth** - Scope to gather information and be empowered.

Key highlights of the NeSDA Way Forward Annual Report 2023:

1. **Jammu and Kashmir** offer the highest number of e-services (1117) among all States/UTs.
2. **76% of mandatory e-services are available**, a significant increase from 48% under NeSDA 2019.
3. **Jammu and Kashmir, Kerala, Assam, and Odisha** provide 100% of their services through their identified Single Unified Service Delivery Portal.
4. **The tourism sector has the highest saturation** for the provision of all mandatory e-services in 23 out of 36 States/UTs.

Challenges to e-governance in India:

- **Low literacy levels:** In developing countries like India, where literacy level is very low, especially digital literacy and most of the people are living below the poverty line, people are **not even aware of the benefits** of e-Governance.
- **Language barriers:** Most of the e-governance applications are in English which limits its usage by common people.

- **Unfriendly user interface:** Most government websites are designed to the expert level in terms of user interface and transaction formats. Given the **non-expert users**, increasing the **user-friendliness** of e-governance applications is essential.
- **Difficult access:** Even if the users of the Internet are growing still there is a **major part of the Indian population that is not able to access e-Governance activities** for a variety of reasons, e.g., some people may have **limited access to ICT devices**.
- **Data privacy:** Lack of sufficient security standards and **mistrust of digital mediums** hinder the wide use of e-governance services.

Enhancing the performance of e-governance in India requires a multifaceted approach:

1. **Legal and Institutional Changes:** This involves **revamping existing frameworks** to be more conducive to digital operations.
2. **Data Transparency:** Making transactional data accessible on government websites ensures transparency and accountability, **fostering trust among citizens**.
3. **Public-Private Partnerships:** Collaborating with **private entities in e-governance** projects can bring in **expertise, innovation, and efficiency**.
4. **Gram Panchayat Involvement:** Engaging local governance bodies like Gram Panchayats in monitoring **Common Service Centres** helps in grass-roots-level implementation of e-governance initiatives.
5. **Digital Literacy:** Promoting digital literacy among citizens is crucial for the widespread adoption and effective use of e-governance services.
6. **Grievance Redress Mechanisms:** Expanding and **improving grievance redress portals** and utilizing data for better resolution of public complaints can enhance citizen satisfaction.
7. **Technology Infrastructure:** Building **robust IT infrastructure down to the Gram Panchayat level** ensures that **e-governance benefits reach the rural and remote areas**.
8. **Digital Inclusion:** Bridging the digital divide by **expanding access to affordable internet** and technology in rural and remote areas is key to **inclusive e-governance**.
9. **Data Protection:** Strengthening data protection laws and frameworks is **necessary to safeguard citizens' privacy** and personal information in the digital space.
10. **Interoperability:** Ensuring **seamless communication** between different e-governance systems and platforms provides a **unified experience for citizens**.

Recent initiatives by the Indian govt to further these goals:

| Initiative | Description |
|--|---|
| National e-Governance Plan (NeGP) | Foundational initiative for modernizing government service delivery. |
| Digital India | Flagship program promoting digital empowerment and e-governance. |
| Aadhaar | World's largest biometric ID system facilitating identity verification. |
| E-Kranti | Framework for rapid e-governance transformation. |
| Unified Mobile App for New-age Governance (UMANG) | Single platform for accessing government services. |
| Goods and Services Tax Network (GSTN) | Technology backbone for streamlining taxation processes. |
| Government eMarketplace (GeM) | Portal for transforming government procurement. |
| Digi Locker | A platform for digital issuance and verification of documents. |
| Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMG-Disha) | Initiative promoting digital literacy in rural areas. |
| State Initiatives | eUNNAT (Jammu & Kashmir): Unified Service Delivery Portal; Nivesh Mitra (Uttar Pradesh) : For Ease of Doing Business; Seva Sindhu (Karnataka) : To deliver Government services at the doorsteps of citizens. |

Conclusion

By integrating cutting-edge technology, e-governance in India has not only streamlined bureaucratic processes but has also ushered in an era of **unprecedented digital empowerment, bridging geographical divides and democratizing access to services**. This innovation is a crucial catalyst in India's journey towards becoming a **digitally inclusive society, where every keystroke and click heralds a step towards a more engaged, informed, and empowered citizenry**.

Insta Links

- [E-governance in India: Concept, Initiatives and Issues](#)

Topics: [India and its neighbourhood- relations.](#)

7. ACTION TAKEN REPORT ON 'INDIA'S NEIGHBOURHOOD FIRST POLICY'

Context:

Action Taken Report on 'India's Neighbourhood First Policy' has been presented to Lok Sabha.

- Previously, the report on INDIA'S NEIGHBOURHOOD FIRST POLICY was submitted in July 2023.

What is India's Neighborhood First Policy?

It **emphasizes peaceful relations and collaborative development** with South Asian neighbours. It covers diverse areas like **economics, technology, connectivity, defence, and environment**. The policy **complements India's Look East and Look West Policies**, focusing on Southeast Asia and the Middle East respectively. It was initiated by **Narendra Modi and furthered by key figures like Sushma Swaraj and S. Jaishankar**, with support from NSA Ajit Doval and successive Foreign Secretaries.

Various aspects of India's Neighbourhood First Policy:

1. **Priority to neighbouring countries:** Emphasis on strong ties with immediate neighbours.
2. **Mutual respect and understanding:** Based on shared interests and Panchsheel principles.
3. **Connectivity and infrastructure:** Focus on physical and digital connectivity for trade and integration.
4. **Economic cooperation:** Deepening economic ties through trade facilitation and investment.
5. **Security cooperation:** Joint efforts to address security challenges like terrorism
6. **Cultural exchanges:** Promoting friendship and understanding through cultural diplomacy.

Significance of India's Neighbourhood First policy:

- **Shared priorities:**
 - The **Indian subcontinent** is a **single geopolitical unit** with strong **economic complementarities** among its constituent parts.
 - It is also a **shared cultural space** with deep and abiding affinities among the people of the countries of the subcontinent because of a **long and shared history**.
 - **Consolidating the interests** of the subcontinent would offer a **united strength and benefits are more for India**.
 - Both **Sri Lanka and Nepal are facing severe economic setbacks**, partly due to disruptions in the wake of Covid-19 and the loss of tourist earnings. **India** has extended a **helping hand** to both.
 - **Prioritising such neighbour-**

hood needs has proved to be essential to ensure **stability and healthy economic interactions** at the global level too.

- **Stability and security:**
 - Being the largest and most powerful country in this space, **India's security perimeter cannot be confined to its national borders.**
 - The challenge for **Indian foreign and security policy** lies in making certain that its **neighbourhood remains peaceful, stable**, and benign, without hostile presence.
 - There is a **leadership change in Pakistan**, which offers the prospect of **reviving the India-Pakistan engagement for peace and stability in the region.**
 - India has continued its **humanitarian assistance to Afghanistan**, ranging from the **supply of wheat** to cope with an unprecedented **food shortage** to the provision of materials for **drug rehabilitation camps** run by the UN.
- **Central to connectivity:**
 - India is the **biggest transit country for the subcontinent** and has **land borders** with Pakistan, Nepal, Bhutan and Bangladesh and **maritime borders** with Sri Lanka and the Maldives.
 - Given this, India should develop its role as the **partner of choice for transit trade and transportation.**
 - This can create **strong inter-dependencies** with our neighbours which in turn will balance the mutual interests and security priorities.
 - It is in **India's interest to promote regional economic integration.** Reviving the strengths of SAARC is essential as it is the only available platform for the purpose.
- **Voice of the Global South:**
 - India is emerging as the **pivotal point to the Global South** in voicing out the demands and carrying forward the interests.
 - Given this, it is appropriate that India concentrates and **uplifts the status of its neighbourhood to own the credibility** to represent the **cause of the other developing countries of the Global South.**

Shortcomings of the policy:

- **Pakistan factor:** The strained relations between India and Pakistan have often impeded the progress of the Neighbourhood First Policy. Continual

tensions between the two countries have limited the scope for meaningful cooperation within the region.

- **Transnational terror:** The rise of transnational terrorist groups in the region has posed challenges to the stability and security of neighbouring countries. Taliban takeover of Afghanistan is the greatest milestone event that increases the threat further.
- **Rise of China:** China's geopolitical ambitions seen in infrastructure projects, investments, and growing presence in neighbouring countries (e.g. with Maldives currently) have raised concerns and created complexities for India's regional engagement.
- **Big brother perception:** Despite India's intentions of promoting equal and cooperative relations, there have been perceptions among some neighbouring countries of India's dominance and a "big brother" approach. This perception has at times strained relations and hindered deeper cooperation like with Bangladesh and Nepal in the recent past.
- **Lack of uniformity:** The performance of the Neighbourhood First Policy has varied across different neighbouring countries.

Further measures:

- India's **relations with Bhutan** continue to be in **positive territory**, but must not be taken for granted. They need to be **nurtured on a continuing basis.**
- There is some worry about **Maldives and Bangladesh** because **domestic political rhetoric** in India about **illegal Bangladeshi migrants** and their alleged involvement in **communal riots** may have a negative resonance.
 - It is essential to ensure that the compulsions of **domestic politics do not affect India's foreign policy adversely.**

Way forward:

- India must look into what our assets and liabilities are in **each of the neighbouring countries, leverage the assets and minimise the liabilities.**
- It should **focus on working on self-strengths** rather than seeking to catch up with what rivals may be doing.

Conclusion

Moving further, Indian foreign policy should prioritise creating **effective and enduring incentives for our neighbours** to remain **sensitive to India's interests.**

Insta Links:

[India and its neighborhood](#)

GENERAL STUDIES – 3

Topics: Indian Economy and issues relating to planning, mobilization of resources, growth, development and employment.

