



INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

AJANTA AND ELLORA CAVES

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

CURRENT AFFAIRS 30

FEBRUARY 2024

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GENERAL STUDIES – 1

Topics: [Salient features of Indian Society, Diversity of India.](#)

1. INDIAN SOCIETY: CONSTITUTIONAL VALUES: SECULARISM AND PLURALISM

Context:

Controversy arose during the new Parliament’s inaugural session when Members received copies of the Indian Constitution without the terms **‘Socialist’ and ‘Secular’ in the Preamble.** The [article](#) discusses **controversies over the Indian Constitution’s preamble** and emphasizes the **importance of “We the People” in popular sovereignty.**

About the Indian Preamble:

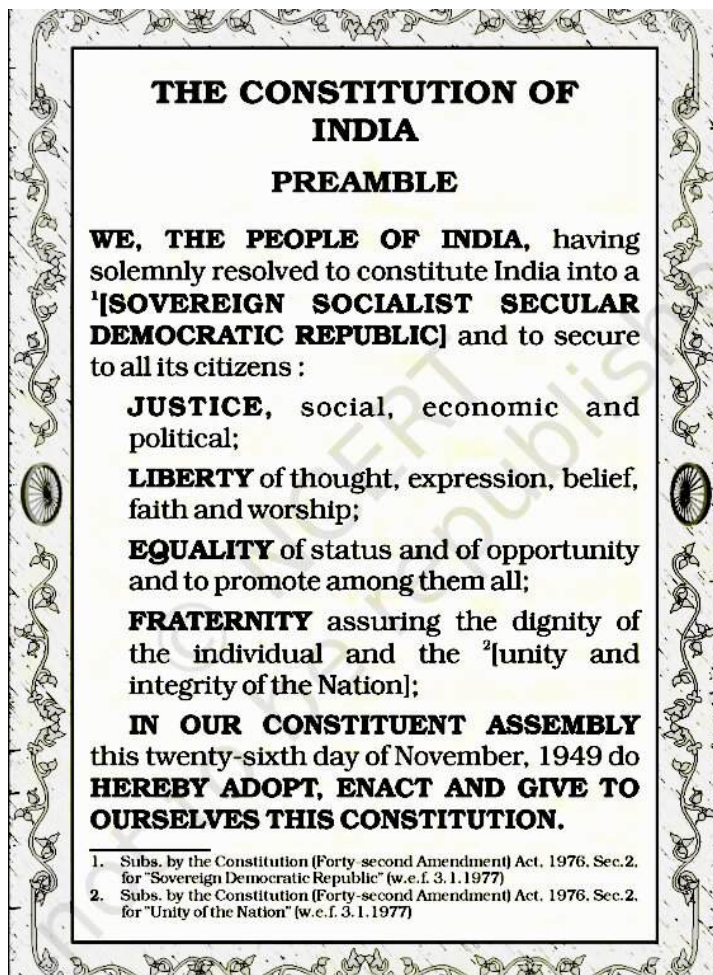
The Indian Preamble serves as an **introductory statement to the Constitution**, outlining its objectives and guiding principles. It declares India as a **sovereign, socialist, secular, and democratic republic, committed to justice, liberty, equality, and fraternity** for all citizens. The Preamble reflects the **aspirations of the Indian people** towards building a just and inclusive society.

Background of Preamble:

The Indian Preamble, based on the **Objectives Resolution**, was moved by Jawaharlal Nehru in the Constituent Assembly **on 13 December 1946** and adopted on 26 November 1949. It came into force on 26 January 1950, Republic Day. During the Indian emergency, Indira Gandhi amended it to include the words **“socialist,” “secular,” and “integrity.”** ([42nd Amendment Act of 1976](#))

Meaning of the phrase ‘We the People’ in the Preamble:

It signifies the **principle of popular sovereignty, emphasizing that power resides** with the citizens, not just the government. It forms the foundation of the Constitution’s goals of **justice, liberty, and equality for all citizens.** ‘We the People’ supports **non-elite movements**, such as farmers’ protests, highlighting marginalized groups’ assertions of rights in democracy. It contrasts **elite dominance in public discourse**, advocating for inclusive participation from all social segments.



Meaning of the words Socialist, Secular and Plural:

Term	Meaning	Example
Socialist	Refers to the principles of socialism, which advocate for equitable distribution of wealth and resources , and collective ownership of means of production.	India’s socialist policies aim to reduce economic disparities through initiatives such as land reforms and welfare programs.
Secular	Signifies the separation of religion from the state, ensuring equal treatment of all religions by the government. It promotes religious tolerance and neutrality in state affairs.	India’s secularism is reflected in its diverse religious landscape , with the state maintaining equal distance from all religions and protecting religious freedoms.
Plural	Emphasizes the acceptance and celebration of diversity, including various cultures , languages, and identities within the nation. It promotes inclusivity and unity amidst diversity.	India’s pluralistic society accommodates a multitude of languages, cultures, and traditions, fostering national unity while respecting regional diversity.

India, a land of **myriad cultures, religions, and traditions**, is often described as a vibrant tapestry of **secularism and plurality**. The constitutional principles of secularism embedded in the nation's foundation affirm the equality of all religions, advocating for a harmonious coexistence of diverse faiths.

Secularism and plurality being implicit in Indian society:

1. **Ancient past:** India has been a pluralistic society for centuries with diverse religions, languages, and ethnicities co-existing mostly peacefully. This plural ethos is ingrained in Indian society.
2. **Multiple religions:** India is home to a multitude of religions, including Hinduism, Islam, Christianity, Sikhism, Buddhism, Jainism, and more. This diversity is exemplified by religious sites coexisting in close proximity.
 - For instance, in Delhi, the **Lotus Temple (Bahá'í Faith), Jama Masjid (Islam), and Akshardham Temple (Hinduism)** stand as symbols of India's acceptance and respect for different faiths.
3. **Ideals of tolerance, respect and peaceful existence** between different communities date back historically in Indian civilization.
 - Pluralism is an established feature of life in India and we have intense pride in **Ajanta caves, the Kashi temple, the Taj Mahal, Gommatesvara** of Shravanabelagola and the Golden Temple of Amritsar.
 - Though they represent **different faiths there is a sense of emotional experience** of being Indian in all these.
4. **India legally adopted secularism**, whereby the state is separate from religion, upon independence in 1947. This was aligned with the prevailing plural fabric.
 - E.g. India's Constitution, encompassing **articles 14, 15, 19, 25, 29, and 30**, safeguards the rights of minority communities.

Issues with Indian Secularism and Plurality:

1. **Sectarian divide:** While the Indian constitution upholds secularism, the societal structure continues to be along religious, caste and other community identities that often lead to tensions between groups over access to resources and power.
 - a. E.g. Ongoing conflict in **Manipur between Kuki and Meiteis**.
2. **Vote bank politics:** Politics in India has often been enmeshed in employing religious symbolism and sentiments for electoral gains, violating principles of secularism. This threatens inter-community relations.
 - a. E.g. Increased instances of communal violence during election.
3. **Incidents of communal violence, prejudice, discrimination** against religious minorities violate secular traditions and undermine plurality in society.
 - a. E.g. incidents of discriminations against minority and socially disadvantaged communities

4. **Issues with imitating western system:** Es.g., Japanese historians, **influenced by Western Orientalism**, created a distorted view of Asia, portraying themselves as superior during the 1st half of 20th century (during World Wars). This mindset justified their **aggression and exploitation**.

Measures to Make Indian Society Secular and Plural:

1. **Promote Interfaith Dialogue and Understanding:** "Religion must mainly be a matter of principles only. It cannot be a matter of rules." - Mahatma Gandhi
2. **Education on Pluralism and Secularism:** Integrate lessons on secularism and pluralism into educational curricula to promote tolerance and acceptance of diversity from a young age.
3. **Empower Marginalized Communities:** Implement policies and programs that **uplift marginalized communities**, ensuring their equal participation and representation in all aspects of society.
4. **Ensure Equality Before Law:** Uphold the principle of equality before the law, regardless of caste, creed, religion, or gender, to promote a sense of justice and fairness in society.
5. **Combat Discrimination and Prejudice:** Take proactive measures to address discrimination and prejudice in all forms, including legislative reforms and awareness campaigns.
6. **Encourage Grassroots Movements:** Support grassroots movements and community initiatives that promote secularism, pluralism, and social justice, empowering ordinary citizens to drive positive change.
7. **Political and Social Reforms:** Advocate for political and social reforms that dismantle hierarchical structures and promote inclusivity, ensuring equal rights and opportunities for all members of society.

Conclusion

The path forward is to cultivate a **pluralistic and secular society**, engaging all communities, **especially marginalized ones**. This entails promoting **dialogue and solidarity** across social divisions and acknowledging grassroots movements as integral to democracy. Such an approach resonates with Ambedkar's call for constitutional morality and Gandhi's vision of Swaraj, aiming for a fairer and more inclusive democracy.

Prelims Links:

Q. What was the exact constitutional status of India on 26th January 1950? (UPSC 2021)

- (a) A Democratic Republic
- (b) A Sovereign Democratic Republic
- (c) A Sovereign Secular Democratic Republic
- (d) A Sovereign Socialist Secular Democratic Republic

Answer: B

Q. Consider the following statements: (UPSC 2020)

1. The Constitution of India defines its ‘basic structure’ in terms of federalism, secularism, fundamental rights, and democracy.
2. The Constitution of India provides for ‘judicial review’ to safeguard the ‘citizens’ liberties and to preserve the ideals on which the constitution is based.

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

2. DEMAND FOR PAID MENSTRUAL LEAVE AND GENDER EQUALITY

Context:

The demand for paid menstrual leave, while aiming to address period-related challenges, could inadvertently hinder gender equality efforts.

What is Menstrual Leave?

Menstrual leave is a workplace policy that allows employees to take paid time off during their menstrual cycle to manage period-related symptoms or discomfort.

Arguments Supporting Paid Menstrual Leave

Argument	Description
Will raise awareness against Period Poverty	A survey conducted by the NGO Child Rights and You (CRY) revealed that access to sanitary pads was limited to many girls, with <u>44% of girls admitting to using homemade absorbents or cloth</u>
Will act against Stigma and Shame	The social stigma surrounding menstruation, <u>results in discrimination, embarrassment, and limited access</u> to resources and information.
	The CRY report has suggested that <u>over 61% of girls</u> have accepted that a <u>sense of embarrassment existed</u> in society with regard to periods
Improves Workplace Productivity:	<u>By allowing individuals to take time off</u> to manage menstrual symptoms, paid leave can contribute to improved workplace productivity and <u>overall job satisfaction</u> .
Reduces Absenteeism	Providing paid leave for menstruation can help reduce absenteeism by <u>allowing individuals to take time off when necessary without fear of losing income</u> or facing disciplinary action.
Fosters Inclusivity and Diversity	It creates a more inclusive and diverse workplace culture by <u>accommodating the needs of menstruating individuals</u> , regardless of gender identity.
Promotes Gender Equality	Paid menstrual leave helps to address gender disparities by <u>recognizing and accommodating the unique needs of menstruating individuals</u> in the workforce.
Will support ‘Right of Women to Menstrual Leave and Free Access to Menstrual Health Products Bill 2022’	The bill specified <u>three days of paid leave for women and transwomen</u> during their periods and additional benefits for students. However, only two states, Kerala and Bihar, currently have menstrual leave policies for women

Examples from India:

1. Zomato in 2020, announced a 10-day paid period of leave per year, and Swiggy and Byjus have also followed suit.

Global Examples:

2. Spain became the first European country to grant paid menstrual leave to workers, among a host of other sexual health rights.
3. Indonesia introduced a policy in 1948, amended in 2003, saying that workers experiencing menstrual pain are not

obliged to work on the first two days of their cycle.

4. **In the Philippines**, workers are permitted two days of menstrual leave a month.
5. **Taiwan has an Act of Gender Equality in Employment in place**. Under Article 14 of the Act, employees have the right to request a day off as period leave every month, at half their regular wage.
6. **South Korea takes a slightly different route**, allowing for monthly physiologic leave under Article 73 of their labour law, allowing all female workers to get a day off every month.
7. **Among the African nations, Zambia** introduced one day of leave a month without needing a reason or a medical certificate, calling it Mother’s Day.
8. Companies across nations, such as **Nike and Coexist**, have introduced menstrual leave as an internal policy.

Effective Menstrual Leave Policies should include:

1. Promote **menstrual health literacy**
2. Provide adequate **rest breaks and facilities**
3. Ensure access to **effective treatment**
4. Offer **flexible working conditions**
5. **Avoid gender-specific policies**
6. **Address gender wage gaps** and job opportunities
7. **Improve overall labour standards** and working conditions, especially for women

Other Measures needed to improve menstrual health:

- **Hygienic and accessible toilets:**
 - Providing accessible, safe, and hygienic toilets to all including residents of **low-income slums, pavement dwellers**, and in **educational institutions and workplaces**.
 - **‘She Toilets’ in Telangana and Tamil Nadu** and **‘Pink Toilets’ in Delhi** provide safe, private, clean facilities with essential amenities to manage periods.
 - Providing **dustbins and incinerators in female toilets**, which promote **waste segregation at source** through initiatives like **the ‘Red Dot Campaign’** and innovations like **‘PadCare Labs.’**
- **Attention to urban areas:**
 - The **focus of menstrual hygiene campaigns has often been on India’s rural population**, and for good reasons.
 - However, India’s large, rapidly growing **urban population also calls for attention** as certain groups of **urban dwellers face a whole range of limitations** that affect their menstrual health.
- **Other measures:**
 - **Awareness** about periods must be continued, along with efforts to **address harmful social and gender norms and eradicate the social stigma**.
 - **Menstrual products**, both reusable and disposable, must be **more available through various access channels** (retail outlets, social enterprises, government schemes and NGOs) **without any stigma attached**.

Concerns regarding Paid Menstrual leave:

Concerns	Description
Dissuades Companies From Hiring Women	The gender wage gap and low female participation rates in the labour force are already significant issues, and mandatory paid menstrual leave could further discourage companies from hiring women .
Validates Social Stigma Around Menstruation	Ratifying special status for menstruating women could perpetuate the social stigma surrounding menstruation, reinforcing period shaming and the belief that menstruation is impure, hindering efforts towards gender equality.
Concerns Surrounding Implementation	Implementing paid menstrual leave poses challenges such as determining legitimate use, preventing misuse, and defining acceptable enforcement methods .
Normal Physiological Phenomenon	Menstruation is a natural process, and while some individuals may experience severe symptoms, most cases are manageable .

Case Study of Japan:

In Japan, **despite the provision of unpaid menstrual leave for painful menstruation**, only about 1% of women in the workforce avail of this benefit. Many women are reluctant to use it **due to fear of sexual harassment when disclosing their period status**. This situation persists despite the policy being in place for over seven decades. **Japan’s gender equality ranking has declined**, with women less likely to be employed and often paid less than men, reflecting ongoing disparities in **workforce participation and gender pay equity**.

Government Schemes:

1. **Menstrual hygiene scheme** launched by the Ministry of Health and Family Welfare
2. **Rashtriya Kishore Swasthya Karyakram**
3. **SABLA** programme of the Ministry of Women and Child Development
4. National Rural Livelihood Mission of the Ministry of Rural Development
5. Swachh Bharat Mission and Swachh Bharat: **Swachh Vidyalaya (SB:SV)**
6. Guidelines for **Gender Issues in Sanitation, 2017**
7. The National Guidelines on **Menstrual Hygiene**

Management

8. **Scheme for Promotion of Menstrual Hygiene** among adolescent girls in the age group of 10-19 years (supported by the National Health Mission)

Conclusion

In all, menstrual health is integral to **improving global population health, achieving the Sustainable Development Goals, and realising gender equality and human rights**. Implementation of menstrual leave policies should **guard against misuse, ensuring privacy and dignity**. Persistent disparities underscore the need for nuanced, inclusive approaches to address menstrual challenges and promote gender equality.

Mains Links:

Q. What are the continued challenges for women in India against time and space? (UPSC 2019)

Q. Male membership needs to be encouraged in order to make women’s organisations free from gender bias. Comment. (UPSC 2013)

Topics: Women and women related issues.

3. SC DECISION ON GENDER DISCRIMINATION

Context:

The Supreme Court of India **declared (in Selina John’s case) rules penalizing women employees** for getting married as **un-constitutional, citing gender discrimination and inequality**.

Background of the case:

The case involved **former lieutenant Selina John**, who was discharged from the Military Nursing Service for getting married. The court directed the **Union Government to pay her ₹60 lakh in compensation**. The ruling highlights the ongoing battle for **gender parity in the Army and underscores the need for action** to break down barriers in education, employment, and opportunities for women.

Women have been fighting a battle for gender parity in the Army for long. They were granted permanent commission after judgments in 2020 and 2021.

Challenges Faced by Women in the Workplace:

Challenges	Description
Patriarchal Social Norms	Entrenched patriarchal norms and traditional gender roles restrict women’s opportunities for education and employment.
	Societal expectations prioritize women as caregivers and homemakers , dissuading their active engagement in the workforce.
	Women often encounter uncomfortable personal inquiries during job interviews regarding their plans for marriage and motherhood.
Gender Wage Gap	The World Inequality Report of 2022 reveals that men in India command 82% of labour income, leaving women with only 18%.
Unpaid Care Work	The responsibility of unpaid care and domestic tasks disproportionately falls on women , limiting their time and energy for paid employment.
	Married women in India spend over 7 hours daily on unpaid care and domestic work, impacting their ability to engage in paid work.
Social and Cultural Stigma	Certain communities may stigmatize or resist women working outside the home , leading to lower rates of labour force participation.
Female Labor Force Participation Rate (LFPR)	India’s Female LFPR has decreased from 30% to 24% in the past two decades, despite an increase in girls’ enrollment in Class 10.
Lack of Economic Empowerment	Globally, women’s labour force participation is 51% , compared to 80% for men, and in India, it stands at 23%.

Access to Productive Capital	Women struggle to access funds and capital for starting a business, or other development work.
Glass Ceiling Effect	In corporate settings, women earn on average only 79% of what men earn, hold only 5% of Fortune 500 CEO positions , and represent 17% of global Board positions.
Safety Issues	Concerns about safety and harassment at work sites , both explicit and implicit, inhibit women's participation in the workforce.

Consequences of a declining women's workforce:

1. **Consequences for Women**
 - 1.1. **Reduced Economic Independence:** Lower participation in the workforce leads to **reduced financial independence** for women. E.g: **Women relying solely on their spouses or families** for financial support may face **limitations in personal decision-making**.
 - 1.2. **Limited Career Opportunities** : E.g.: **Long career breaks make re-entry into professional roles challenging**, often leading to **underemployment**.
 - 1.3. **Social Isolation** : E.g: **Women confined to domestic roles** often miss out on **social interactions** and networks available through employment.
2. **Consequences for the Economy**
 - 2.1. **Reduced Economic Growth:** Lower female LFPR **limits the potential labor pool**, directly impacting economic growth. E.g: **According to IMF estimates, equal participation of women in the workforce could boost India's GDP by up to 27%**.
 - 2.2. **Underutilization of Human Capital** : The economy fails to leverage the full potential of its educated female population. E.g: **Despite high educational attainments, many women remain outside the labor market**, representing a significant untapped resource.
 - 2.3. **Impact on Consumer Markets** : Women's earnings influence consumption patterns, and their **reduced income can affect market dynamics**. E.g: Lower female earnings can lead to **decreased spending on health, education, and consumer goods**, affecting diverse industries.
 - 2.4. **Decreased Tax Revenues** : Reduced female participation in **high-earning roles impacts tax contributions**, limiting funds for public welfare initiatives.
 - 2.5. **Inequality and Social Development** : Persistent gender gaps in employment exacerbate social inequalities, **hindering progress towards gender-balanced development goals**.

Government steps:

1. [Beti Bachao Beti Padhao Scheme](#)
2. [One Stop Centre Scheme](#)
3. [SWADHAR Greh](#)
4. [NARI SHAKTI PURASKAR](#)
5. **Mahila police Volunteers**
6. **Mahila Shakti Kendras (MSK)**
7. [NIRBHAYA Fund](#)

Steps by the [National Commission for Women \(NCW\)](#) (statutory body established under the [National Commission for Women Act, 1990](#))

1. **Advancing Women's Rights and Awareness:** Raising awareness through campaigns and workshops. Providing support through helplines, counselling, and legal aid.
2. **Addressing Gender-Based Violence:** Intervening in cases of domestic violence, workplace harassment, and dowry-related crimes. Conducting investigations and recommending action, including workplace harassment.
3. **Advocating for Gender Equality:** Fighting against gender-based discrimination in education, workplaces, and social customs.

Way forward:

1. **Address barriers in education, employment, and opportunities** to increase female labour participation.
2. **Concrete actions must accompany** efforts to increase female representation in the Indian Army.
3. **Fostering an Inclusive Environment:** Organizations should heed the Court's stance against penalizing women for marriage and domestic responsibilities to create supportive workplaces.
4. **Comprehensive Approach to Gender Equality:** Gender equality efforts should acknowledge and value all forms of women's work, formal and informal.
5. Policy solutions should **empower women within their cultural context, emphasizing autonomy and flexible work options**.
6. **Importance of Women's Labor Force Participation:** Increasing women's labour force participation is essential for societal progress, economic growth, poverty reduction, and the creation of inclusive communities.

Mains Links:

Q. "Empowering women is the key to control the population growth." Discuss. (UPSC 2019)

Prelims Links:

Q. Which of the following gives the 'Global Gender Gap Index' ranking to the countries of the world? (UPSC 2017)

- (a) World Economic Forum
- (b) UN Human Rights Council
- (c) UN Women
- (d) World Health Organization

Ans: A

Topics: Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc., geographical features and their location- changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes.

4. TRIPLE DIP LA-NINA AND AIR QUALITY IN INDIA

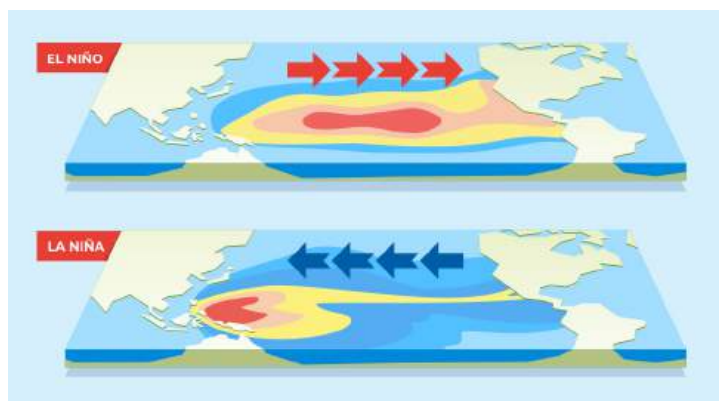
Context:

Research has identified climate change as a primary cause of poor air quality in Mumbai during the winter of 2022. The study, titled "Triple dip La-Nina, unorthodox circulation and unusual spin in air quality of India," links the city's high pollution levels to delayed wind reversals and less frequent calm winds triggered by La Nina and Climate Change.

What is Triple Dip La Nina?

It refers to an unusual and prolonged La Nina phenomenon lasting three consecutive years, which significantly impacts global weather patterns. La Nina typically involves cooler-than-average sea surface temperatures in the central and eastern Pacific Ocean, leading to various climatic effects worldwide, such as altered rainfall patterns, increased tropical cyclone activity, and shifts in temperature gradients.

- WMO had stated in August 2022 that for the first time this century, La Nina would span three consecutive northern hemisphere winters to become a 'triple dip' La Nina.

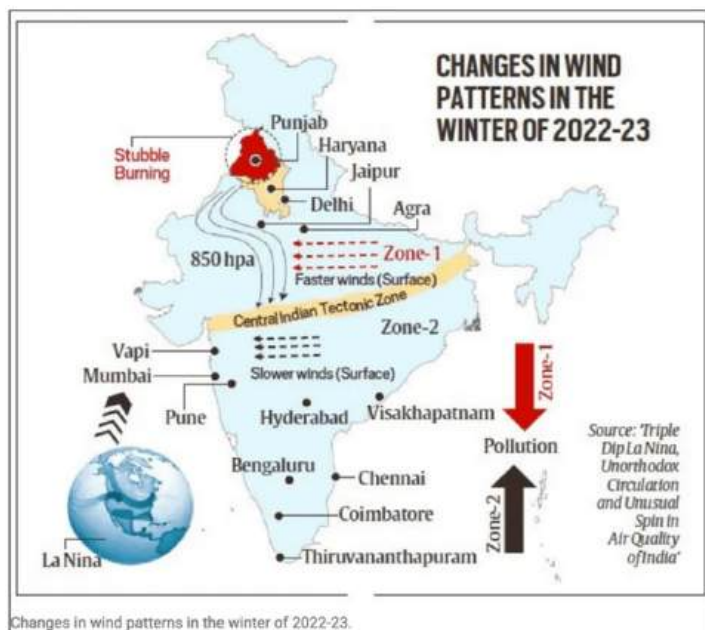


What does the study indicate?

During the winter of 2022-23, an unusual trend reversal in pollution levels, particularly PM2.5, was observed in India. South-Western regions experienced unusually poor air quality, while North India showed relatively cleaner air, contrary to typical patterns.