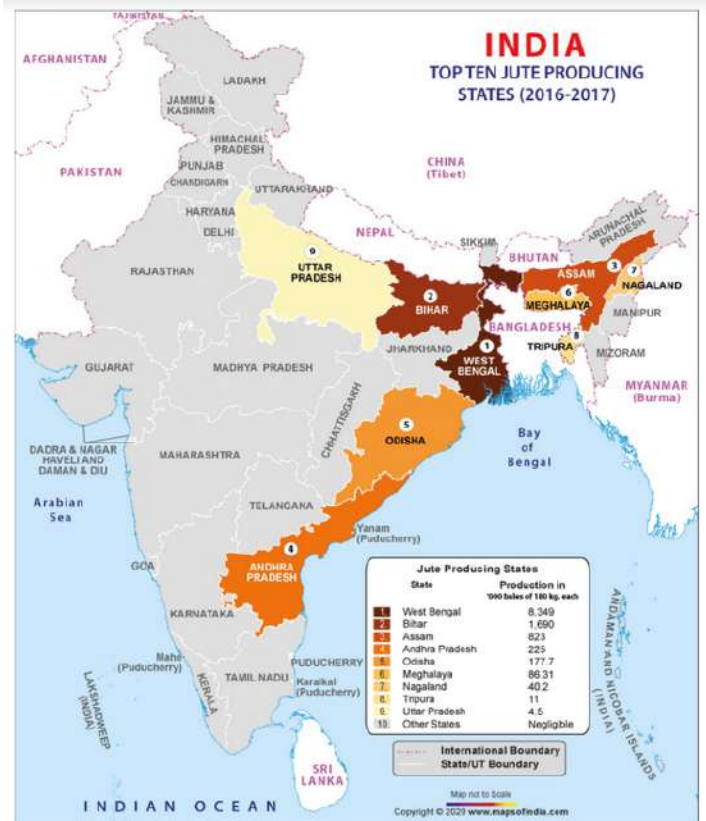
1. REPORT ON THE DEVELOPMENT AND PROMOTION OF JUTE INDUSTRY

Context:

Standing Committee on Labour, Textiles, and Skill Development releases report on Jute Industry Development and Promotion

About the jute sector in India:

| About Jute Crop | |
|------------------------|--|
| Temperature | Between 25-35°C |
| Rainfall | Around 150-250 cm |
| Soil Type | Well-drained alluvial soil |
| Production | India is the Largest producer of jute followed by Bangladesh and China |
| Acreage and Trade | Bangladesh leads in acreage and trade, accounting for three-fourths of global jute exports |
| Concentration | Mainly in eastern India due to the rich alluvial soil of the Ganga-Brahmaputra delta |
| Major Producing States | West Bengal, Bihar, Odisha, Assam, Andhra Pradesh, Meghalaya, Tripura Approximately 73% of the country's jute industries are concentrated in West Bengal |
| Uses | Known as the golden fibre , used in making gunny bags, mats, ropes, yarn, carpets, and other artefacts |
| Production Share | India accounts for 70% of the world's jute production. It employs over 3 lakh workers. 90% of production is consumed locally |



Major Issues with the Jute Industry in India:

- High Rate of Procurement by Mills:** Mills procure **raw jute at prices higher than their selling prices** post-processing. This is because **mills do not directly acquire raw materials** from farmers due to logistical challenges. Farmers are often located far from mill locations, **requiring mills to deal with multiple farmers**. Additionally, the procurement process involves middlemen or traders, adding to costs.
- Supply of raw material:** Despite the Government's efforts to increase the area under Jute, India is not self-sufficient in raw material.
- Obsolete mills and industries:** the mills and machinery in the Jute sector are obsolete and need technology upgradation etc.
- Increased competition:** Stiff competition with the synthetic industry for similar packaging material, as the synthetic material is much cheaper. Also, Bangladesh mills are competing with China for better quality products.
- Decrease in demand:** demand for jute products has decreased due to the easy availability of alternative fibre.
 - For instance, the availability of local fibres like **Mesta** (especially in Andhra Pradesh) etc., have reduced jute demand.
- Strikes and lock-outs:** The jute industry in India is mostly concentrated in the eastern part of India (especially West Bengal), there exists a strong labour union which has led to frequent strikes, lock-

out and other labour issues leading to the closing up of many firms.

7. **Power supply:** Infrastructural bottlenecks, power, transportation, and capital also pose several threats to the sustainability of the Jute industry.

Key Recommendations of the Standing Committee:

1. **Promote modernization** by providing **digital moisture meters** to improve quality.
2. **Develop a comprehensive policy** for reviving closed mills and establishing new ones.
3. **Establish schemes**, in collaboration with the Ministry of Skill Development and Entrepreneurship, to address the **shortage of skilled workers**.

Related Initiatives for the Jute Sector:

1. **Golden Fibre Revolution and Technology Mission:** It aims to enhance jute production in India.
2. **Jute Packaging Materials Act, 1987:** Despite competition from synthetic fibres, the Jute Packaging Materials Act, 1987, mandates the use of jute packaging material to support workers and farm families.
3. **Jute Geo-Textiles (JGT)** is promoted under the Technical Textiles Mission, offering diverse applications in civil engineering and erosion control.
4. **Jute SMART**, an e-government initiative, enhances transparency in the jute sector by providing a platform for government procurement of sacking.
5. **Jute Mark Logo** was launched (2022) for branding and positioning of Indian Jute globally
6. **National Jute Development Programme-** An Umbrella Scheme for the development of Jute Industry
7. **The National Jute Board (NJB)** has been constituted as per the National Jute Board Act, 2008

Topics: Conservation related issues, environmental pollution and degradation, environmental impact assessment.

2. 'POLLUTION CAUSED BY PLASTIC' REPORT BY PUBLIC ACCOUNTS COMMITTEE (PAC)

Context:

The panel expressed disappointment over **ineffective measures to combat plastic pollution** and urged the environment ministry to bridge data and implementation gaps.

Concerns highlighted by the PAC:

1. **Inadequate disposal and utilization of plastic waste** lead to pollution of air, water, and soil, affecting human health.

2. **Surge in plastic waste generation** from about **16 lakh to 41 lakh tonnes per annum in India (between 2015-2021)**
3. Governance issues include **non-compliance with Plastic Waste Management Rules 2016**, especially regarding **Extended Producer Responsibility (EPR)**.
4. **Central Pollution Control Board (CPCB)** and SPCBs/PCCs' lax approach allowed plastic units to operate without valid registrations
5. Lack of mechanism for **assessing plastic waste generation**.
6. Other issues include **improper collection and segregation**, delay in eliminating single-use plastic, and poor monitoring by Urban Local Bodies (ULBs).

Impact of plastic pollution on our ecosystems and wildlife:

- **Wildlife harm:** Many animals, including marine life and birds, ingest plastic or become entangled in it. This can lead to injuries, suffocation, and death. Plastic particles, known as microplastics, can also enter the food chain, potentially harming human health.
- **Greenhouse Gas Emissions:** The entire lifecycle of plastic, from production to disposal, generates greenhouse gas emissions. These emissions occur during **raw material** extraction, manufacturing, transportation, and waste management processes.
- **Habitat Destruction:** The extraction of fossil fuels for plastic production often involves clearing natural habitats, leading to the **loss of biodiversity and disrupting ecosystems**.
- **Marine Pollution:** Plastic waste, especially single-use plastics, pollutes oceans, harming marine life like **seabirds, fish, turtles, and marine mammals**.
 - **Microplastics disrupt** food chains and have lasting effects on aquatic ecosystems.
- **Soil Contamination:** Improper disposal of plastic waste **contaminates soil** and affects soil health and fertility, leading to a host of ecological and agricultural problems.
- **Water Pollution:** Plastic waste in water bodies pollutes freshwater sources and poses a threat to aquatic life. **Plastic debris** can also **clog waterways** and **exacerbate flooding** in some areas.
- **Chemical Pollution:** Plastics can contain harmful additives like **phthalates** and **bisphenol A (BPA)**, which can leach into the environment, leading to chemical pollution.

Key recommendation of PAC to mitigate plastic Pollution:

1. **Mandatory reporting of data online** on the national dashboard with proof of photo/video and GPS location.
2. **Development of a comprehensive policy** to address pollution caused by plastics.
3. **Implementation of penal provisions for urban local bodies** (ULBs) that fail to establish Plastic Waste Management (PWM) systems.
4. **Involvement of rag pickers and junk dealers** to enhance the segregation and collection process.
5. **Global Collaboration:** E.g., through legally binding plastic control treaty

Need to reach a legally binding treaty to end plastic pollution:

- **Global Coordination:** Plastic pollution knows no borders, and it affects oceans, rivers, and land worldwide. A treaty can provide a **platform for countries to come together**, share responsibilities, and coordinate efforts to address plastic pollution collectively.
- **Addressing the Source:** A treaty can focus on addressing the root causes of plastic pollution, such as **reducing plastic production, improving waste management, and promoting sustainable alternatives**. It encourages a comprehensive approach to tackle the issue.
- **Inclusivity:** A treaty ensures that all countries, regardless of their level of development or resources, are engaged in the fight against plastic pollution.
- **Accountability and Enforcement:** A legally binding treaty ensures that countries are held accountable for their commitments to reduce plastic pollution.
 - It establishes **mechanisms for monitoring progress, reporting, and enforcement**, which can lead to more effective implementation.
- **Coordinated Research and Innovation:** A treaty can facilitate **international collaboration** on research and innovation to find new ways to reduce plastic pollution and develop sustainable materials and technologies.
- **Protecting Marine Life and Ecosystems:** Plastic pollution poses significant threats to marine life and ecosystems. A treaty can set **clear goals and targets** to protect oceans and reduce plastic waste reaching marine environments.

Steps taken to reach a legally binding treaty to end plastic pollution:

- **Plastic Pollution Coalition:** Founded in 2009, the coalition aims to create a **world free of plastic pol-**

lution and its harmful impacts on the environment, human health, and wildlife.

- **The United Nations Clean Seas campaign:** is a global initiative launched by the United Nations Environment Programme (UNEP) to **combat marine plastic pollution**. The campaign aims to raise awareness, mobilize action, and promote concrete solutions to reduce marine litter and plastic waste in the world's oceans and seas.
- **Global Tourism Plastics Initiative:** The Initiative **unites the tourism sector** behind a common vision to address the root causes of plastic pollution. It enables businesses, governments, and other tourism stakeholders to take concerted action, leading by example in the shift towards circularity in the use of plastics.
- **Proposal for Global treaty:** **175 nations** agree to develop a legally binding agreement on plastic pollution **by 2024**, prompting a major step towards reducing greenhouse gas emissions from plastic production, use and disposal.
- **MacArthur Foundation's New Plastics Economy initiative:** Launched in 2016, the initiative aims to create a **circular economy for plastics**, where plastics are designed, used, and recycled in a way that eliminates waste and pollution.