Factors responsible for this included:

1. **Triple-dip La Niña event:** The winter coincided with the last phase of an unusual triple-dip La Niña event, affecting atmospheric conditions.
2. **Change in wind direction:** Normally, winds blow from Punjab towards the Gangetic plains, carrying pollutants from stubble burning towards Delhi. However, during the winter of 2022, wind circulation changed to a north-south direction.
 - a. This led to air pollutants from Punjab and Haryana bypassing Delhi, resulting in lesser pollution in the capital and surrounding areas.
3. Instead, pollutants flew over western and southern regions, contributing to the poor air quality observed in South-Western India.

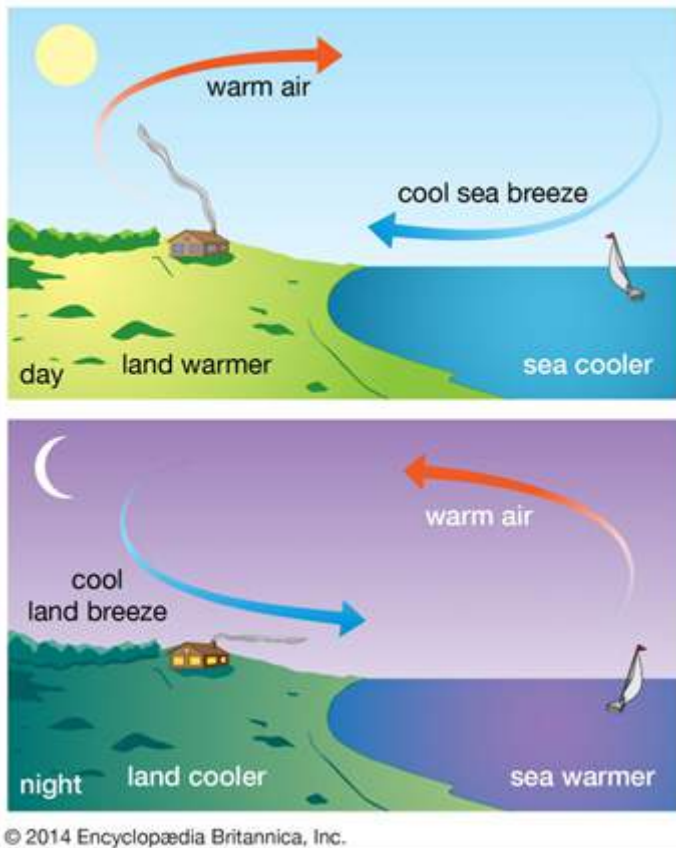


Mumbai's Air Pollution:

1. Air quality in Mumbai deteriorated significantly, with 66 out of 92 days between November 2022 and January 2023 categorized as "poor" or "very poor."
2. In comparison, Delhi experienced 79 days of "Poor" and "Very Poor" AQI during the same period. (Data from SAFAR – Ministry of Earth Sciences).

Reasons:

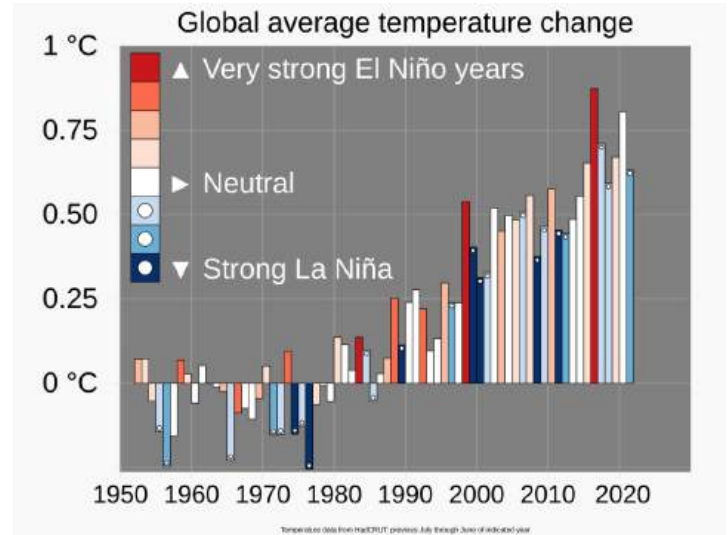
Mumbai benefits from its coastal location, which aids in naturally cleansing its air. Strong surface winds and sea breezes help rapidly disperse pollutants, maintaining better air quality.



However, last winter, Mumbai experienced a **rare “triple dip” in La Niña**, associated with climate change. This prolonged La Niña phase **led to infrequent wind reversals from the sea, trapping pollutants in the lower atmosphere** for longer durations and deteriorating air quality despite Mumbai’s usual cleansing mechanisms.

Increasing variability of the El Nino-La Nina system:

- **Variability:** as seen from the chart below, the ENSO system has been becoming more unpredictable as sudden changes to strong El Nino or La Nina are seen.
- **Climate change:** Warmer ocean temperatures, driven by climate change, can **intensify El Niño events**, leading to more frequent and intense occurrences. Similarly, **La Niña events can also be influenced by climate change**, affecting their frequency and severity.
- **Tropical weather:** Extremities in the impact of this variability are also strong. Tropical cyclones and precipitation have been observed to increase with this ENSO variability.
- **Regional variation:** On the other hand, the ENSO variability has also induced chaos in regional weather systems as impacts of rainfall and droughts have finer variability within African or Asian climates.



Its impact on India:

- **Triple dip:** The continuance of La Niña into 2023 is not bad news from the Indian standpoint, but it is not the same for all its constituent regions.
 - El Niño tends to **weaken the Indian monsoon, leading to droughts**, while La Niña strengthens it, **causing floods**. Climate change-induced extremes in ENSO events could result in **more erratic and intense monsoon seasons**, impacting agriculture, water resources, and livelihoods.
 - Observationally, the extremities of monsoon in intensity and regional spread have increased. **Parts of the same state like in Maharashtra have seen floods and droughts.**
- **Variation:** The variability makes the Indian monsoon model used by IMD less relevant as there is mathematical chaos in input variables.
- **Cyclones:** The variability has also drastically affected Indian Ocean cyclogenesis. Empirically, the Arabian Sea branch has observed increased cyclogenesis compared to historical averages.
- **Science:** The robustness of Indian weather science is impacted which makes early warning systems (EWS) on floods, droughts, cyclones etc less reliable.

Conclusion:

Thus, there is a great need to conduct scientific research and study on the variability of ENSO as even highlighted by the 2021 Nobel Prize in physics in this field of study. Indian Earth Science ministry and other bodies must also work for the protection of its citizens from these extremities.

Insta Links:

- [El Nino](#)

Prelims Links:

Q. With reference to the 'Indian Ocean Dipole (IOD)' sometimes mentioned in the news while forecasting the Indian monsoon, which of the following statements is/ are correct? (UPSC 2016)

1. The IOD phenomenon is characterised by a difference in sea surface temperature between the tropical Western Indian Ocean and the tropical Eastern Pacific Ocean.
2. An IOD phenomenon can influence El Nino's impact on the monsoon.

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

Ans: B

Q. In the cities of our country, which among the following atmospheric gases are normally considered in calculating the value of the Air Quality Index? (UPSC 2016)

1. Carbon dioxide
2. Carbon monoxide
3. Nitrogen dioxide
4. Sulfur dioxide
5. Methane

Select the correct answer using the code given below.

- (a) 1, 2 and 3 only
- (b) 2, 3 and 4 only
- (c) 1, 4 and 5 only
- (d) 1, 2, 3, 4 and 5

Ans: B

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 ser-**

vice 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 accep-

tance 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)

2. UTTARAKHAND: UNIFORM CIVIL CODE (UCC) 2024 BILL

Context: The Uttarakhand government recently introduced the [Uniform Civil Code \(UCC\)](#) 2024 Bill in the Assembly, pro-

posing significant changes in marriage, divorce, and succession laws. This has sparked a renewed debate on the Uniform Civil Code (UCC) in India.

What is UCC?

The Uniform Civil Code refers to the **proposition of having a uniform set of civil laws for all citizens of a country**, irrespective of their religious or cultural affiliations.

The principle behind UCC:

The concept of a UCC is rooted in **the idea of equality and uniformity before the law** and it aims to **replace the personal laws based on religious practices** that currently govern matters such as marriage, divorce, inheritance, adoption, and succession.

Historical Perspectives on UCC

1. **British rule:** There was a **lack of uniformity in civil matters** as personal laws based on religious customs and traditions were recognized for different communities. The idea of a UCC emerged **as a response to this fragmentation** and as a means to promote a common civil identity.
2. **Portuguese rule:** When Goa was under Portuguese rule until 1961, a Uniform Civil Code based on the **Portuguese Napoleonic code** was implemented.
3. **Nehruvian Vision:** Jawaharlal Nehru envisioned a modern and progressive India and saw the **UCC as an essential element of nation-building**.
 - a. He believed that a UCC would help eliminate divisions based on religion and promote equality among citizens.
4. **Hindu Code Bill:** The Hindu Code Bill sought to codify and modernize Hindu personal laws relating to **marriage, divorce, adoption, and inheritance**. It was seen as a step towards a UCC, as it aimed to bring uniformity in personal laws within the Hindu community.
5. **Shah Bano Case (1985):** The Supreme Court judgment, in this case, sparked debates on the **need for a UCC to ensure gender justice and equal rights** for women across religious communities.

Constitutional Perspectives on UCC

1. **Constituent Assembly Debates:** During the framing of the Indian Constitution, the debates witnessed diverse viewpoints, with some members advocating for a UCC as a way to promote gender equality and secularism, while others expressed concerns about preserving religious and cultural rights.
2. **Directive Principles of State Policy: Article 44 of the Indian constitution** states that the state shall endeavour to secure for its citizens a uniform civil code throughout the territory of India.
3. **Article 162 of the Indian Constitution states** that a State's executive power extends to matters within

the State Legislature’s authority to legislate. **Since Entry 5 of the Concurrent List covers areas like marriage, divorce, and succession**, the Uttarakhand government **can enact the UCC within its jurisdiction**.

How do Personal laws govern different communities (currently) in India?

Community	Personal Law	Description
Muslims	Muslim Personal Law	Governed by Muslim Personal Law , except for Muslims married under the Special Marriage Act, 1954 , who are not subject to this law.
Hindus	Reformed Hindu Personal Law	Applies to Hindus after the Hindu Marriage Act, 1955 ; Renounced Hindus are still under Hindu Law.
	Hindu Personal Law in Special Marriage Act	Hindus married under the Special Marriage Act, 1954, are still governed by Hindu Personal Law.
Goa	Goa Civil Code (UCC)	Retained common family law is known as the Goa Civil Code after liberation from Portuguese rule in 1961.
Other Communities	Respective Personal Laws	Governed by their laws based on religious or community identity.

Key Changes in the Uttarakhand Uniform Civil Code (UCC)

Community	Key Changes
Muslims	1. Minimum age of marriage: 18 for women, 21 for men. This makes it at par with the minimum age of marriage provided in the Hindu Marriage Act, 1955 and the Special Marriage Act, 1954 .
	2. Succession laws: Under the Uttarakhand UCC, testamentary and intestate succession align with the Indian Succession Act, 1925. In testamentary succession, there’s no restriction on property bequeathal. In intestate succession, priority is given to Class-1 heirs like children and widows; if none exist, Class-2 heirs like siblings inherit, followed by the closest relative.
	Testamentary succession (with a will): Under the Uttarakhand UCC, there’s no restriction on property bequeathal through a will. Previously, Muslims could bequeath only one-third of their property via a will, with the rest divided according to Islamic law.
	Intestate succession (without a will): Under Uttarakhand UCC, if someone dies without a will, the Indian Succession Act applies. Priority in inheritance goes to Class-1 heirs like children, widows, and parents . If none, it passes to Class-2 heirs such as siblings, nieces, nephews, and grandparents, and then to the closest relative if none of these exist.
	3. Ban on polygamy, Nikah Halala, and Iddat
Hindus	1. Abolition of distinction between ancestral and self-acquired property: Under the new UCC Bill, a father can dispose of both his self-acquired and ancestral property. Previously, a father could only dispose of his self-acquired property due to coparcenary rights. These rights, provided by the Hindu Succession Act, have been abolished by the new UCC Bill.
	2. Elevation of both parents as Class I heirs in intestate succession: Both parents—mother and father—are now Class I heirs in intestate succession, whereas previously only the mother was included.
	Explanation: Suppose a person named A passes away without leaving a will (intestate) . According to the current Hindu law, if A had any property, it would primarily go to their mother if they had one, and then to other relatives like their spouse or children. However, the father was not considered as one of the primary heirs. Now, under the new law, both the mother and the father are considered as equally important heirs
Other Changes: Live-in relationship	All live-in relationships must be registered with the designated authority.; children born out of such unions are granted legal rights.
	If either partner is under 21 , their parents will be informed, and the registration will be sent to the local police.
	Children from such relationships will have legal rights.
	Married individuals cannot enter into live-in relationships.

Marriage Registration	Mandatory marriage registration within 60 days Providing false information during registration could lead to a three-month jail term and a fine of ₹25,000. Failure to register the marriage may result in a ₹10,000 fine.
Divorce	Divorce can only be granted through court proceedings. Violating this rule could result in up to three years of imprisonment.
Exemption for STs	Scheduled tribes (STs) are not covered by the bill. This exemption comes in response to the concerns raised by the tribal population, which makes up approximately 3% of the state , regarding the special status granted to them.

Benefits of UCC

Benefits	Explanation
National Integration and Secularism	UCC fosters a common identity among citizens, promoting national integration. It treats all religions equally, reducing communal conflicts and promoting secularism.
Gender Justice and Equality	UCC ensures gender justice by removing discriminatory laws , and granting equal rights to women in marriage, divorce, inheritance, etc. E.g. the draft Uttarakhand UCC treats men and women equally in matters such as inheritance and marriage. The Code is also likely to extend an equal property share to Muslim women against the existing 25% share accorded under Muslim personal laws.
Simplification and Rationalisation of Legal System	UCC simplifies the legal system by eliminating complexities and contradictions of multiple laws. It harmonizes civil and criminal laws, enhancing accessibility for the common people.
Modernisation and Reform of Outdated Practices	UCC modernizes and reforms outdated practices, aligning personal laws with human rights and constitutional values. The proposed Uttarakhand UCC bans polygamy, halala, iddat, triple talaq, and child marriage. It suggests a uniform marriage age for girls and mandatory registration of live-in relationships.

Limitations of UCC:

Limitations	Explanation
Diverse Personal Laws and Customary Practices	Harmonizing India’s diverse laws and practices to establish uniformity is complex, especially when many laws are undocumented or contradictory. For instance, the Special Marriage Act, 1954, which is secular, prohibits marriage between first cousins , a practice common in some communities.
Resistance from Religious and Minority Groups	Some religious and minority groups argue that UCC could impose majority views and undermine their constitutional rights , particularly under Article 25 guarantees freedom of religion.
Lack of Political Will and Consensus	Concerns exist regarding potential communal tensions and conflicts arising from its implementation, highlighting the lack of political will and consensus.
Practical Difficulties and Complexities	Implementing UCC would involve substantial efforts such as drafting, codifying, harmonizing, and rationalizing personal laws and practices.
Threat to cultural diversity	UCC may homogenize laws, posing a risk to India’s multiculturalism. For example, it could overlook diverse religious and cultural practices, including those of Scheduled Tribes.

Law Commission Views:

- 21st Law Commission of India:** It said the “issue of uniform civil code is vast, and its potential repercussions, untested in India”. It said that “ UCC is neither necessary nor desirable at this stage”.
- The government had asked the **22nd Law Commission of India** to undertake an examination of various issues relating to UCC.

Supreme Court Views:

Landmark Cases	Ruling and Implications
Shah Bano Case (1985)	The Supreme Court upheld the right of a Muslim woman to claim maintenance from her husband even after the Iddat period. It highlighted the need for a UCC to remove contradictions based on ideologies .
Sarla Mudgal (1995)	The Supreme Court stated that a Hindu husband cannot convert to Islam and marry without dissolving his first marriage . It emphasized that a UCC would prevent fraudulent conversions and bigamous marriages.
Shayara Bano case (2017)	The Supreme Court declared triple talaq as unconstitutional and violative of Muslim women’s dignity and equality . It recommended that Parliament enact a law to regulate Muslim marriages and divorces.

Conclusion:

The implementation of a **Uniform Civil Code (UCC) in India requires a balanced approach that respects multiculturalism and diversity**. Inclusive discussions with stakeholders, including religious leaders and legal experts, are essential to ensure diverse perspectives are considered. The focus should be on **eliminating practices that hinder equality and gender justice** while avoiding reactive culturalism. The reform process of Muslim Personal Law should be led by the Muslim clergy, and Muslims should critically examine practices to promote equality and justice. The aim is to develop a just and inclusive UCC that upholds constitutional values.

Insta Links:

[Strike a fine balance, have a just civil code](#)

Mains Links:

Q. Constitutional Morality’ is rooted in the Constitution itself and is founded on its essential facets. Explain the doctrine of ‘Constitutional Morality’ with the help of relevant judicial decisions. (UPSC 2021)

Prelims Links:

Q1. Consider the following provisions under the Directive Principles of State Policy as enshrined in the Constitution of India: (UPSC 2012)

1. Securing for citizens of India a uniform civil code
2. Organising village Panchayats
3. Promoting cottage industries in rural areas
4. Securing for all the workers reasonable leisure and cultural opportunities

Which of the above are the Gandhian Principles that are reflected in the Directive Principles of State Policy?

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

Ans: B

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

3. 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: Structure, organization and functioning of the Executive and the Judiciary; Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.](#)

4. REGIONAL BENCHES OF THE SUPREME COURT

Context:

Law Ministry has endorsed the **proposal to establish regional benches of the Supreme Court throughout India**. Previously, the **Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice** had proposed regional benches for the Supreme Court nationwide.

- The apex court has **consistently opposed the notion**, citing ongoing legal considerations.

What are the [Regional Benches of the Supreme Court](#)?

Regional Benches of the Supreme Court are **proposed branches of the apex court** established in various parts of the country to **decentralize judicial authority and increase accessibility to justice**.

[The need for regional benches of the Supreme Court arises from:](#)

1. **Backlog in the judicial system:** There is a **significant backlog of cases**, with over 80,000 cases awaiting resolution before the **34 judges of the Supreme Court**.
2. **The strain on existing judicial infrastructure:** The backlog highlights the strain on the existing judicial infrastructure
3. **Efficiency and streamlining:** A more efficient and streamlined legal process is required to address the backlog and ensure timely resolution of cases.
4. **Distribution of workload:** Regional benches can help distribute the workload more evenly across the country, reducing the burden on the main Supreme

Court in Delhi.

5. **Accessibility to justice:** Regional benches can improve accessibility to justice for litigants from different parts of the country, especially those who face challenges in travelling to Delhi for legal proceedings.
6. **Reduction of travel and expenses:** Litigants and legal professionals would benefit from reduced travel and associated expenses by having access to justice closer to their location.
7. **Enhanced Focus on Constitutional Matters:** With the main bench in New Delhi exclusively **addressing constitutional issues**, regional benches could specialize in handling **appellate cases**, allowing for more informed decisions.
8. **Improved Judicial Effectiveness:** Judges familiar with regional contexts at regional benches could deliver more relevant and effective judgments, leading to quicker decision-making.
9. **Greater Opportunities:** Establishing regional benches could promote the development of legal infrastructure and expertise across the country, empowering local legal professionals and democratizing the Bar.

Viewpoints from legal experts on regional benches:

Legal Position	Details
Article 130	Article 130 states that the Supreme Court shall sit in Delhi or in such other place or places as the Chief Justice of India (CJI) may , with the approval of the President, appoint from time to time.
Law Commission Report	The 229th Law Commission Report (2009) recommended the establishment of four regional benches in Delhi, Chennai or Hyderabad, Kolkata, and Mumbai to hear non-constitutional issues, aiming to enhance accessibility to justice.
Bar Councils	In July 2021, Bar Councils in southern India submitted a representation to the Chief Justice of India, advocating for the establishment of a Supreme Court bench in the region to improve access to justice for people residing in the south.
Parliamentary Standing Committee Report	The Parliament Standing Committee on Personnel, Public Grievances, Law and Justice endorsed the establishment of regional benches of the Supreme Court , aligning with the recommendations of the 229th Law Commission Report, to address accessibility issues and decentralize judicial authority.
Chief Justices of India	Historically, no Chief Justice of India (CJI) has supported convening the Supreme Court outside of Delhi , expressing concerns that regional benches could potentially undermine the prestige of the apex court.

Argument Against Regional Benches of SC:

Argument Against	Details
Fragmentation of Jurisprudence	Regional benches may lead to divergent interpretations of laws and legal principles , resulting in inconsistencies in judicial decisions across different regions e.g., former Chief Justice of India (CJI) K.G. Balakrishnan that regional benches could lead to the disintegration of the institution.
Increased Litigation	Regional benches may encourage forum-shopping litigation as litigants seek favourable outcomes from perceived sympathetic benches , potentially leading to increased frivolous litigation.
Potential Bias and Influence	Concerns exist about the potential for regional biases or political influence to impact judicial decisions at regional benches , particularly in areas with strong local interests or political pressures.
Increased Expenditure	Establishing and maintaining regional benches would require significant financial resources and investment in infrastructure , which could strain already limited judicial budgets and resources.
Dilution of the Supreme Court’s Authority	Regional benches may overshadow or weaken the central authority of the Supreme Court , potentially diminishing its national stature and impact.
	Confusion about which bench to approach for specific cases could arise, creating complexities in navigating the legal system.

What should be the way forward:

1. **Consider Alternative Structures:** Explore the establishment of a separate Court of Appeal instead of regional benches, as recommended by the Law Commission.

2. **Reform High Courts:** Focus on reforming High Courts to scrutinize petitions admitted to the Supreme Court, reducing the need for regional branches.
3. **National Court of Appeal for SLPs:** Establish a National Court of Appeal to handle Special Leave Petitions, allowing the Supreme Court to focus on constitutional and public law matters.
4. **Increase Working Days:** Increase the number of working days for the Supreme Court and reduce vacation periods to tackle the backlog of cases.
5. **Strengthen Infrastructure:** Prioritize modernizing existing judicial infrastructure, including High Courts and district courts, to improve access to justice.
6. **Feasibility Studies and Pilot Projects:** Conduct feasibility studies and pilot projects to assess the benefits and challenges of regional benches, considering legal, logistical, and financial aspects.
7. **Retain Exclusive Powers:** Retain exclusive powers of the Supreme Court, ensuring its authority in original, advisory, and writ jurisdictions remains intact.
8. **Utilize Technology:** Embrace technology such as video conferencing and virtual courtrooms to enhance access to justice, especially in remote areas.

International Experience:

Many countries around the world have instituted **Courts of Cassation that decide cases involving non-constitutional disputes and appeals from the lower level of courts.** These are courts of last resort that have the power to reverse decisions of lower courts. (Cassation: annulment, cancellation, reversal).

Insta links:

[The idea of regional Supreme Court Benches, and 'divisions' of the top court](#)

Mains Links:

Q. Critically examine the Supreme Court's judgement on the 'National Judicial Appointments Commission Act, 2014' with reference to the appointment of judges of higher judiciary in India. (UPSC 2017)

Prelims Links:

Q. With reference to the Indian judiciary, consider the following statements: (UPSC 2021)

1. Any retired judge of the Supreme Court of India can be called back to sit and act as a Supreme Court judge by the Chief Justice of India with the prior permission of the President of India.
2. A High Court in India has the power to review its own judgement as the Supreme Court does.

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

Ans: C

Topics: [Statutory, regulatory and various quasi-judicial bodies.](#)

5. 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 environmental 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 en-

- forcement 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**.
 - 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.

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**.

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 sustainable 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.

6. 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.