For Single Use plastic: [Click Here](#)

Initiatives Taken to Tackle Plastic Pollution:

Global Initiatives:

1. [Global Partnership on Marine Litter \(GPML\)](#)
2. GloLitter Partnerships Project
3. [London Convention, 1972](#)

India-Specific Initiatives:

1. Elimination of single-use plastic
2. [Plastic Waste Management Rules, 2016](#)
3. Un-Plastic Collective
4. [Kerala: Beat Plastic Pollution Initiative](#)
5. **Other initiatives for plastic pollution mitigation:** Project REPLAN (REducing PLastic from Nature), Promotion of Circular Economy, EPR Portal for Plastic Packaging, Swachh Bharat Mission, Lifestyle for the Environment (LiFE) Movement

Environment friendly Plastics

Bio-plastics: Materials bio-sourced or biodegradable or both and are made from renewable biomass resources (e.g., corn starch/ sugarcane/ cassava)

Biodegradable plastic: plastics (other than compostable plastics) which undergo complete degradation by biological processes under ambient environment.

Compostable plastics: Plastics that undergo degradation by biological processes during composting to yield CO₂, water, inorganic compounds and biomass.

Oxo-degradable: These are conventional plastics such as PE, which include an additive to help them break down into smaller fragments, which could lead to microplastic leakage in the environment.

Related Content

About Central Pollution Control Boards (CPCBs)/ State Pollution Control Boards (SPCBs)/ Pollution Control Committees (PCCs) in UTs:

Empowered under the **Water Act, the Air (Prevention and Control of Pollution) Act 1981**, and the Environment (Protection) Act 1986, the Boards perform **four broad functions**.

1. **Granting and managing consents** (to establish and operate industry)
2. Setting **standards** for emissions and effluents
3. **Monitoring** compliance of the industry with these standards
4. **Enforcing** these standards through an escalating series of actions

But various institutional and other issues are plaguing CPCB/SPCB:

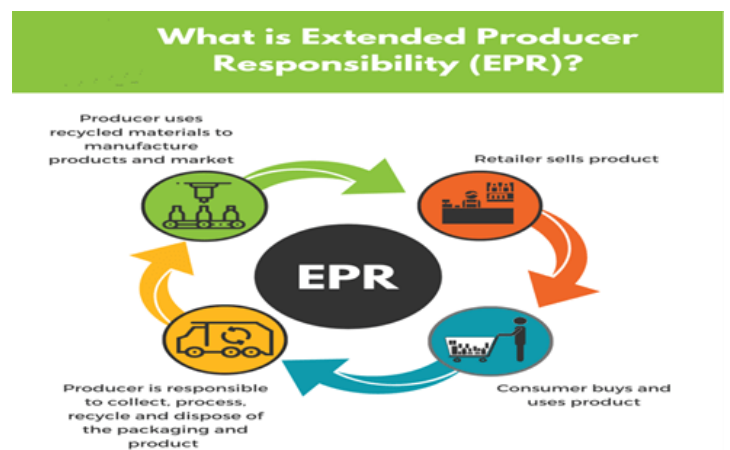
| Issues | Details |
|-----------------------------------|--|
| Inadequate capacity and resources | Shortage of personnel, especially in technical positions. Lack of training and pollution monitoring equipment. Absence of competent leadership. Enforcement mechanisms are protracted. Insufficient funds |

| | |
|---|---|
| Skewed representation | Boards are largely represented by government departments and industry representatives. Limited representation from civil society, academia, public health, and the medical community. Disproportionate representation , e.g., there is only one member from civil society in Delhi and Uttar Pradesh boards, while they have 5-7 members from govt. departments |
| Data Gap | Many state pollution boards fail to provide data to CPCB |
| Not following statutory requirements | CPCB/SPCBs lack the required expertise in air quality management. Statutory requirement for knowledgeable board members not met |
| Vacancies | Approximately 40% of positions are vacant across nine SPCBs/PCCs. Vacancy rates as high as 84% in Jharkhand |
| Conflict of interest | Board members may represent polluting entities regulated by the board, leading to potential conflicts of interest |
| Non-substantive board meetings | Discussions primarily focus on industrial pollution , lacking pollution control planning. Limited efforts for inter-departmental coordination |
| | Lack of transparency in sharing information with the public |
| Little expertise in monitoring | Despite improvements in real-time monitoring , gaps in data collection and calibration errors persist |

Related Content:

What is Extended Producer Responsibility (EPR)?

It is a policy approach and environmental strategy **that places the responsibility for the entire lifecycle of a product**, including its disposal, on the manufacturer or producer rather than on the end consumer or local government.



The fundamental idea behind EPR is **to encourage producers to minimize the environmental impact** of their products by considering their entire lifecycle, from the design and production phase to the end-of-life phase.

Key provisions of the Plastic Waste Management Amendment Rules, 2022 to reduce plastic pollution

| Key Provisions | Details |
|--|---|
| Extended Producer Responsibility (EPR) | Makes plastic packaging producers accountable for end-of-life collection and recycling |
| | Shifts responsibility from municipal bodies to producers |
| | Provides incentives for firms to adopt sustainable design and use recyclable materials |
| Collection Targets | Mandates producers to collect back 35% of plastic waste generated by 2024, increasing to 70% by 2025 in phases |
| Minimum Recycled Content | Requires firms to use 10% recycled plastic in packaging by 2023, escalating to 20% by 2026 |
| Collection Mechanism | Producers must establish collection systems either individually or collectively |
| Cost Attribution | Producers are responsible for bearing the costs associated with collection and recycling of plastic packaging |

Insta Links:

- [Substitute for single-use plastics](#)
- [NATURE AND YOU- SINGLE-USE PLASTIC](#)

Mains Link:

Q. What is single-use plastic and what are the concerns associated with it? How can it be successfully phased out in the country? (15M)

Prelims Link:

Q. Bisphenol A (BPA), a cause of concern, is a structural/key component in the manufacture of which of the following kinds of plastics? (UPSC 2021)

- Low-density polyethylene
- Polycarbonate
- Polyethylene terephthalate
- Polyvinyl chloride

Answer: B

Q. Triclosan considered harmful when exposed to high levels for a long time, is most likely present in which of the following? (UPSC 2021)

- Food preservatives
- Fruit-ripening substances
- Reused plastic containers
- Toiletries

Answer: D

CONTENT FOR MAINS ENRICHMENT

1. OCHER STUDIO PRESERVING DHOKRA SHILPKALA

Context:

Dhokra Shilpkala, an ancient metal casting tradition **dating back 4,000 years**, is preserved **through initiatives like Ocher Studio** in Chhattisgarh.

What is Ocher Studio?

It is an initiative founded by **Nisha Bothra in 2018 with the aim of preserving traditional Indian crafts**, particularly Dhokra Shilpkala. It explores the intersection of heritage art forms with contemporary aesthetics, serving as a platform to **showcase and promote these ancient crafts in a modern context**.

Usage: The example can be used in an initiative to preserve our traditional art forms in the contemporary world.

About Dhokra Shilpkala:

It is an **ancient metal casting tradition** believed to have originated from the **Dhokra Damar tribes of Central India**. It has deep roots in the **tribal communities of Chhattisgarh, Jharkhand, West Bengal, and Odisha**, where it evolved as a cultural and religious practice. The technique involves using **the lost wax casting method**, known as cire perdue, which results in intricate designs inspired by nature, mythology, and everyday life.

Despite its rich heritage, **Dhokra Shilpkala faces challenges due to urbanization and mechanized production**.



FACTS FOR PRELIMS

GS-1

1. AJANTA AND ELLORA CAVES UNDER SWADESH DARSHAN SCHEME

Context:

The **Ministry of Tourism** has included the **UNESCO World Heritage sites of Ajanta and Ellora Caves** in its **Swadesh Darshan Scheme II**, aimed at **developing sustainable tourism destinations in India**

| | Ajanta Caves | Ellora Caves |
|----------------------------|---|--|
| Location | Ajanta is a series of rock-cut caves in the Sahyadri ranges (Western Ghats) on Waghora river near Aurangabad in Maharashtra . | It is located nearly 100 Kms away from Ajanta caves in the Sahyadri range of Maharashtra . |
| Number of Caves | There are a total of 29 caves (all Buddhist) of which 25 were used as Viharas or residential caves while 4 were used as Chaitya or prayer halls . | It is a group of 34 caves – 17 Brahmanical , 12 Buddhist , and 5 Jain . |
| Time of Development | The caves were developed in the period between 200 B.C. to 650 A.D. The Ajanta caves were inscribed by the Buddhist monks , under the patronage of the Vakataka kings – Harishena being a prominent one. Reference of the Ajanta caves can be found in the travel accounts of Chinese Buddhist travellers Fa Hien and Hieun Tsang . | These set of caves were developed during the period between the 5th and 11th centuries A.D. by various guilds from Vidarbha, Karnataka, and Tamil Nadu . |
| Prominent features | Painting: The figures in these caves were done using fresco painting . The outlines of the paintings were done in red colour . One of the striking features is the absence of blue colour in the paintings . The paintings are generally themed around Buddhism – the life of Buddha and Jataka stories . | Remarkable Cave Temple: The most remarkable of the cave temples is Kailasa (Kailasanatha; cave 16) , named for the mountain in the Kailasa Range of the Himalayas where the Hindu god Shiva resides. |
| UNESCO Site | The caves were designated a UNESCO World Heritage site in 1983 . | The Ellora complex was designated a UNESCO World Heritage site in 1983 . |

The Swadesh Darshan Scheme, launched in 2015, is a centrally funded initiative to enhance tourism infrastructure across the country, with **15 themes** for developing theme-based tourist circuits.



2. BHARAT RATNA

Context:

The **Bharat Ratna, India's highest civilian honour**, will be awarded to **former Prime Ministers P.V. Narasimha Rao and Choudhary Charan Singh**, along with **Green Revolution** pioneer **M.S. Swaminathan**, making **this year's list the longest-ever announced in a single year**.