Feature	Description
Introduction	The electoral bonds system was introduced in 2017 and implemented in 2018 through a Finance Bill. It allows individuals and entities to make anonymous donations to registered political parties.
Denominations	State Bank of India (SBI) issues electoral bonds in denominations of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh, and Rs 1 crore.
Payable to the Bearer	Electoral bonds are payable to the bearer on demand and are interest-free
Eligible Buyers	Indian citizens and entities established in India can purchase electoral bonds, either individually or jointly with others.
Validity Period	Electoral bonds are valid for 15 calendar days from the date of issue.
Authorized Issuer	State Bank of India (SBI) is the authorized issuer, and these bonds are issued through designated SBI branches.
Eligibility	Only political parties registered under Section 29A of RPA 1951 , and having secured at least 1% of the votes polled in the last general election are eligible
Purchase	Electoral bonds can be purchased digitally or through cheques . Encashment is only possible through an authorized bank account of the political party.
Accountability	Political parties must disclose their bank account with the Election Commission of India (ECI). Parties are obliged to explain the utilization of funds.
Benefits	Electoral bonds enhance transparency in political funding, encourage accountability in disclosing donation utilization, discourage cash transactions, and preserve donor anonymity (Donors' names are not mentioned on the bonds)
Challenges	Challenges include potential compromise of donor anonymity , government access to donor data for electoral advantage, risk of crony capitalism , and loopholes regarding transparency and donation limits for corporate entities.
Companies Act 2013	The Companies Act 2013 specifies that a company can make political contributions if its net average profit of the three preceding financial years is at least 7.5% . The removal of this clause has raised concerns about black money in political funding through shell companies. To know more Visit insights IAS Daily CA

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)

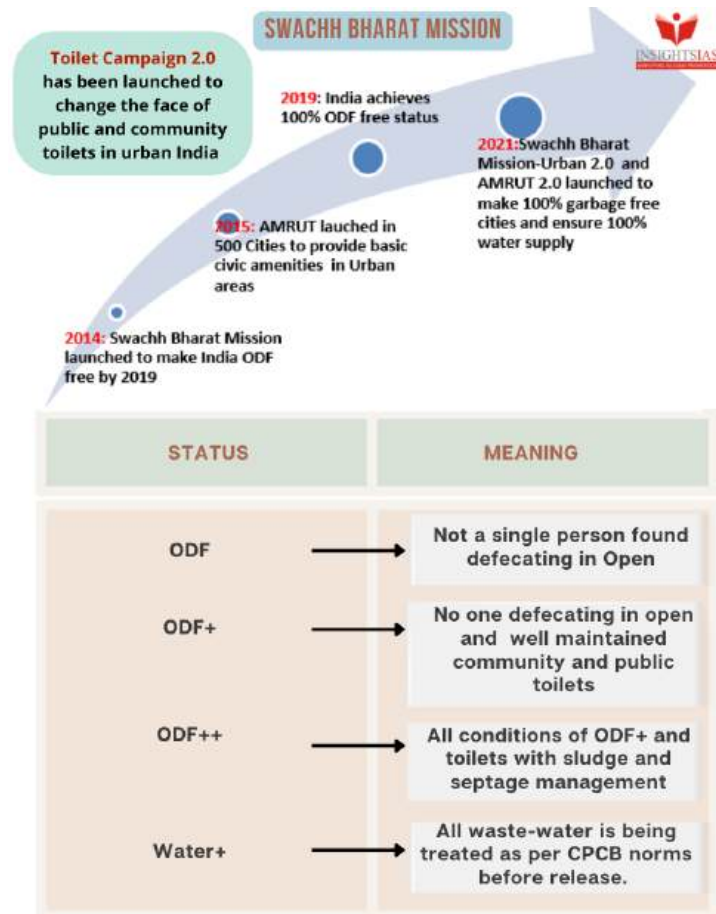
7. SWACHH BHARAT ABHIYAN: A CRITICAL REVIEW

Context:

In the past decade, **rural India has witnessed remarkable progress** in sanitation coverage, aligned with **Goal 6 of the United Nations’ Sustainable Development Goals**.

About SBM:

Swachh Bharat Mission (SBM) was launched on **October 2, 2014**, to fulfil the vision of a cleaner India by October 2, 2019. The objective of the Mission was to **eliminate open defecation, eradicate manual scavenging, and promote scientific solid waste management.**



Achievements of the Swachh Bharat Abhiyan in promoting cleanliness and sanitation:

- Sanitation coverage in India:** It **surged from 39% in 2014 to 100% in 2019** under the Swachh Bharat Mission-Grameen (SBM-G).
 - SBM aimed to achieve **Open Defecation Free (ODF) status by October 2019**, with a subsequent goal to transition to ODF Plus by 2024-25.
- ODF Status:** Currently, about **85% of villages have attained ODF Plus status.**
- Toilet Access:** According to the National Annual Rural Sanitation Survey (NARSS) Round 3, **95% of India's rural population had toilet access**, with 79% owning their facilities
 - This has helped **reduce open defecation which leads to diseases.**
- Public toilets:** The mission has helped construct **over 6 lakh community and public toilets** across India.
- Waste collection:** Several cities and towns have seen improvements in door-to-door **waste collection, waste segregation**, and scientific **waste processing** through biomethanation plants, material recovery

facilities etc.

- This is helping tackle India's immense waste management challenge.
- Behavioural Change and Awareness:** The Swachh Bharat Abhiyan emphasized behavioural change through mass awareness campaigns, encouraging citizens to adopt cleaner practices.
 - Swachh Bharat Mission has helped **bring sanitation and cleanliness into public discourse** like never before.
 - Competition for cleanliness:** Activities like **Swachhta leagues and rankings of clean cities** have created a positive competition between towns and cities to improve cleanliness systems and practices.
 - Surveys** show rising public satisfaction with sanitation and cleanliness.
 - Waste management:** The mission has mobilized over **Rs 20,000 crores** for investment in **solid and liquid waste management systems.** This is strengthening urban infrastructure across India.

Limitations of Swachh Bharat Mission:

- Low Toilet Usage:** Despite achieving 100% sanitation coverage by 2019, only 85% of rural Indians utilize safe and hygienic toilets, indicating a usage gap.
- Quality and Infrastructure Issues:** Problems such as malfunctioning facilities, unhygienic conditions, and structural defects like full pits or collapsing superstructures impede toilet usage.
- Water Scarcity Impact:** Limited water access, particularly in rural areas like **Gujarat's Dahod district**, contributes to increased non-usage of toilets.
- Behavioural and Social Norms:** Cultural norms and behaviours influence toilet usage, with some households repurposing toilets for activities other than defecation.
- Caste-Based Variances:** Toilet access and usage exhibit variations across castes, with surprising trends **showing higher non-usage rates among upper castes.**
- Challenges in Larger Households:** Overcrowding and inadequate facilities pose challenges to toilet usage in larger households.
- Issues in solid waste management:** While toilet construction has been successful, **scientific collection, segregation and disposal of growing waste volumes** remain an issue due to resource and capacity constraints of urban local bodies.
- Partial focus on plastic waste:** The mission has focused mostly on toilet construction and solid waste. Effectively tackling and recycling plastic waste is still a gap area.
- Centralized approach and targets:** The focus has been on meeting toilet construction targets in a centralized, top-down manner. **Decentralized, community-driven efforts have been fewer.**

Way forward:

1. **Greater focus on behaviour change** communication and public awareness campaigns, especially for hygienic toilet use, waste segregation and not littering. Engaging school children and youth groups can be highly impactful.
 - a. **The “Darwaza Band” campaign** and community-level awareness programs have promoted positive sanitation norms.
2. **Innovations in Technology:** Decentralized sewage treatment plants, as seen in **Devanahalli**, highlight technological advancements in sanitation.
3. **Strengthening capacities of urban local bodies** for scientifically collecting, segregating, transporting and processing different types of waste. **Mechanized sweeping, underground waste bins** etc. can be expanded.
4. **Linking with other programmes:** Align sanitation initiatives with other related programs like the Jal Jeevan Mission for better outcomes.
5. **Developing localized waste management models** through community participation, and public-private partnerships, so that solutions are tailored to local needs.
 - a. **Programs like the “Nirmal Gram Puraskar”** foster community involvement and awareness in achieving open-defecation-free villages.
6. **Expanding solid waste processing infrastructure** through **biomethanation plants**, material recovery facilities, composting units etc. across towns and cities.
7. **Improved monitoring for functionality and maintenance** of public/community toilets through citizen oversight and social audits.
8. **Expanding coverage of toilets** to include slums and public spaces like bus stops, and parks, through customizable, prefabricated toilet models.
9. **Incentivizing waste segregation**, recycling and reuse through both regulatory policies as well as awareness programs on circular economy principles.

Other initiatives for sanitation:

1. **Central Rural Sanitation Programme (CRSP):** Launched in 1986, it was India’s initial step towards improving rural sanitation with substantial subsidies.
2. **Total Sanitation Campaign:** Started in 1999, this marked a shift to a lower subsidy, demand-driven approach.
3. **Phase II of SBM-G:** Focuses on sustainability, promoting solid and liquid waste management, and covering households left out earlier.
4. **National Annual Rural Sanitation Survey (NARSS):** Conducted to assess rural sanitation coverage, showing 95% of rural India having toilet access.
5. **Rural Sanitation Strategy 2019 to 2029:** The Ministry of Jal Shakti’s Department of Drinking Water and Sanitation (DDWS) has initiated a **10-year Rural Sanitation Strategy spanning from 2019 to 2029.**

Conclusion

The mission should transition from a toilet-construction-focused programme to a more holistic, decentralized, community-driven cleanliness model relying on public participation for sustainability. The aim should be to make Swachhata a national way of life.

Insta Links:

- [75% of Villages Are Now ODF Plus under Swachh Bharat Mission – Grameen](#)

8. PUBLIC EXAMINATIONS (PREVENTION OF UNFAIR MEANS) BILL, 2024

Context:

The new Public Examinations Bill aims to **curb cheating in exams by listing illegal actions** such as question paper leakage and tampering with answer sheets. The bill has been introduced in the Lok Sabha

Need for the Bill:

The bill is introduced against the **backdrop of widespread exam cancellations** due to paper leaks in various competitive tests across states like Rajasthan, Haryana, Gujarat, and Bihar. **Over 1.5 crore students have been affected by paper leaks from 2016 to 2023**, with more than 70 cases reported during this period. Despite these incidents, **there is currently no specific law to address unfair practices** in public examinations conducted by the central government and its agencies.

Key Highlights of the Public Examinations Bill:

Highlights	Description
Objective	Enhance transparency, fairness, and credibility in public exams.
	Reassure youth of fair rewards for sincere efforts .
	It will supplement the other initiatives government in this direction such as introducing self-attestation; shortening the examination cycle (from 18-22 months to 6-10 months) , etc.
Applicability	Covers central recruitment and entrance exams conducted by UPSC, SSC, RRBs, IBPS, and NTA.
	All central ministries, departments, and recruitment offices are included.
Exclusion of Students	Candidates are not targeted by the bill .
	Covered under existing administrative provisions of exam authorities.
Punishments	Prison terms of 3-5 years for paper leak involvement .
	Up to 10 years if linked to organised crime .
	A fine of Rs 1 crore; firms may be barred from conducting exams.
Unfair Means Defined	Section 3 lists 20 offences , including impersonation and tampering.
Nature of Offences	Cognizable, non-bailable, and non-compoundable.
	Cognizable: Offenses for which police can make an arrest without a warrant
	Non-bailable: Offenses for which bail is not guaranteed and must be determined by a magistrate
	Non-compoundable: Offenses that cannot be settled out of court, requiring a trial to proceed regardless of any agreement between parties involved
Investigation	Led by officers of rank, not below Deputy Superintendent of Police or Assistant Commissioner of Police.
	Option to send a probe to Central agency.
National Technical Committee	Formed to enhance security in computerized exams.
	Develop protocols for IT security and surveillance.
Model Draft for States	Binding for central authorities; model for states.

Concerns with the Bill:

- State Government Discretion:** The bill's reliance on state governments to draft their own acts may lead to partisan interests, as seen in past model bills.
- Exploitable Loopholes:** Excluding students from criminal sanctions may allow paper leak gangs to pose as students to evade punishment.
- Lack of Committee Composition:** The absence of clarity on the composition and qualifications of the National Technical Committee on Public Exams raises concerns about potential partisanship.
- Subordinate Legislation Scope:** The bill's allowance for subordinate legislation grants executive authorities extensive discretionary power in implementation.

Ethical issues related to cheating in exams include:

- Violation of academic integrity:** Cheating undermines the principles of honesty, fairness, and trustworthiness in academic settings, compromising the integrity of educational institutions.
- Unfair advantage:** Cheating gives dishonest individuals an unfair advantage over their peers who choose to abide by the rules, distorting competition and merit-based evaluations.
- Deception and dishonesty:** Cheating involves deception and dishonesty, as individuals misrepresent their knowledge, skills, or abilities to achieve undeserved academic outcomes.
- Lack of personal accountability:** Cheating reflects a lack of personal accountability and responsibility for one's actions, as individuals prioritize short-term gains over long-term integrity and character development.
- Diminished learning and skill development:** Cheating inhibits genuine learning and skill development by promoting shortcuts and rote memorization instead of critical thinking, problem-solving, and mastery of academic content.
- Damage to reputation:** Cheating tarnishes the reputation of individuals and institutions involved, eroding trust and credibility within academic communities and beyond.

7. **Ethical erosion:** Engaging in cheating can lead to a **slippery slope of ethical erosion**, where individuals become desensitized to dishonest behaviour and compromise their ethical standards in other areas of life.

Conclusion:

The bipartisan support of the bill underscores the **seriousness of the issue and the government’s commitment** to ensuring transparency and fairness in examinations. The bill’s focus on **strict punishments for offenders and technological solutions** signifies a step towards protecting the integrity of examination systems.

Mains Links:

Q. In India, why do you think there are so many instances of paper leaks for competitive exams and government posts? Elaborate on the moral hazards of the same.

9. PRADHAN MANTRI AWAS YOJANA: ADDRESSING SUSTAINABILITY CONCERNS

Context:

The Interim Budget 2024 announced the **construction of two crore additional houses under PMAY-G** and a **new housing scheme for the middle class**, advancing the ‘Housing for All’ initiative. While commendable, there’s a pressing need to address environmental concerns amidst the rapid housing expansion.

About PM Awas Yojana

It is a housing scheme launched by the government of India to provide **affordable housing for all by 2024**. Earlier, the aim was to provide houses by March 2022. The scheme has two variants, **PMAY –Gramin** and **PMAY – Urban**

Aspect	PMAY-G	PMAY-U
Launch Date	April 1, 2016	June 25, 2015
Ministry Involved	Ministry of Rural Development	Ministry of Housing and Urban Affairs
Aim	Provide pucca houses with basic amenities to rural families	Provide housing for all in urban areas by 2024
Beneficiaries	SCs/STs, freed bonded labourers, widows, disabled persons, minorities	Urban poor, including slum dwellers
Selection of Beneficiaries	Through Socio-Economic Caste Census 2011, Gram Sabha, and geo-tagging (subject to 13-point exclusion criteria, followed by Gram Sabha verification)	Based on eligibility criteria set by the Ministry
Cost Sharing	Central and State Governments share costs (60:40 in plain areas, 90:10 in North Eastern and hilly states)	Central assistance and state contributions
Features	Assistance for construction of dwelling units and upgradation of kutchha houses	Addresses urban housing shortage among the urban poor
	Full grant assistance for eligible beneficiaries	Promotes women empowerment by providing ownership to females
Divided into Four Verticals	N/A	In-situ rehabilitation of existing slum dwellers
		-Credit Linked Subsidy
		Affordable Housing in Partnership
		Beneficiary-led individual house construction/enhancement

Sustainability Concerns with the housing:

Concerns	Details
Construction Technologies	Extensive use of cement and steel without proper insulation causes thermal distress.
	Inadequate insulation leads to increased use of cooling appliances, elevating greenhouse gas emissions .

Locational Factors	<p>Master plans are required for affordable housing, but many census towns lack them, leading to poor location choices and transport deficits.</p> <p>E.g., Newly created housing in Delhi by DDA faces low demand due to location and lack of public transport.</p>
Policies issues	<p>Under PMAY-U, states and cities offer increased floor area ratio (FAR), floor space index (FSI), or transferable development rights (TDR) for slum and low-cost housing, promoting dense, high-rise developments.</p> <p>Taller buildings increase emissions per unit area, despite improving land use efficiency.</p> <p>Policies lack provisions for rainwater harvesting and decentralised waste management, impacting sustainability.</p>
Inefficient Beneficiary-Led Construction	<p>Self-constructed projects lack adherence to building norms and safety codes, hindering sustainability efforts.</p>

Government Initiatives:

- Light House Projects (LHPs):** Under PMAY, LHPs are part of the Global Housing Technology Challenge (GHTC), aimed at **reducing construction time and building resilient**, affordable houses.
- Global Housing Technology Challenge-India (GHTC-India):** Introduced by the Ministry of Housing and Urban Affairs to mainstream sustainable, eco-friendly, and disaster-resilient housing technologies.
- Mivan Construction Technology:** Utilizes advanced aluminium formwork for casting building elements, reducing construction time, and environmental impact.
- Insulating Concrete Formwork (ICF) Technique:** Uses double-walled polystyrene panels filled with concrete for strong, durable, and well-insulated structures, offering thermal and sound insulation.
- Hybrid Concrete Construction:** Combines cast-in-place concrete with precast materials like steel or concrete units, accelerating construction, reducing costs, and maintaining quality.

Way forward:

- Reinforcing Building Codes:** Mandate adoption of passive design aspects in building codes and guidelines.
- Implement initiatives **like Eco Niwas Samhita** for indoor thermal comfort.
- Promoting Green Buildings:** Increase adoption of 'Green Buildings' to reduce energy consumption and emissions.
- Decentralised Location-Tailored Projects:** Conduct socio-economic surveys to understand housing needs.
- Promote mixed-income housing** in suitable locations with basic amenities nearby.
- Design building envelopes and shading devices** to minimize heat gain or loss.

Other limitations of PM Awaz Yojana:

- Covid pandemic:** the pandemic has slowed down the timely construction of houses and therefore the government was forced to extend the deadline from **2022 to March 2024**. In rural areas, Pradhan Mantri Awaz Yojana has a completion rate of just around **67%**
- Poor implementation by state:** Six States account for 70% of the target units — West Bengal, Madhya Pradesh, Bihar, Odisha, Uttar Pradesh and Chhattisgarh. **Bihar** has one of the lowest completion rates at less than 60%
- Lack of clear land titles and documents:** In both rural and urban areas, issues such as a lack of clear titles and other land documents tend to crop up. This further slowed down the pace of the construction of houses.
- Withholding of funds by the Centre:** Recently, the Centre withheld funds for the scheme in two Opposition-ruled States — **West Bengal and Chhattisgarh**. Many times states like Chhattisgarh have defaulted on payment because of a lack of funds.
- Credit linked limit:** According to the PMAY Credit Linked guidelines the interest subsidy of **6.5%** will be given to the people who fall under backward classes or economically weaker groups. However, the subsidy is not for all the people living under these groups.
- Tenure limit:** As the yojana says the applicant will get a **tenure of 15 years to repay the loan**. But the time will be granted only if the loan amount is 6 lakhs or less. If the loan amount is more than **6 lakhs** then the tenure will be less than 15 years.

Conclusion

The government has done a commendable job by **converging the Pradhan Mantri Awaz Yojana** with other schemes that provide **electricity, toilets and LPG gas connections**. The implementation of PMAY has remained largely transparent and the progress has been satisfactory. However, the government should also take care of the environmental sustainability aspect of construction and align its policies to reduce heat/Cold stress on the beneficiaries

Insta Links:

[Pradhan Mantri Awas Yojana- Gramin \(PMAY-G\)](#)

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.

10. 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:

- Madurai:** Completed 100% of projects.
- 56 cities:** Completed over 80% of work.
- Lagging behind:** 14 cities at 50% progress or below.
- 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:

- 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.
- Alignment with Sustainable Development Goals (SDGs):** Over 70% of projects align with UN SDGs, particularly SDG11 (inclusive, safe, resilient, and sustainable cities).
- Infrastructure Development:** Improvement of urban mobility through metro lines, BRTS, and pedestrian-friendly pathways.

Smart Cities Mission Success Stories:

- Ahmedabad:** Sensor-based water network monitoring increased supply by 50 MLD.
- Indore:** Gravity-based network prevented 205 MLD of untreated sewage from entering water bodies.
- Visakhapatnam:** Mudasarlova Reservoir Floating Solar Plant generated 3,613 MWh annually, preventing over 3,000 tonnes of CO2 emissions.

Issues with the SCM:

- 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.
- Challenges in Project Management and Implementation:** Frequent changes and dropping of projects, insufficient financial progress, and varying physical progress among cities.
- Lack of integrated monitoring mechanism and cross-city learning.** Insufficient emphasis on core infrastructure projects like social infrastructure and smart energy.
- Governance and Capacity Issues:** Frequent transfer of Smart City CEOs, undefined governance structure, and monitoring capacity.
- Mission Deadline Extension:** The current phase was originally set to conclude by June 2023, but was extended until June 2024 to complete pending projects.
- Funding Challenges:**
 - 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.
 - 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 Green-field 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)

11. 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 signifi-

cant 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 re-vamping 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 grassroots-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.](#)

12. 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 neighbourhood 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](#)

[Topics: Important International institutions, agencies and fora, their structure, mandate.](#)

13. FUTURE OF UNITED NATIONS: UN REFORMS

Context: The current global order, epitomized by the United Nations, is facing considerable challenges. **António Gu-**

terres, the UN Secretary-General, has recently **expressed scepticism about the organization's future**, citing divisions among members that undermine its authority.

What is the United Nations (UN)?

The United Nations (UN) is an international organization **established in 1945** (with the UN Charter) after World War II. **United Nations Day**, observed on October 24th annually since 1947, commemorates the organization's establishment in 1945. **UN's founding principles are:**

1. Collective security
2. Disarmament
3. Peacekeeping

The UN's structure comprises:

1. **General Assembly** as the primary policymaking body
2. **Security Council** responsible for peace and security
3. **Specialized agencies like UNICEF and WHO** focus on specific global issues such as health and education.

Importance of the UN:

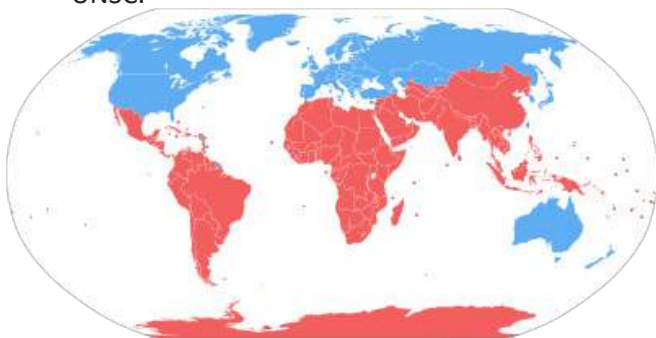
1. **Managing Power Rivalry Between Nations:** The UN anchors the post-World War order, managing power rivalry among nations through its structure and specialized agencies.
2. **Strengthening Multilateral Institutions:** Through initiatives like the Bretton Woods Conference, the UN established financial and trade institutions to foster international economic cooperation and prevent past mistakes.
3. **International Law and Human Rights:** The UN promotes adherence to international law and human rights standards, establishing treaties and conventions while monitoring and addressing human rights abuses globally.
4. **Humanitarian Assistance:** The UN provides vital humanitarian aid to populations affected by conflicts and disasters through agencies like UNICEF, WFP, and OCHA, working to alleviate suffering and protect vulnerable populations.
5. **Peacekeeping and Conflict Resolution:** It maintains global peace through peacekeeping missions, deploying troops and mediators to conflict zones.
6. **Environmental and Climate Change Initiatives:** It promotes global cooperation on environmental challenges, exemplified by initiatives like the Paris Agreement to combat climate change.
7. **United Nations Sustainable Development Goals (SDGs):** The 2030 Agenda for Sustainable Development comprises 17 SDGs focused on inclusivity and sustainability.

Key UN reforms

- 1997** Kofi Annan announces his plan for United Nations reform with two reform packages: "Track One" and "Track Two"
- 2004** Two models proposed for expanding the Security Council
- 2005** Kofi Annan presents his most comprehensive reform and policy agenda with his report "In Larger Freedom"
The Peacebuilding Commission (PBC) is established
- 2006** The Human Rights Council replaces the former United Nations Commission
- 2007-2016** Reforms continues during Ban Ki-moon's term with the launch of the 2030 Agenda for Sustainable Development and adoption of the Paris Climate Agreement
- 2017-2020** Reforms envisioned by UN Secretary-General Antonio Guterres have been ongoing which focus on the UN's peace and security pillar

Issues in the Functioning of the UN:

1. **Overrepresentation:** There is a huge European bias in P-5 due to the presence of the United Kingdom and France, including Russia in the UNSC
2. **Under-representation:** While regions like Latin America, the Caribbean Group, the Arab World, and Africa do not have a single permanent member,
3. **Question of Veto:** All five permanent members of the UNSC enjoy veto power. However, the veto has been misused to put national interests ahead of global interests.
4. **Non-transparent:** The UNSC has been functioning in the most non-transparent and non-consultative way.
5. **North-South Inequality:** Only China is representative of the global south region, whereas the global north has four nations to present themselves at the UNSC.



6. **Reflecting Colonial Mindset:** Permanent veto power granted to major Allied powers, ignoring newly independent states' voices.
7. **Disbursal of Funds:** Decision-making skewed towards powerful nations, impacting global financial stability and aid distribution.
8. **Contemporary Faultlines:** COVID-19, conflicts like Russia's invasion of Ukraine, and divisions over issues like the Gaza conflict strain UN principles and cooperation.
9. **Clash of Chinese and US Values:** US-China rivalry marks a shift, challenging traditional multilateralism.
10. **Multiple Crisis Confronting Multilateralism:** Trust deficits, utility crises, and global emergencies strain multilateral cooperation.
11. **Challenges in Concepts, Methods, and Institutions:** Volatile concepts, outdated negotiation methods,

and inadequate institutions hamper effectiveness.

Suggestions for Reforming UN:

Suggestions	Details
Development Reform	Implement bold changes to the UN development system. Establish new country teams and frameworks for sustainable development.
Management Reform	Simplify processes, work towards gender parity , and enhance efficiency.
Peace and Security Reform	Restructure peace and security operations to meet modern challenges effectively.
Security Council Reforms	Address representation gaps by including permanent members from underrepresented continents and emerging powers. Role of G-20: Encourage multilateral groupings as a new form of multilateralism and transform them into multi-stakeholder partnerships.
India	India's NORMS reform (New orientation for a reformed multilateral system) in the changing architecture of global governance, including the UNSC, is way ahead India has stressed democratic status and global influence , emphasizing the importance of an Inclusive World Order: It advocates for the UN to reflect emerging powers. It further calls for democratizing decision-making processes

Conclusion:

Looking towards the future, the **21st century presents a myriad of complex challenges**, ranging from climate change to cybersecurity threats and economic inequality. Despite its imperfections, the **United Nations (UN) stands uniquely positioned to address these multifaceted issues**, given its convening power, diplomatic role, and extensive network of agencies.