- The **Bharat Ratna is India's highest civilian award**, conferred by the **President of India in recognition of exceptional service or performance of the highest order in any field of human endeavour**.
- Established in **1954**, the Bharat Ratna is awarded to **individuals regardless of occupation, race, or religion**. Recipients of this prestigious award receive a certificate signed by the President and a **peepal leaf-shaped medallion**.

Contributions:

| <p>MS Swaminathan</p>  | <p>PV Narasimha Rao</p>  | <p>Chaudhary Charan Singh</p>  |
|---|--|---|
| <p>Known as the 'Father of the Green Revolution.'</p> | <p>Almost quit politics before becoming Prime Minister in 1991.</p> | <p>Prominent political figure in Uttar Pradesh.</p> |
| <p>Played a significant role in revolutionizing farming in the 1960s and 1970s.</p> | <p>Emerged as Congress President after the assassination of Rajiv Gandhi.</p> | <p>Advocated for peasant rights and rural issues.</p> |
| <p>Inspired by the Bengal famine and Mahatma Gandhi's Quit India Movement.</p> | <p>Preferred choice due to experience and support from key figures.</p> | <p>Instrumental in implementing legislation for zamindari abolition and land ceiling.</p> |
| <p>Dedicated career to agricultural research, serving in various institutions globally.</p> | <p>Elected Congress President in May 1991.</p> | <p>Became UP's first non-Congress Chief Minister in 1967.</p> |
| <p>Developed high-yielding varieties of rice and wheat essential for India's staple foods.</p> | <p>Became Prime Minister in June 1991 after the party's electoral success.</p> | <p>Entered national politics, -serving as Deputy Prime Minister under Morarji Desai.</p> |
| <p>Collaborated with Nobel laureate Norman Borlaug in developing semi-dwarf wheat varieties.</p> | <p>His candidacy was supported by key figures like President R Venkataraman.</p> | <p>Short-lived tenure as Prime Minister in 1979, lasting only 23 days.</p> |
| <p>Advocated for sustainable farming practices and supported farmers' rights.</p> | <p>Recognized globally, including being the first World Food Prize Laureate in 1987.</p> | <p>Hailed as a champion of the peasantry and is credited with creating a new political class encompassing farming communities.</p> |
| <p>Recommended fair minimum support prices for crops, ensuring farmers' welfare.</p> | <p>His political influence and legacy continue through his family, particularly his son Ajit Singh and grandson Jayant Chaudhary.</p> | <p>His influence on Indian politics, particularly in representing peasant interests, remains significant.</p> |

Dr M S Swaminathan: Father of India's Green Revolution



Context: Mankombu Sambasivan Swaminathan (MS Swaminathan) (1925 to 2023) passed away recently. He played a crucial role in heralding the Green Revolution that helped India combat food insecurity

| Year | Milestones |
|-----------|---|
| 1925 | Born in Kumbakonam, Madras Presidency |
| 1947-1949 | Joined IARI |
| 1954 | Collaborated with Dr Norman Borlaug on wheat |
| 1979-1982 | Appointed director-general of the ICAR |
| 1987 | Awarded the first World Food Prize |
| 1988 | Established M S Swaminathan Research Foundation |
| 2002 | Elected President of Pugwash Conferences |
| 2004 | Chair of the National Commission on Farmers |
| 2007-2013 | Served in Rajya Sabha, introduced Women Farmers' Bill |

Key contributions of M S Swaminathan

| Aspects | Contributions |
|----------------------------------|---|
| Led India out of 'Hunger Trap' | Played a major role in introducing the Green Revolution in India, significantly increasing food production and ensuring food security. |
| Research on Crops | Enhanced crop productivity: Conducted research on transferring genes for fertilizer response from Japonica varieties to Indica varieties, enhancing crop productivity. Dwarf variety of Wheat: Collaborated with Norman Borlaug to develop high-yielding dwarf wheat varieties suitable for Indian conditions. Developing high-yielding Basmati rice varieties, innovative use of mutation technology for various crops Raised awareness about the importance of sustainable agriculture, genetics, and breeding in improving crop varieties. Launched programs like "lab to land" |
| Fair Minimum Support for Farmers | Served as the head of the National Commission on Farmers and recommended fair minimum support prices for farmers' crops. Focus on nutrition, biofortification, funding for agriculture, precision farming, and promoting women in agriculture |
| Leadership | His leadership at the International Rice Research Institute (IRRI) led to advancements in rice cultivation, including C4 carbon fixation capabilities and high-yielding Basmati rice Swaminathan is hailed as a true visionary and pioneer in agriculture and sustainable development |

To know more Visit Insights IAS Daily Current Affairs

3. CATEGORY 6 HURRICANES

Context:

Some experts are proposing the **creation of a new hurricane category, Category 6**, to account for **increasingly intense tropical storms** driven by climate change.

Bottom of Form

- Currently, the **Saffir-Simpson scale**, with **five categories**, tops out at Category 5, **but storms with winds exceeding 192 mph would qualify for the new category.**

The **Saffir-Simpson Hurricane Wind Scale (SSHWS)** is a tool that **helps emergency officials determine the wind hazards of an approaching hurricane.** The scale is a **1 to 5 rating based** on a hurricane's sustained wind speed.

The scale's categories are:

- **Category 1:** A minimal hurricane
- **Categories 3 to 5:** Major hurricanes, which are considered to have the potential for significant loss of life and damage
- **Category 5:** A worst-case scenario

RATING HURRICANES

NOAA's National Weather Service has revamped the hurricane rating system that does away with storm surge effects of each category. The new scale, called the Saffir-Simpson Hurricane Wind Scale will use wind as its only determining factor.



WIND CATEGORY 1

Winds: 74-95 mph
 ■ Very dangerous winds will produce some damage.



WIND CATEGORY 2

Winds: 96-110 mph
 ■ Extremely dangerous winds will cause extensive damage.



WIND CATEGORY 3

Winds: 111-129 mph
 ■ Devastating damage will occur.



WIND CATEGORY 4

Winds: 130-156 mph
 ■ Catastrophic damage will occur.



WIND CATEGORY 5

Winds more than 157 mph
 ■ Catastrophic damage will occur.

SOURCE: NATIONAL WEATHER SERVICE

4. SWAMI DAYANAND SARASWATI

Context:

The Prime Minister emphasized the importance of integrating Indian values into the education system during a virtual address **commemorating the 200th birth anniversary of Arya Samaj founder Swami Dayanand Saraswati.**



200th birth anniversary of Dayanand Saraswati (1824-1883)



Dayanand Saraswati (Maharshi Dayanand) was philosopher, social leader and founder of the Arya Samaj, a reform movement of the Vedic dharma.

His contributions:

- **Education:** He and was one of the first to advocate for the education of women in India. He advocated for the use of the Sanskrit language as a medium of instruction in schools.

- **Hindu Reform Movement:** He sought to promote the values of the Vedas in modern society.
- **Social Reform:** He sought to eliminate practices such as child marriage, sati, and the caste system.
- **Nationalism:** He was a strong advocate of Indian nationalism and believed in the power of India to reclaim its status as a great civilization.
- He encouraged the study of Indian history and culture, and encouraged Indians to be proud of their heritage.
- **Environmentalism:** He encouraged the planting of trees, the protection of wildlife, and the conservation of natural resources.
- **Scientific Thought:** He encouraged the critical examination of religious texts and beliefs and sought to promote a rational and scientific approach to religion.

Visit Insights IAS CA Daily for detailed News



Kotravai is the **Tamil goddess of war and victory**. She is also the **mother goddess**, and the **goddess of fertility, agriculture, and hunters**. Her name comes from the **Tamil word korram, which means victory, success, or bravery.**

5. HORI HABBA

Context:

During the annual **Hori Habba bull races in Karnataka's Shivamogga district**, two individuals lost their lives in separate incidents.

Hori Habba, also known as **Hatti Habba or Kobbari Hori Competition**, is a **rural sport where trained bulls and cattle are made to run through crowds**. Catchers try to stop the cattle and steal prizes like cash, copra, and gift items.

Hori Habba is usually held **during the harvesting season between Deepavali and Sankranti festivals**.

6. KOTRAVAI SCULPTURE

Context:

A team of archaeologists discovered an **eighth-century Kotravai sculpture** near Ulundurpet, in **Tamil Nadu dating back to the Pallava period**.

- The sculpture, **stands five feet tall and four feet wide, depicting Kotravai with eight hands, characteristic of the eighth century.**
- The sculpture features various elements such as **chakkara, sword, bell, and abhaya mudra in the right hands, and conch, bow, shield, and Uru Mudhra in the left hands, along with bangles.**

GS-2

1. PRADHAN MANTRI MATSYA KISAN SAMRIDHI SAH-YOJANA

Context:

The Indian Cabinet has approved the **“Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY),”** a central sector sub-scheme under the **Pradhan Mantri Matsya Sampada** aimed at formalizing the fisheries sector and supporting micro and small enterprises with in it.

Key Highlights of the scheme:

| Feature | Details |
|-------------------------------------|---|
| Investment | Over Rs 6,000 crore investment over the next four years (2023-24 to 2026-27) across all States and Union Territories. |
| National Fisheries Digital Platform | Creation of a platform to provide work-based identities to 40 lakh small and micro-enterprises. |
| Extension of FIDF | Extension of Fisheries and Aquaculture Infrastructure Development Fund (FIDF) for another three years until 2025-26. |

| | |
|------------------------------|--|
| Bilateral MoUs | Approval for the International Financial Services Centres Authority (IFSCA) to sign three Bilateral MoUs with financial regulatory bodies in Mauritius, Kuwait, and Bangladesh. |
| Funding | Funding from public finance, including external financing from the World Bank and AFD , as well as private sector leverage. |
| Targeted Stakeholders | Targets various stakeholders in the fisheries value chain, including fishers, fish farmers, fish workers, fish vendors, and micro and small enterprises. |

2. SARATHI PORTAL

Context:

The Indian government has launched the **SARATHI portal** to **assist insurance companies in reaching out to farmers and rural populations** with tailored insurance products, **including the Pradhan Mantri Fasal Bima Yojana (PMFBY).**

- The **SARATHI portal, or Sandbox for Agriculture, Rural Security, Technology, and Insurance**, aims to simplify the **insurance process for farmers by providing a digitized insurance journey.**
- It offers a **single-window platform for viewing, purchasing, and availing insurance products**, with digital payment options and streamlined premium collection.
- The platform will **introduce a range of insurance products gradually**, starting with personal accident and **hospital cash policies, followed by health, shop, home, tractor, two-wheeler, live-stock, and non-PMFBY insurance products.**

The **Krishi Rakshak Portal and Helpline** will act as a **facilitator between insured farmers, insurance companies, bankers, Common Service Centres (CSCs), and state governments**, enabling farmers to register complaints for redressal.

3. SWATI

Context:

On the **International Day for Girls and Women in Science**, a new initiative **named SWATI (Science For Women: A Technology & Innovation)** was launched by a panel representing India's science academies.

Developed, hosted and maintained by the **National Institute of Plant Genome Research (NIPGR), New Delhi.**

- This portal aims to **create a comprehensive database of women in science across the country,**

acknowledging that **gender equity in science is not solely a women's issue.**

- The **inclusion of non-male genders in the SWATI form and the diverse composition of the inter-academy panel** are seen as positive steps towards addressing gender disparities in science.

4. KILKARI PROGRAM AND MOBILE ACADEMY

Context:

The Central Government launched the **Kilkari program and Mobile Academy** in Maharashtra and Gujarat.

Kilkari offers **weekly IVRS-based audio messages** on reproductive, maternal, neonatal, and child health care (RMNCH). **Mobile Academy provides free audio training** to ASHAs to enhance their knowledge and communication skills via mobile phones.

Aim: The initiative aims to **strengthen public health infrastructure and provide citizen-centric** health services leveraging mobile technology.

More about Kilkari:

'Kilkari' is an IVR-based mobile health service delivering free, weekly audio messages about pregnancy, childbirth, and childcare directly to families' mobile phones. It operates from the second trimester of pregnancy until the child is one year old. Features include **pre-recorded messages** in the voice of a fictitious doctor character **named Dr. Anita**, centralized hosting by the Ministry of Health and Family Welfare, integration with the Reproductive Child Health portal, and availability in 18 states/UTs.

Additional Information:

RMNCAH+N strategy, implemented by the Government of India under the **National Health Mission**, aims to address anaemia and malnutrition among women and children nationwide. Various interventions include

1. **Mothers' Absolute Affection (MAA)** to improve breastfeeding
2. **Nutrition Rehabilitation Centres (NRCs)** for children with severe acute malnutrition
3. **Anemia Mukht Bharat (AMB)** to reduce anaemia
4. **National Deworming Day (NDD)** to address soil-transmitted helminth infestations
5. **Monthly Village Health**
6. **Sanitation and Nutrition Day (VHSND)** for maternal and childcare
7. **Distribution of MCP Cards** and **Safe Motherhood Booklets** for pregnant women.

5. PM SURYA GHAR MUFT BIJLI YOJANA

Context:

Prime Minister launched the '**PM Surya Ghar: Muft Bijli Yojana**' to provide up to **300 units of free electricity per month to one crore households**.

Features of the scheme:

- The scheme, aimed at **promoting solar power and sustainable development**, involves an investment of over Rs 75,000 crore.
- **Subsidies will be directly credited to people's bank accounts**, and heavily concessional bank loans will be provided.
- All stakeholders will be **integrated into a National Online Portal**.
- **Urban Local Bodies and Panchayats shall be incentivised** to promote rooftop solar systems in their jurisdictions.

6. SMART GRAM PANCHAYAT: REVOLUTION TOWARDS DIGITIZATION OF GRAM PANCHAYAT

Context:

Union Minister of **Rural Development and Panchayati Raj**, inaugurated a ground-breaking initiative called '**Smart Gram Panchayat: Revolution towards Digitization of Gram Panchayat**' in marking a **significant move towards digital empowerment in rural India**.

- The project aims to extend **PM-WANI (Prime Minister's Wi-Fi Access Network Interface)** Service to all Gram Panchayats **in Bihar's Begusarai District**.
- This makes **Begusarai the first district in Bihar to provide Wi-Fi services** to all Gram Panchayats under the PM-WANI Scheme.

PM-WANI, or Prime Minister Wi-Fi Access Network Interface, is a scheme launched by the **Department of Telecom (DoT) in December 2020**. The scheme aims to increase the number of **public Wi-Fi hotspots in India, especially in rural areas**, to create a robust digital communication infrastructure

7. WEIMAR TRIANGLE

Context:

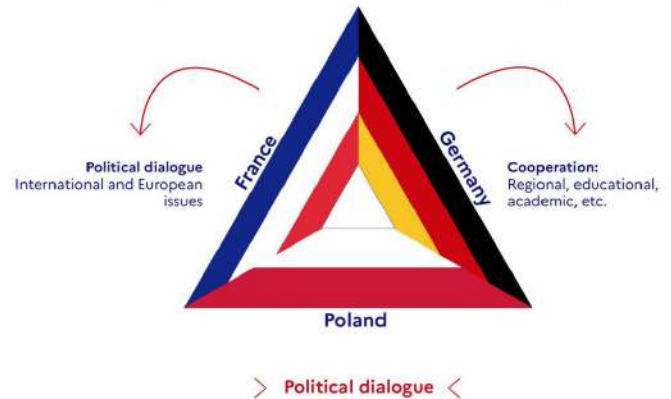
Poland, France, and Germany have pledged to **strengthen Europe's security and defense capabilities**.

- The foreign ministers of the **three nations met to discuss reviving the Weimar Triangle, aimed at enhancing cooperation**.

1991: creation of the Weimar Triangle

What is the Weimar Triangle?

> A forum for dialogue and cooperation <



The Weimar Triangle, established in 1991, aims to foster cooperation and strengthen ties between Germany, France, and Poland. Initially focused on **German-Polish reconciliation post-World War II**, the group derives its name from the city of Weimar, Germany, where its inaugural meeting occurred.

8. INDIA'S REQUEST FOR FULL MEMBERSHIP OF IEA

Context:

The International Energy Agency (IEA) is set to commence discussions with **India on its request for full membership**, recognizing **India's strategic importance** in addressing global energy and climate challenges.

India's growing economy, population, and energy usage underline its pivotal role in energy security and climate action. IEA ministers from 31 member countries made this announcement during the **2024 Ministerial Meeting in Paris (IEA's 50th Anniversary event)**

India joined the IEA as an associate member in 2017 and applied for full membership in 2023. Criteria for IEA membership include

1. **OECD membership**
2. **Crude oil reserves are equivalent to 90 days of the previous year's net import** (India currently has **strategic oil reserves equivalent to only 9.5 days** of its needs, but when combined with storage at refineries and depots, it reaches a total of **66 days, still below the IEA requirement**.)
3. **Demand restraint programs** (to reduce national oil consumption by up to 10%), and **Legislative measures** (to ensure that all oil companies under its jurisdiction report information upon request).

India meets some criteria but not all. However, its strategic importance in energy and climate makes it significant for global cooperation. The **IEA Governing Board** makes the final decision on a country's membership.

About IEA

IEA (HQ: Paris; Founded in 1974) is an **autonomous intergovernmental organisation** to ensure the security of oil supplies. **Membership:** 31 countries. **World Energy Outlook** is Published every year and provides critical analysis and insights on trends in energy demand and supply.

9. WORLD GOVERNMENTS SUMMIT 2024

Context:

The Prime Minister participated as the **Guest of Honour at the World Governments Summit 2024.**

- He delivered a keynote address on the theme **“Shaping the Future Governments,”** emphasizing the need for **governance to be inclusive, tech-savvy, clean, transparent, and green.**

The World Governments Summit is **an annual event held in Dubai, UAE,** bringing together global leaders in government **to discuss governmental processes, policies, and future-oriented topics like futurism and technological innovation**

It serves as a platform for **knowledge exchange among government officials,** thought leaders, policymakers, and **private sector leaders, analysing future trends, issues, and opportunities facing humanity.**

GS-3

10. NEMATODES

Context:

Researchers have identified a **new species of nematode, called Steinernema adamsi,** that could be **used to control crop pests in warm, humid regions.**

- These **nematodes belong to the Steinernema family,** known for their **use in agriculture to combat insect parasites without pesticides.**
- The nematodes are **efficient insect killers, with the ability to rapidly multiply in the soil after infecting their hosts.**

Named after **American biologist Byron Adams,** this new species **has been described as nearly invisible to the naked eye and just under 1 millimetre long**

About Nematodes:

Nematodes are **microscopic, roundworms** that are one of the **most common life forms on Earth.** They are also known as **roundworms or eelworms and are part of the phylum Nematoda.**

Nematodes are **found on every continent,** including **deserts, swamps, oceans, the tropics, and Antarctica.** Most species are **free-living and feed on microorganisms,** but many are parasitic. Parasitic worms can **cause soil-transmitted helminthiasis.**

11. 'INFEXNTM'

Context:

Kerala is preparing to **introduce ‘infexnTM,’** India's **first genomics-based test for diagnosing infectious diseases,** through a collaboration between **IIT-Bombay-based HaystackAnalytics and NIMS Medicity.**

- ‘InfexnTM’ is designed to **detect bacterial and fungal infections,** as well as **antimicrobial resistance genes, and can be performed within hospital settings.**

This test represents a significant breakthrough in medical diagnostics and promises **to deliver precise results within 24 hours by utilizing genome sequencing technology.**

| Genomics | VS | Genetics |
|--|----|---|
| <ul style="list-style-type: none"> • The study of an organism's complete set of genetic information. • The genome includes both genes (coding) and non-coding DNA. • 'Genome': the complete genetic information of an organism. | | <ul style="list-style-type: none"> • The study of heredity • The study of the function and composition of single genes. • 'Gene': specific sequence of DNA that codes for a functional molecule. |

12. FUTURE CIRCULAR COLLIDER

Context:

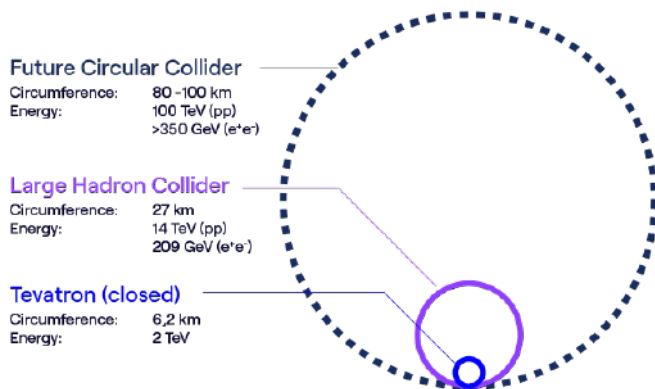
Scientists at CERN are advancing plans for a **multibillion-euro project to construct a larger and more potent particle collider** called the **Future Circular Collider.**

- Estimated to cost around 16 billion euros, the **collider aims to commence operations by 2040**

The Future Circular Collider (FCC) is a **particle accelerator that is being designed to host the next generation of particle colliders**. The FCC is expected to be **completed in 2035 and will have a significantly higher energy than previous colliders**.