However, **realizing its full potential requires implementing reforms** to enhance its effectiveness. **Streamlining bureaucracy, reducing inefficiencies, and ensuring more equitable representation** within the organization are crucial steps towards achieving this goal. Despite these challenges, the **UN remains indispensable in global governance, humanitarian assistance, and crisis management**. While the need for reform is evident, the UN's continued role in fostering cooperation, dialogue, and collective action underscores its enduring importance in tackling the world's most pressing problems.

Insta Links:

- [If not reformed, the UN will be overtaken by other organisations](#)

Mains Links:

Q. What are the main functions of the United Nations Economic and Social Council (ECOSOC)? Explain different functional commissions attached to it. (10 M) (UPSC 2017)

Prelims Links:

Q. With reference to the “United Nations Credentials Committee”, consider the following statements: (UPSC 2022

1. It is a committee set up by the UN Security Council and works under its supervision.
2. It traditionally meets in March, June and September every year
3. It assesses the credentials of all UN members before submitting a report to the General Assembly for approval.

Which of the statements given above is/are correct?)

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

Ans: (a)

GENERAL STUDIES – 3

Topics: [Indian Economy and issues relating to planning, mobilization of resources, growth, *development* and employment.](#)

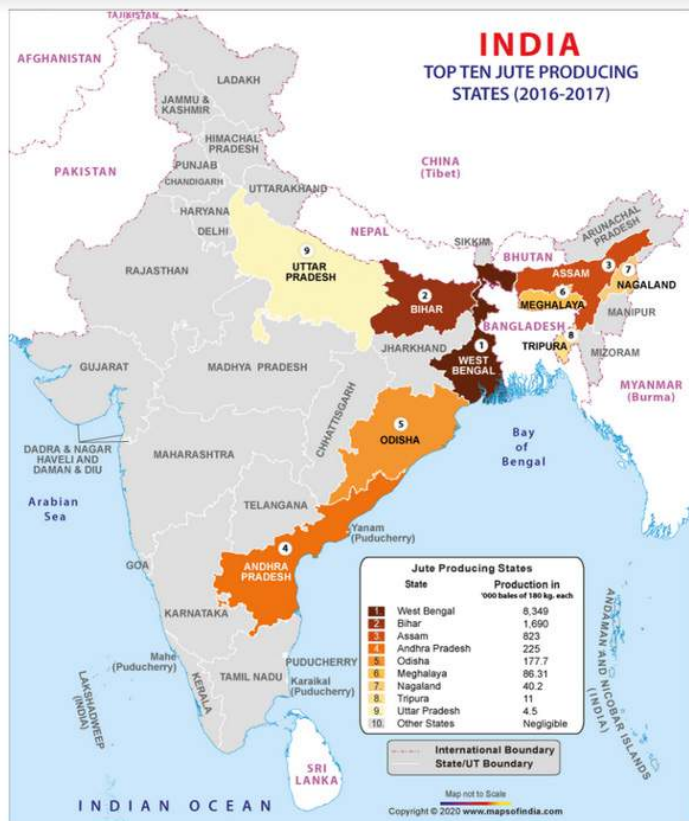
1. REPORT ON THE DEVELOPMENT AND PROMOTION OF JUTE INDUSTRY

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, lockout and other labour issues leading to the closing up of many

firms.

- 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:

- Promote modernization** by providing digital moisture meters to improve quality.
- Develop a comprehensive policy** for reviving closed mills and establishing new ones.
- 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:

- Golden Fibre Revolution and Technology Mission:** It aims to enhance jute production in India.
- 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.
- Jute Geo-Textiles (JGT)** is promoted under the Technical Textiles Mission, offering diverse applications in civil engineering and erosion control.
- Jute SMART**, an e-government initiative, enhances transparency in the jute sector by providing a platform for government procurement of sacking.
- Jute Mark Logo** was launched (2022) for branding and positioning of Indian Jute globally
- National Jute Development Programme-** An Umbrella Scheme for the development of Jute Industry
- The National Jute Board (NJB)** has been constituted as per the National Jute Board Act, 2008

Topics: Government Budgeting.

2. BUDGET 2024: HIGHEST EVER GENDER BUDGET

Context:

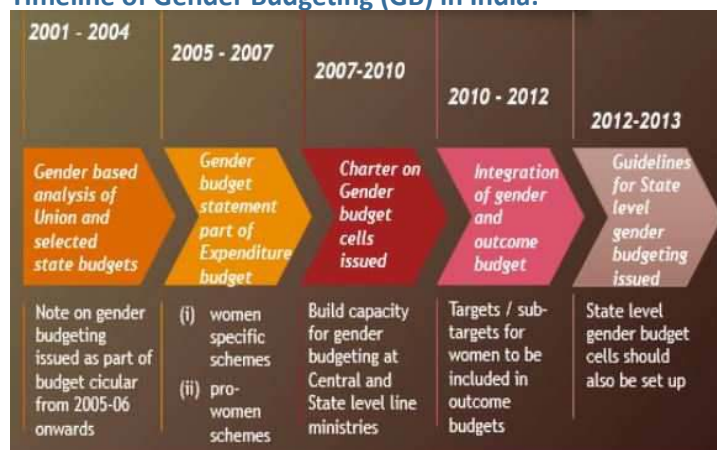
In the Union Interim Budget 2024-25, the Gender Budget witnesses its highest-ever increase of about **38.6%**. It stands at **₹3 lakh crore, almost 6.5% of the total expenditure**. **The Ministry of Rural Development receives the largest share**, followed by Education, Drinking Water and Sanitation, Health, Housing and Urban Affairs.

About Gender Budget:

Gender budgeting is an approach that aims to incorporate a gender perspective into the process of budgeting at all levels of government. The goal of gender budgeting is to **promote gender equality** and ensure that **public resources are used effectively** to address the needs and priorities of women and men. India has been **implementing gender budgeting since 2005**.

The Gender Budget is **not a separate budget for women** but an accounting statement highlighting allocations for women beneficiaries or girls.

Timeline of Gender Budgeting (GB) in India:



Gender budgeting leads to a more equitable future

Social factors

- **Empowerment of women**- through the encouragement of **women entrepreneurship, skill development, and provision of credit.**
- **Achievement of social goals**- helps achieve the **sustainable development goal(SDG) 5 of gender equality.**
- **Reduced Gender Disparities:** gender budgeting can be used to ensure that adequate resources are allocated to programs that **promote girls' education, improve maternal health, and provide women with employment opportunities.**

Economic factors

- **Efficient distribution of resources**- targeting areas that impact women, and ensuring accountability. Ex- **Nirbhaya fund.**
- **Care economy**- gender budgeting accounts for the unpaid care economy, **neglected in GDP calculation.**

Political factors

- **Promoting Women's Participation:** For example, gender budgeting can be used to ensure that **women's voices are heard** and that their needs and priorities are adequately represented in the budgeting process.

Issues of concern:

- **Insufficient allocation:** Budget 2024 has allocated **just 6.5% of the total budget** for GB. The gender budget was, on average, about **5.2%** of the total expenditure over the 2008-09 to 2019-20 periods.
- **The concentration of funds in a few sectors** Only a few ministries such as Rural Development, Education, Health and MWCD have received between **85-90% of the Gender Budget expenditure.**
- **Inefficient implementation:** Though it is mandatory to release the GB, **there are no accountability mechanisms** mandating impact assessment of allo-

cations for female beneficiaries.

- **At State Level:** About 16 states in India currently undertake GRB, however, **the quality of statements produced, and allocation undertaken** vary significantly by State, owing to inadequate training for government officials.
- **Linked to schemes rather than outcomes**
- **Lack of monitoring:** Monitoring remains one of the weakest links in the GRB work with no designated mechanism for monitoring it at the national level.

Way forward:

- **Political Will:** Gender budgeting requires political will from **policymakers and government officials.** **Intergovernmental coordination** is essential to achieve the best outcomes.
 - Ex- coordination between **MoWCD, MoHFW, and MoE**
- **Increase allocations for women-focused programmes:** E.g., **Sweden** created a framework for **gender-sensitive allocations** at each stage of their budget process.
- **Improve targeting:** E.g., **The United Kingdom** introduced tax-free universal child care to make it easy for new mothers to re-join work.
- **Create a ranking for state-level gender budgets:** Akin to the ease of doing business ranking. Capacity building and technical support should be provided to State-level Gender Budget Cells
- **Improve accountability:** E.g., **Iceland legally mandates** that the Ministry of Finance ensure the Budget Bill lays out its impact on gender equality.
- **The Development, Monitoring and Evaluation Office (DMEO)** (an attached office of Niti Aayog) has pitched in for the **Gender Budgeting Act** to the mainstream of gender-based budgeting across all ministries

Lahiri committee recommendations-

- **Preparing analytical metrics for gender budgeting, and institutional mechanisms such as Gender budgeting cells** at all levels of government.
- **A platform for the collection of gender-disaggregated data**- for informed decision-making.
- **Outcome-based allocation**- Ex- addressing specific goals such as improving mathematical abilities in female children.

Conclusion:

There is a pressing need to prioritise **women's safety, education, health, and workforce participation;** which necessitates a significant increase in allocations and implementation of gender-based budgeting.

Insta Links

- [Basics: Gender Responsive Budgeting](#)

Practice Questions

Q. Discuss the concept of ‘Gender budgeting’ and analyse its significance in the Indian context. (250 words)

Topics: Major crops cropping patterns in various parts of the country, different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.

3. PARLIAMENTARY PANEL REPORT ON THE COTTON SECTOR

Context:

The **Parliamentary Panel on Labour, Textiles, and Skill Development** advised the government to devise umbrella policies for the cotton sector and closed jute mills.

About Cotton:

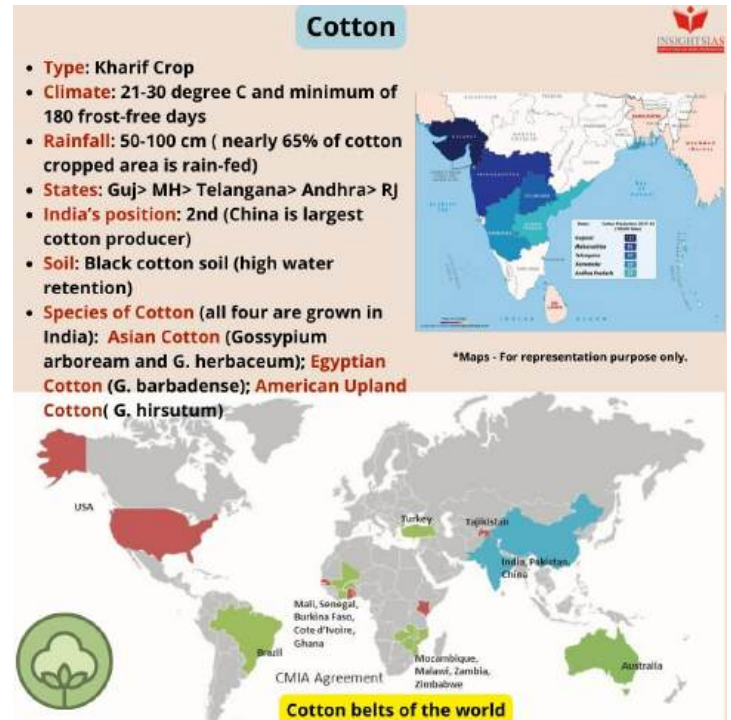
Cotton is one of the most important commercial crops cultivated in India and India accounts for **around 25% of the total global cotton production**. Due to its economic importance in India, it is also termed as **“White-Gold”**. In India, around **67% of India’s cotton is grown in rain-fed areas** and 33% in irrigated areas.

Status of India:

1. India has the **largest area under cotton cultivation**
2. India is the **second largest producer (after China)** and second largest consumer of cotton
3. Majorly, cotton is **produced in 11 states** with Gujarat, Maharashtra, and Telangana having a major share.

Significance of Cotton in India:

1. **Triple Role:** Cotton in India provides food, feed, and fibre, making it a crucial crop for agriculture and the textile sector.
2. **Cotton Components:** After harvesting cotton (Kapas), the breakdown is approximately **36% fibre, 62% seeds, and 2% waste**.
 - a. Cottonseed is essential for **vegetable oil and feed cake production**.
3. **Market Contribution:** Cottonseed oil is the third-largest domestically produced vegetable oil in India, following mustard and soybean. It also ranks second in feed cake production, with soybeans leading.
4. **Textile Dominance:** Cotton is the dominant fibre in India’s textile industry, accounting for about two-thirds of the total consumption.