The FCC is an international design study that aims to **create a hadron collider with a centre-of-mass energy of around 100 TeV**. The collider will be built in a new tunnel that is 80–100 km long.

The FCC is intended to extend the research currently being conducted at the Large Hadron Collider (LHC). The **LHC is located near Geneva, Switzerland, and has been operational since 2010**.



13. ULTRACOLD ATOMS

Context:

Researchers at the **Raman Research Institute (RRI)** have developed a **new image-correction technique to enhance the study of cold atoms**, particularly those at **absolute zero temperatures**.

- This technique **eliminates 50% of unwanted interference fringes in images**, crucial for **understanding the quantum mechanics properties of cold atoms**.
- Traditional imaging techniques **suffer from interference fringes**, reducing result quality and accuracy in parameters like **atom number and temperature**.
- The new algorithm, detailed in a recent paper in Applied Optics, **significantly reduces interference fringes and improves temperature uncertainty in cold Rubidium atoms by 50%**.

This technique holds promise for the widespread **application of absorption imaging in the study of ultracold atoms**

In **condensed matter physics**, an ultracold atom is an **atom with a temperature close to absolute zero**. At these temperatures, an **atom's quantum-mechanical properties become important**.

Ultracold gases are ensembles of atoms held at a temperature close to absolute zero. Such systems enable the **creation of exotic phenomena such as Bose-Einstein condensation**.

The field of quantum gases or ultracold atoms is the fastest expanding and most interdisciplinary field in physics today. The experimental branch of this field uses the techniques of atomic, molecular, and optical physics to study many-body systems consisting of extremely cold-trapped atoms.

14. THE HIGH-ALTITUDE PSEUDO SATELLITE VEHICLE (HAPS)

Context:

The **National Aerospace Laboratories (NAL)** in Bengaluru has successfully conducted the **first test of a solar-powered “pseudo satellite” called HAPS** (High-Altitude Pseudo Satellite), a new **type of unmanned aerial vehicle (UAV)**.

- HAPS can fly at **altitudes of 18-20 km**, remain **airborne for months or even years**, and offer **surveillance capabilities similar to satellites but at a lower cost**.
- HAPS development addresses the need for **continuous surveillance of border areas, inspired by events like the Doklam standoff in 2017**.
- HAPS has potential applications in **disaster response and providing mobile communication networks in remote areas**.

Other countries like **China, South Korea, and the UK** are also developing similar technology.

15. PACE SATELLITE

Context:

NASA's PACE (Plankton, Aerosol, Cloud, ocean Ecosystem) satellite was successfully launched on a **SpaceX Falcon 9 rocket** to be placed in a **sun-synchronous orbit**.

- PACE aims to study **how climate change impacts ocean phytoplankton blooms**, which are **crucial for the marine food web**.
- Additionally, it will investigate the **influence of airborne particles on cloud formation** and the **Earth's temperature regulation**.

16. TRICHOGLOSSUM SYAMVISWANATHII

Context:

Scientists have discovered a **new fungus species** named **Trichoglossum syamviswanathii** in Kerala.

- This species, belonging to the **family Geoglossaceae**, was found in the **Bambusetum of the KFERI Field Research Centre in Thrissur**.
- It's named after **Syam Viswanath, a former director of KFERI**. The discovery highlights the **rich fungal diversity in the Western Ghats**.
- Trichoglossum species are globally distributed and play a role in **decomposing organic matter, aiding nutrient recycling in forest ecosystems**.


The discovery was made by **researchers from KFERI, the Botanical Survey of India, and the University of Hyderabad**, and the findings were published in the journal **Persoonia - Molecular Phylogeny and Evolution of Fungi**.

17. PRABHAAV

Context:

The **Small Industries Development Bank of India (SIDBI)** has released the **CRISIL study report named "Prabhaav"**, assessing the impact of the **Fund of Funds for Start-ups (FFS)**, a key initiative under the **Start-up India Action Plan**.

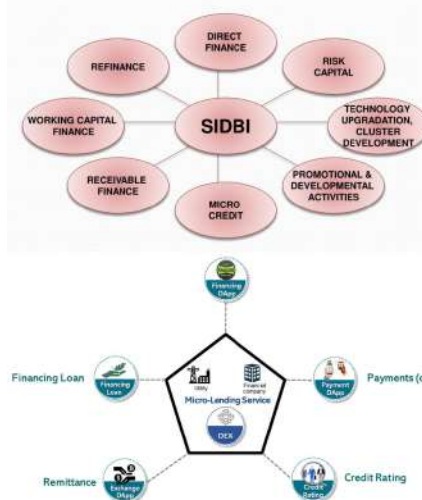
- Managed by **SIDBI on behalf of the Department for Promotion of Industry and Internal Trade (DPIIT)**, the FFS has been instrumental in catalysing investments.
- The scheme has also supported **start-ups in emerging sectors such as deep tech, agri-tech, health tech, and financial services**.
- The report was presented to **officials from the Ministry of Finance and DPIIT, who commended SIDBI's efforts in managing the scheme and achieving positive outcomes**.



SIDBI

SIDBI was set up on **2nd April 1990** under an Act of Indian Parliament, acts as the Principal Financial Institution for Promotion, Financing and Development of MSMEs.

SIDBI – Products & Services



MISSION
To facilitate and strengthen credit flow to MSMEs and address both financial and developmental gaps in the MSME eco-system

Microlending is the process of connecting a borrower and a lender for a **non-traditional, smaller loan**.
Microloans can be used for a range of objectives related to starting a business or expanding an existing one. Examples include working capital, inventory, supplies, furniture, fixtures, machinery, and equipment.

18. TOKENISATION OF ASSETS AND GOVERNMENT BONDS

Context:

The **Reserve Bank of India (RBI)** plans to **explore the tokenization of assets and government bonds** as part of its **wholesale Central Bank Digital Currency (CBDC) pilot project**, focusing on testing the technology rather than generating large transaction volumes.

- Asset tokenization is the process of **converting the value of a tangible or intangible asset into a digital token using blockchain technology**. This transformation allows for **fractional ownership, increased liquidity, clear traceability and auditability**.

The Reserve Bank of India (RBI) launched **the wholesale CBDC pilot program on November 1, 2022**. The pilot program is used to **settle secondary market transactions in government securities**. The program is called the **Digital Rupee-Wholesale (e-W)**.

The RBI also launched a retail CBDC pilot program in December 2022 for **P2P and P2M transactions**.

19. THREE NEW INITIATIVES TO BOLSTER 'CROP INSURANCE'

Context:

The Agriculture Minister recently launched **three initiatives aimed at bolstering crop insurance and supporting farmers in India**.

- The initiatives include the **Kisan Rakshak Helpline 14447 and Portal, the Agri-Insurance Sandbox Framework Platform SARTHI, and a Learning Management System (LMS) Platform**.

| Platform | Description |
|--|--|
| SARTHI | Developed in collaboration with UNDP India - Provides a comprehensive suite of insurance products tailored for farmers and rural India - Simplifies the insurance process - Offers digital payment options |
| Krishi Rakshak Portal and Helpline (KRPH) 14447 | Aims to address farmers' grievances transparently - Provides real-time assistance |
| LMS Platform | Facilitates training and knowledge-sharing for stakeholders implementing agricultural schemes like PMFBY, MIIIS, and KCC |

These initiatives aim to empower **farmers technically**

and digitally, aligning with the government's vision to transform India's agriculture sector.

20. FROZEN SMOKE

Context:

Researchers have developed a **ground-breaking sensor using "frozen smoke," or aerogels**, which can **detect formaldehyde in real-time at concentrations** as low as eight parts per billion.

- Formaldehyde is a **common indoor air pollutant emitted by various household items**.

This innovation could significantly **enhance indoor air quality monitoring and help mitigate health risks associated with VOCs**

"Frozen smoke" is a nickname for **aerogel, a silica-based material** that's the **lightest solid known**. Aerogel is also known as **solid smoke, solid air, solid cloud, and blue smoke**.

21. 3D-PRINTED BRAIN TISSUE

Context:

Scientists have achieved a significant breakthrough by **developing the world's first 3D-printed brain tissue that mimics natural brain behaviour**.

- This innovation holds great promise for **advancing research into neurological and neurodevelopmental disorders** like Alzheimer's and Parkinson's disease.

How it was made?

- Unlike traditional methods, the scientists employed a **unique approach, stacking layers horizontally and using a softer "bio-ink" gel to support brain cells**.
- The **resulting tissue allows neurons to grow and communicate with each other effectively**.

This breakthrough could **revolutionize stem cell biology, neuroscience, and our understanding of various brain disorders**.

22. MICELLAR WATER

Context:

Micellar water is a **popular product for removing makeup and sunscreen** due to its **effective cleansing properties**.

- It contains micelles, **clusters of molecules that are adept at removing oily substances**.

How it works?

- Micelles are formed by surfactants**, molecules with **both hydrophilic (water-loving) and hydrophobic (water-hating) properties**.
- When applied to a cotton pad, the **hydrophilic heads of the micelles are attracted to the wet surface while the hydrophobic tails bind to contaminants on the skin**, effectively removing them.

Unlike harsh detergents, micellar **water contains mild surfactants suitable for skin use**.

23. STATE OF THE WORLD'S MIGRATORY SPECIES REPORT

Context:

The **first-ever State of the World's Migratory Species report**, launched by the Convention on the **Conservation of Migratory Species of Wild Animals (CMS)**, reveals concerning trends.

Key Findings:

- Nearly half of migratory species **listed under CMS are declining in population**.
- More than **one-in-five CMS-listed species are threatened with extinction**, with **97% of listed fish facing extinction risk**.
- Overexploitation and habitat loss due to human activity** are the greatest threats to migratory species.
- Climate change, pollution, and invasive species** also impact migratory species significantly.
- Despite CMS listing, **many migratory species are at risk, with 399 threatened species not currently listed under CMS**.

Key recommendations include tackling **illegal and unsustainable practices, protecting vital sites for migratory species, addressing species most at risk of extinction, scaling up efforts to combat climate change and pollution, and expanding CMS listings to include more at-risk species**.

24. KAJI NEMU

Context:

The Assam government has declared '**Kaji Nemu**' (**Citrus Limon**) as the **state fruit**, highlighting its **unique aroma, antioxidant properties, and significance in local cuisines**.

- Known for its **juiciness and medicinal properties**, Kaji Nemu has attracted **buyers from countries like the United Kingdom and the United Arab Emirates**.
- Assam boasts 16 species and 52 hybrid varieties of citrus**, with Kaji Nemu being available throughout the year.



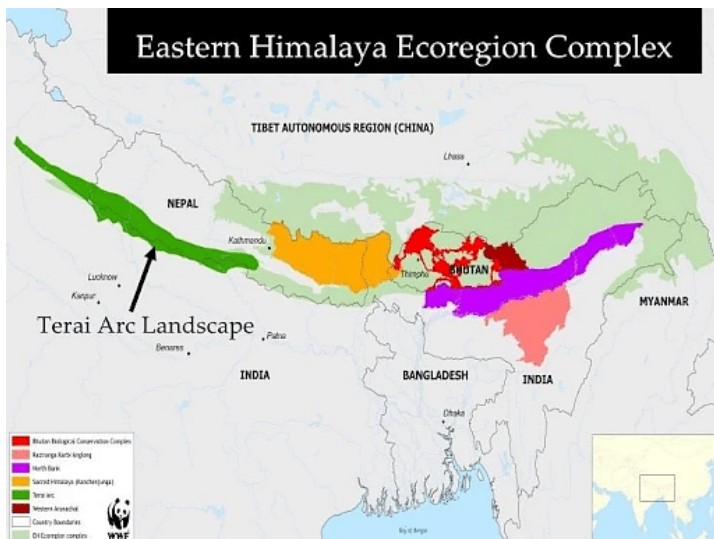
25. TERAI ARC LANDSCAPE (TAL)

Context:

Nepal's Terai Arc Landscape (TAL) initiative earns **UN recognition for ecosystem restoration**, boosting hopes despite challenges like infrastructure expansion and human-wildlife conflict.

What is Terai Arc Landscape (TAL)?

It is a transboundary biodiversity hotspot launched in 2001. It aims to **conserve critical habitats for tigers, rhinos, elephants**, etc., covering ecosystems of the Terai and Churia hills. Spanning over **900 km from the Bagmati River (Nepal) to the Yamuna River (India)**, it extends across **5 million hectares** and supports over seven million people.



What is the Terai Arc Landscape (TAL) initiative?

The Terai Arc Landscape (TAL) initiative is a pioneering **landscape-level ecosystem restoration project** in Nepal aimed at creating dispersal space for tigers and reversing ecosystem degradation. It was **launched in 2004 and has restored 66,800 hectares of forest**, significantly boosting the Bengal tiger population in the region. The initiative connects different ecologically critical protected

areas in Nepal and India, fostering transboundary conservation efforts.

About UN World Restoration Flagships (commenced in 2022)

These are initiatives **recognized by the UN Decade on Ecosystem Restoration (2021-2030)**. The flagship is led by UNEP and FAO, aiming to **counteract ecosystem degradation globally**. The award offers **technical and financial assistance**, global attention, and inclusion in UN publications and campaigns. It's part of the **UN's commitment** to restore **one billion hectares of ecosystems**. Progress is monitored through the **Framework for Ecosystem Restoration Monitoring**

26. 'E-JAGRITI' PORTAL

Context:

The Consumer Affairs Department has **integrated artificial intelligence in the 'e-Jagruti' portal**, aiming to reduce pending cases in consumer courts.

What is 'E-Jagruti' Portal?

The e-Jagruti portal, an initiative by the Department of Consumer Affairs under the Ministry of Consumer Affairs, Food, and Public Distribution, aims to **streamline consumer dispute resolution**. It integrates various consumer grievance platforms and offers features **like case filing, online fee payment, and AI-powered smart search**. The portal also includes a **Virtual court facility** for resolving complaints conveniently.

About the National Consumer Dispute Redressal Commission (NCDRC):

It was established in 1988 under the Consumer Protection Act and is a **quasi-judicial body with jurisdiction over complaints exceeding two crores**. It is headquartered in New Delhi and headed by a sitting or retired Judge of the Supreme Court or a Chief Justice of a High Court. Appeals against NCDRC orders can be made to the **Supreme Court within 30 days**.

27. NUCLEAR FUSION: JOINT EUROPEAN TORUS (JET)

Context:

European researchers at the **Joint European Torus (JET) in the UK** achieved a significant breakthrough in **nuclear fusion**, generating a record-breaking **69 megajoules of energy from just 0.2 milligrams of fuel**. This achievement marks the largest amount of energy ever produced in a fusion experiment.

Led by the **European research consortium EUROfusion**, the experiment demonstrates progress in magnetic fusion, a leading approach in fusion research. Despite not achieving a positive energy balance, this milestone contributes to advancing fusion technology for future power plants like ITER and DEMO.

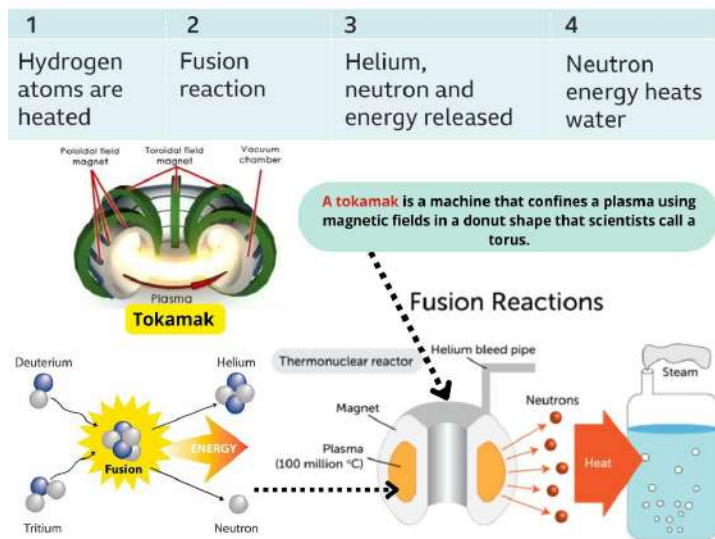
What is JET?

It is a large tokamak, **the first device to achieve controlled fusion** power using deuterium and tritium.

What are Tokamaks?

They are machines that **confine plasma using magnetic fields** in a donut shape.

How nuclear fusion works



India has been actively involved in nuclear fusion initiatives, including:

- ITER Project Participation:** India joined the International Thermonuclear Experimental Reactor (ITER) project in 2005. ITER is a global initiative aimed at constructing the largest tokamak reactor in the world.
- Institute of Plasma Research (IPR):** The Institute of Plasma Research (IPR) is an autonomous institute under the Department of Atomic Energy (DAE) and leads India's fusion program.

28. CUSCUTA DODDER

Context:

An **invasive weed, Cuscuta dodder, originally from North America**, is threatening the Chengalpet forests and Vedanthangal Bird Sanctuary in Chennai.

About Cuscuta dodder:

This parasitic vine lacks roots and covers trees, strangling and killing them. The forest department is **manual-**

ly removing it, but it's spreading rapidly. It's classified as **a noxious weed in 25 countries**, including the United States, due to its long-lived seeds that can survive for up to 50 years. Unlike root parasites, Cuscuta seeds don't need a specific stimulant for germination.

About Vedanthangal Bird Sanctuary (Tamil Nadu)

It is the **oldest water bird sanctuary in the country**, established in 1798 by the British government. It hosts various migratory bird species including pintail, garganey, grey wagtail, blue-winged teal, and **common sandpiper.**



29. DATA EXCLUSIVITY

Context:

India has **rejected the demand for 'data exclusivity' in ongoing FTA talks** with the **European Free Trade Association (EFTA).**

What is Data exclusivity?

Data exclusivity is a provision that **imposes a minimum embargo period, typically six years**, on the use of **clinical trial data** generated during the testing and development of a drug. This means that other manufacturers interested in producing generic versions of the drug must either wait out the exclusivity period or generate their own data, which can be expensive and time-consuming.

This clause has been consistently rejected by India since 2008, despite pressure from the EU and EFTA. India aims to **protect its generic drug industry** and ensure the **availability of affordable medicines**.

What are Generic Drugs?

Generic drugs are **pharmaceutical products that are identical or bioequivalent to brand-name drugs** in terms of **dosage form, strength, route of administration, quality, performance characteristics, and intended use**. However, they are typically sold under their chemical name and are often less expensive than brand-name drugs.

- The guidelines include recommendations on the **use of Diphtheria Antitoxin (DAT) and antibiotics**.
- Current treatments **involve neutralizing toxins with DAT, antibiotics to prevent bacterial growth, and supportive care to prevent and treat complications**.

Diphtheria, a serious **contagious bacterial infection**, can cause **severe respiratory issues and systemic complications, especially in children**.

New recommendations from WHO include using **macrolide antibiotics (azithromycin, erythromycin) over penicillin antibiotics**, not **performing routine sensitivity testing before administering DAT**, and **considering an escalating dosing regimen for DAT based on disease severity and time since symptom onset**.

30. SODIUM CATALYSED SYNTHESIS OF CARBON NANOTUBES

Context:

Researchers at the **Institute of Advanced Studies in Science and Technology (IASST)** have developed a **ground-breaking method for synthesizing carbon nanotubes (CNTs) directly on glass substrates at a lower temperature of 750°C**.

- This innovative approach, **utilizing Plasma Enhanced Chemical Vapour Deposition Technique (PECVD)**, eliminates the **need for high temperatures and metal catalysts traditionally used in CNT synthesis**.
- The process relies on **sodium (Na) as the primary catalyst for CNT growth**, making it more suitable for potential biomedical applications due to its **biocompatibility compared to conventional catalysts**.

The study highlights the **removal of Na from the synthesized CNTs**, making them **cleaner and more suitable for various applications in energy research, biomedicine, and optoelectronics**.

Carbon nanotubes (CNTs) are a type of **carbon with a diameter of nanometers** and a length of **micrometres (where the length-to-diameter ratio exceeds 1000)**.

CNT is made up of **enrolled cylindrical graphitic sheets (named graphene) wrapped up into a seamless cylinder with a nanometer-sized diameter**.

31. DIPHTHERIA

Context:

The **World Health Organization (WHO)** has released **new guidelines for the clinical management of diphtheria**, addressing the urgent need **for evidence-based practices in response to outbreaks in Nigeria, Guinea, and neighbouring countries in 2023**.

32. INTUITIVE MACHINES (IM) MISSION

Context:

A privately-built U.S. moon lander, **Odysseus**, was launched by SpaceX from Florida, aiming to achieve the **first American lunar landing in over 50 years**.

The **Intuitive Machines (IM)-1 flight**, carrying the **Nova-C lander (Odysseus)** and six NASA payloads, aims to **soft land near the Moon's south pole** at the Malapert A crater. Previous private attempts by **Israel, Japan, and the USA** faced challenges.

The mission, carrying NASA payloads, seeks to **gather data about the lunar environment**. Scheduled to land on February 22, the success of the mission would **mark the first private lunar landing and a significant milestone in NASA's Artemis program**.

Successful soft lunar touchdowns have been achieved only by the **US, the former Soviet Union, China, India, and Japan**.

33. SPECIES THREAT ABATEMENT AND RESTORATION (STAR) METRIC

Context:

The **International Union for Conservation of Nature (IUCN)** has introduced the **Species Threat Abatement and Restoration (STAR) metric** to quantify actions aimed at **halting biodiversity loss in oceans**.

What is STAR Metric?

The STAR metric **uses data from the IUCN Red List** to quantify **extinction risks and threats faced by species**. It assesses how specific actions in certain locations can contribute to international conservation targets, focusing

on threat abatement and habitat restoration. STAR helps measure progress towards global biodiversity targets and supports decision-making by governments, businesses, and organizations in conservation efforts.

It was **first unveiled in 2021** for use in terrestrial areas and has now been extended for marine ecosystems as well.

It emphasizes reducing **unsustainable fishing, managing invasive species, and addressing climate change**. This metric aligns with international agreements such as the **Kunming-Montreal Global Biodiversity Framework** and the Sustainable Development Goals.

34. KOCHI'S GREEN HYDROGEN PLANT

Context: Cochin International Airport (CIAL), known for its **solar-powered operations**, has partnered with Bharat Petroleum Corporation Limited (BPCL) to establish a **green hydrogen plant on its premises**. This initiative positions CIAL as the **first airport globally** to have such a facility.

The plant targets **generating 1000 KW** of power, contributing to **India's Green Hydrogen mission**. Green Hydrogen, **produced via electrolysis with renewable energy**, is central to India's National Green Hydrogen Mission. The mission aims to position India as a global hub for producing, utilizing, and **exporting Green Hydrogen**.

MAPPING

1. ARAL SEA

Context:

Climate change exacerbates the **ongoing decline of the Aral Sea**, now reduced to **less than a quarter of its former size**. Human engineering and agricultural projects have significantly contributed to its demise.

About Aral Sea:

It was once the **world's fourth-largest lake**, has dramatically shrunk since the 1960s due to **Soviet irrigation projects diverting** its feeder rivers. The Aral Sea drainage basin encompasses **Uzbekistan and parts of Afghanistan, Iran, Kazakhstan, Kyrgyzstan, Tajikistan, and Turkmenistan**. The shrinking of the Aral Sea has been deemed **one of the worst environmental disasters**, devastating the region's fishing industry and causing unemployment and economic hardship. **UNESCO has recognized the environmental tragedy of the Aral**

Sea by adding historical documents to its Memory of the World Register.



2. GUPTESWAR FOREST IN KORAPUT DISTRICT (ODISHA)

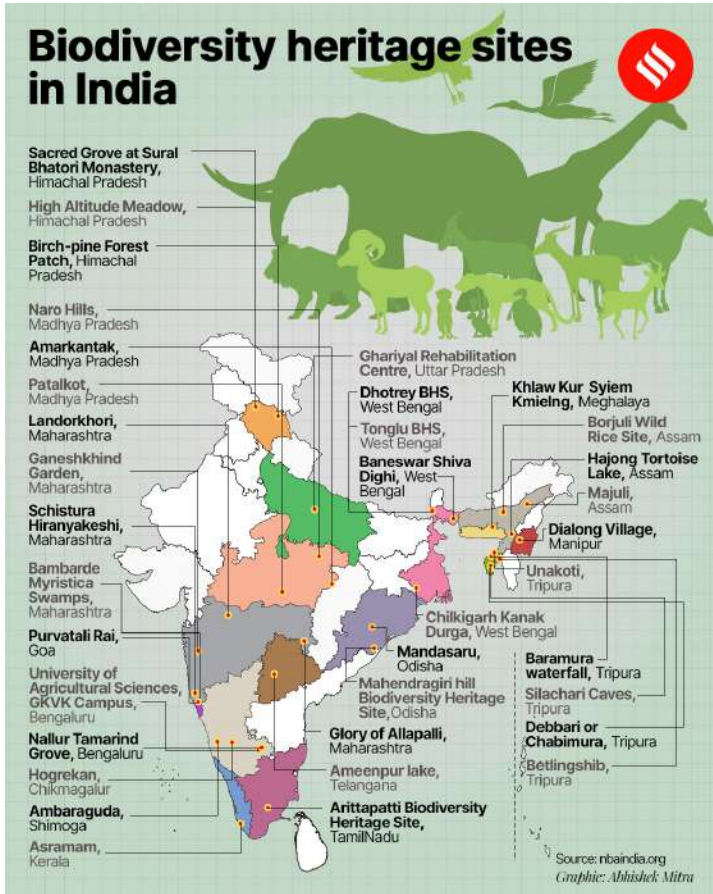
Context:

The Odisha government has **declared the Gupteswar forest in Koraput district** as its **fourth Biodiversity Heritage Site (BHS)**.

- Mandasaru (Kandhamala district), Mahendragiri (Gajapati district), and Gandhamardan (Bargarh & Bolangir districts) were previously declared as BHS

This forest, adjacent to the **Gupteswar Shiva temple**, **spans 350 hectares** and is revered by the local community for its **sacred groves** and rich biodiversity. Faunal species such as mammals, birds, amphibians, reptiles, and butterflies, along with diverse flora including trees, shrubs, herbs, and orchids, inhabit the area.

| Biodiversity Heritage Sites | |
|--|--|
| | Information |
| Definition | Biodiversity Heritage Sites (BHS) are areas that are recognized for their unique ecosystems and rich biodiversity . |
| Criteria | Unique ecosystems having rich biodiversity with one or more of the following components: (a) Richness of wild and domesticated species (b) High endemism (c) Presence of Keystone, rare and threatened species (d) Wild ancestors of domestic/cultivated species (e) Past pre-eminence of biological components represented by fossil beds, and having significant cultural, ethical, or aesthetic values. |
| Legal provision | Under Section-37 of the Biological Diversity Act, 2002 , the State Government in consultation with local bodies may notify areas of biodiversity importance as BHS. |
| Purpose | Enhance the quality of life of local communities through the conservation of such sites. |
| Management | The State Government in consultation with the Central Government may frame rules for the management and conservation of BHS. |
| Restrictions | The creation of BHS may not put any restriction on the indigenous practices and usages of the local communities |
| First BHS | Nallur Tamarind Grove in Bengaluru, Karnataka was designated as India's first BHS in 2007. |
| New additions | As of date, there are 36 BHS in India. Latest are: - Mahendragiri hill (Odisha); Arittappatti (TN); Borjuli Wild Rice Site (Assam); Hajong Tortoise Lake (Assam); Amarkantak (MP) |
| About Biological Diversity Act, 2002 | BDA is aimed at conserving and preserving India's biological diversity and ensuring the fair and equitable sharing of benefits arising from the use of traditional biological resources and knowledge. |
| Visit Insights IAS Daily Current Affairs | The Act establishes the National Biodiversity Authority (NBA) (HQ: Chennai) and State Biodiversity Boards (SBBs) to implement its provisions. Local bodies are required to form Biodiversity Management Committees to promote conservation, sustainable use, and documentation of biological diversity. |



3. KAZAKHSTAN

Context:

One of the **worst methane leaks ever recorded happened in Kazakhstan**, releasing an estimated **127,000 tonnes of methane over six months**. Satellite data verified the magnitude of the leak, prompting concerns about methane emissions.

Kazakhstan is a **large landlocked country in Central Asia and Eastern Europe**. It shares borders with **Russia, China, Kyrgyzstan, Uzbekistan, and Turkmenistan**, with access to the Caspian Sea. **Astana** is the capital, while **Almaty** serves as the largest city and main cultural centre. Kazakhstan declared independence from the Soviet Union in 1991. Economically, it dominates **Central Asia due to its oil, gas, and mineral resources, boasting the highest Human Development Index in the region**. Despite being a republic, in theory, it operates under **an authoritarian regime**. Kazakhstan has the **Caspian Sea's largest recoverable crude oil reserves**. Kazakhstan has pledged to reduce methane emissions by **30% by 2030**.



4. BALTIC SEA

Context:

Scientists accidentally discovered a **Stone Age wall beneath the Baltic Sea** in Germany, believed to be **Europe's oldest megastructure**.

The wall, stretching **nearly a kilometre along the sea-floor, comprises 1,673 individual stones**. Its size and shape suggest **it's unlikely to be a natural formation**, leading researchers to propose it was constructed over 10,000 years ago by hunter-gatherers as a hunting lane for **reindeer herds**.

What is the Stone Age?

The Stone Age was a **prehistoric period characterized by the use of stone tools and weapons** by early human societies. It is divided **into three main periods**: the Paleolithic, Mesolithic, and Neolithic. During this time, humans were hunter-gatherers, relying on natural resources for survival.

About Baltic Sea:

It is an arm of the Atlantic Ocean that is enclosed by Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, Sweden, and the North and Central European Plain.