Main determinants of the location of Cotton textile industries in various parts of the world:

1. **Availability of Raw Materials:** Cotton textile industries require a steady and abundant supply of raw cotton. Therefore, proximity to cotton-producing regions is a crucial factor in determining the location of these industries.
 - a. For example, Ahmadabad and Surat are from Gujarat.
2. **Labour Supply:** Textile manufacturing is a labour-intensive industry, and the availability of a skilled and affordable workforce is an essential consideration.
 - a. **E.g. Bangladesh and Vietnam** are emerging as major suppliers of cotton textiles due to the availability of cheap labour.
3. **Infrastructure and Transportation:** For instance, Cities like Shanghai and Guangzhou have well-developed transportation systems, facilitating the movement of raw materials and finished goods.
4. **Market Access:** Proximity to domestic and international markets is an important determinant. Cotton textile industries often locate themselves close to their target markets to minimize transportation costs and ensure timely deliveries.
5. **Power supply:** Cotton textile manufacturing is an energy-intensive process, and the availability of reliable and affordable energy sources is crucial.
 - a. For instance, **Cotton Textiles Industries shifted from Kanpur** to the western region of the country due to an erratic power supply.
6. **Access to Technology and Innovation:** E.g. Chemnitz and Aachen cities of Germany have strong positions in this sector primarily due to their access to cutting-edge technology.

Key challenges contributing to the decline in cotton production in India:

1. **Climate change:**
 - a. **Erratic Rainfall Patterns:** Changing climate patterns result in unpredictable and irregular rainfall, adversely affecting cotton crops.
 - i. Cotton's specific water requirements are jeopardized, leading to water stress, reduced yields, and compromised quality.
 - b. **Extreme Weather Events:** Increasing frequency and intensity of extreme weather events like droughts, floods, and hurricanes pose severe threats to cotton fields.
 - i. Floods damage cotton plants, while droughts lead to water scarcity and hinder growth.
 - c. **Temperature Extremes:** Rising temperatures alter flowering and fruiting patterns, reducing the productivity of cotton crops.
 - d. **Deterioration in soil health** due to the absence of crop rotation and proper crop residue management.
2. **Low yield:** India's **extremely low per hectare cotton yield** (447 Kgs/hectare compared to China's 1993 Kgs/hectare) due to **outdated Bt seed technology**, whitefly and pink bollworm infestation.
3. **Pest and Diseases:** Cotton's susceptibility to pests and diseases is exacerbated by the emergence of resistant strains. **Monoculture farming practices** contribute to the build-up of pests and diseases, increasing the risk of infestations. E.g. **emergence of the pink bollworm**
4. **High Input Costs:** The cost of agricultural inputs, including high-quality seeds, fertilizers, pesticides, labour, and machinery, has steadily risen. Licensing fees for genetically modified (GM) cotton seeds add to the financial burden.
5. **Competition from Other Crops:** Cotton faces competition for land and water resources from more profitable or less risky crops like **pulses and oilseeds**.
 - a. Farmers opt for alternative crops due to higher market prices, better returns, and lower resource intensity.
6. **Profitability Concerns:** Farmers may switch to crops offering higher profitability and returns, reducing the attractiveness of cotton cultivation.
 - a. Some alternative crops are less resource-intensive and have shorter growth cycles, minimizing risks.
7. **Drought Resistance:** Alternative crops may exhibit greater resilience to changing climate conditions, making them a preferred choice in regions prone to water scarcity.
 - a. E.g. **depletion of groundwater table** in key cotton-producing states like **Maharashtra, Gujarat etc.**
8. **Limited Market Access:** A significant number of cotton growers in India face constraints in reaching markets and are compelled to sell their harvest at reduced rates to intermediaries.

Parliamentary committee's Recommendations:

The government should **implement an umbrella policy approach for the cotton sector**, integrating activities across all areas. This would involve **overhauling the cropping system**, strengthening **market linkages**, enhancing research and development for new cotton varieties, and improving pest management practices. Additionally, the Government should **focus on expanding irrigation to increase cotton cultivation** productivity and address issues farmers face in obtaining genetically modified seeds, possibly through **price caps and government-led seed development initiatives**.

Way forward:

1. **Integrated Pest Management (IPM):** Promote the adoption of integrated pest management strategies that incorporate natural controls, trap crops, and beneficial insects.
 - a. Reduce dependency on pesticides while effectively managing pest populations for sustainable cotton cultivation.
2. **Community-Based Seed Banks:** Establish community-level seed banks to conserve and share traditional cotton seed varieties. Preserve genetic diversity, promote the cultivation of higher-yielding strains, and empower communities with resilient seed resources.
3. **Market Linkage Platforms:** Develop digital platforms that directly link cotton farmers with buyers and textile manufacturers.
 - a. **Minimize middlemen involvement**, ensure fair pricing, and enhance market access for cotton producers.
4. **Value Addition through Local Processing:** Promote value addition by establishing local cotton processing units capable of ginning, cleaning, and processing cotton fibre.
 - a. **Create employment opportunities** locally and add value to the cotton supply chain, contributing to economic development.

Initiatives in the cotton sector:

1. **PM Mega Integrated Textile Region and Apparel (PM MITRA) Parks Scheme**
2. **Production Linked Incentive (PLI) Scheme** to promote the production of MMF Apparel, MMF Fabrics and Products of Technical Textiles
3. **Cotton development programme** under the National Food Security Mission (NFSM)
4. Mobile app **Cott-Ally** to increase awareness about Minimum Support Price for Cotton
5. Branding of Indian Cotton as "**Kasturi Cotton India**"
6. **Project "Targeting technologies to agro-ecological zones**-large scale demonstrations of best practices to enhance cotton productivity" under NFSM
7. **SAMARTH** (Scheme for Capacity Building in the Textile Sector)
8. **Amended Technology Upgradation Fund Scheme (ATUFS)**

Conclusion

Implementing these **initiatives requires collaboration among farmers, local communities, government agencies, and the private sector**. These interventions aim to foster sustainability, resilience, and economic empowerment within the cotton farming ecosystem.

Insta Links:

- [Textile industry seeks govt support to stay competitive](#)
- [Sustainable Cotton Textiles](#)

Mains Links:

Q. Analyse the factors for the highly decentralised cotton textile industry in India. (UPSC 2013)

4. INDIA’S HORTICULTURE SECTOR

Context:

India is poised to **become a leading global source of fruits and vegetables (F&V)**, driven by a shift towards **nutrition-secure diets and increasing per capita consumption**.

What is Horticulture?

Horticulture is **a branch of agriculture focused on growing plants for human use, encompassing food, medicinal, and aesthetic purposes**. It involves the cultivation and sale of vegetables, fruits, flowers, herbs, and ornamental plants. Key figures in horticulture include **L.H. Bailey**, known as the Father of American Horticulture, and **M.H. Marigowda**, regarded as the **Father of Indian Horticulture**. It is classified into several areas:

1. **Pomology**: Focuses on fruit and nut crops.
2. **Olericulture**: Concerned with vegetable production.
3. **Arboriculture**: The care of individual trees and shrubs.
4. **Ornamental Horticulture**: Divided into floriculture (flowers) and landscape horticulture (beautification of outdoor spaces).

Significance of the Horticulture Sector in India:

- **Horticulture’s Economic Impact**: Horticulture contributes around **30% to the Gross Domestic Product (GDP)** while using only **13% of the gross cropped area**, making it a significant player in India’s agricultural growth.
- **Surpassing Food Grain Production**: In recent years, the total horticulture production in India has **even exceeded the total production of food grains**, highlighting the potential of the sector.
- **Remarkable Productivity Growth**: The productivity of horticulture has increased significantly from **8.8 tonnes per hectare (TPH) in 2001-02 to 12.1 TPH in 2020-21**, leading to a sharp rebound in production and acreage, far outpacing food grains production since 2012-13.
 - **With low water usage and the ability to cultivate on smaller plots**, horticulture allows for reduced crop failure risk. Simultaneous cultivation of multiple **crops maximizes yield and fertilizer utilization**.
- **Multi-faceted Contributions**: Horticulture not only contributes to the **nutritional needs** of the country but also creates additional **job opportunities in rural areas**, expands the range of agricultural activities, and generates **higher incomes for farmers**.
 - Additionally, **it promotes dietary diversity and balanced nutrition**, contributing to a healthier lifestyle.
- **Export Potential and Success**: With its vast production base in horticulture, there is ample opportunity for export, with fresh fruits and vegetables being a major contributor.
 - **India ranks second in fruit and vegetable production in the world after China**.

Challenges faced by Horticulture Sector in India:

Challenges	Details
Historical Focus on Grains	Traditionally, India’s agricultural policies and practices have been centred around staple food crops like rice and wheat due to their significance in addressing food security issues. As a result, horticultural crops like fruits, vegetables, and spices have been relatively neglected.
Fragmented Land-holdings	A significant portion of Indian agricultural land is divided into small and fragmented holdings . This makes it challenging for farmers to adopt horticultural practices that often require higher investment, knowledge, and technical expertise. The lack of economies of scale hampers the adoption of modern horticultural techniques.

Perception of Risk and Returns	Horticulture is often perceived as riskier than traditional crops due to factors such as fluctuating market prices, perishability of produce, susceptibility to pests and diseases , and the need for specific cultivation practices.
Infrastructure and Post-Harvest Losses	A lack of proper storage, transportation, and processing facilities contributes to significant post-harvest losses in horticultural produce. The absence of efficient supply chains increases wastage and reduces the overall profitability of horticultural cultivation.
Impact of Irrigation and Soil Management	Insufficient access to water for irrigation, coupled with poor soil management practices such as over-tilling, over-fertilizing, and monocropping , can reduce soil fertility, leading to lower yields and lower-quality produce.
Market Dynamics and Demand	The demand for horticultural products in India has been increasing due to changing dietary habits, urbanization, and a growing middle class . However, the market for these products is often characterized by fluctuations in prices, inadequate marketing infrastructure, and limited market linkages for small-scale farmers.
Technical Knowledge and Extension Services	Successful horticultural practices require specialized knowledge and skills . The availability of timely and accurate extension services to disseminate this knowledge to farmers has been limited. This knowledge gap can hinder the adoption of best practices and modern cultivation techniques.
Climate Vulnerability	Unpredictable weather patterns, including droughts, floods, and temperature fluctuations , can negatively impact yields and make cultivation more challenging.
Policy and Financial Support	While there have been efforts to promote horticulture through various government schemes, the overall level of policy and financial support has not always matched the potential of the sector.
Limited Global Trade Presence	Despite the growth of India's horticulture sector, the country's share in global trade remains insignificant, accounting for only 1% of the global trade in vegetables and fruits .
Impediments to Export Growth	Export growth is being undermined by production challenges, marketing challenges, inadequate transport infrastructure, fragmented supply chains, and insufficient storage facilities . These factors result in delays and wastage and discourage farmers from improving the quality of their produce.

Government Initiative:

1. **Mission for Integrated Development of Horticulture (MIDH):**
 - a. **Centrally Sponsored Scheme** for holistic growth of the horticulture sector.
 - b. The government of India contributes 60% of the total outlay (90% in North Eastern and Himalayan states); State governments contribute 40%.
 - c. **Comprises five major schemes:**
 - i. **National Horticulture Mission** (NHM)
 - ii. Horticulture Mission for North East and Himalayan States (HMNEH)
 - iii. National Horticulture Board (NHB)
 - iv. Coconut Development Board (CDB)
 - v. Central Institute of Horticulture (CIH), Nagaland
2. **Horticulture Area Production Information System (HAPIS):** Web-enabled information system for reporting data from states/districts promptly.
 - a. Aim to minimize time lag and maximize coverage area.
3. **Coordinated Programme on Horticulture Assessment and Management using Geoinformatics (CHAMAN):**

Objective: Develop a scientific methodology for estimation of area & production under horticulture crops.

 - a. **Utilizes Remote Sensing** and Sample Survey Techniques.

Conclusion and Way Forward

To fully realize the potential of horticulture in India's agricultural landscape, there needs to be a **comprehensive approach** that addresses these challenges.

1. Emphasis on **export-oriented businesses**.
2. **Integrated value chain** from sourcing to processing.
3. **Supplying key agricultural inputs** to enhance yield.
4. **Seed innovation** for better quality produce and wider cultivation.
5. **1.0 Hectare Integrated Farming Model:** Cluster-based approach with diverse interventions for resilience.
6. Tailored approaches for varied **agro-climatic zones**.
7. **Strengthening multi-stakeholder partnerships** for demand-driven production and market linkages.

Insta links:

- [Horticulture](#)

Mains Links:

Q. Assess the role of the National Horticulture Mission (NHM) in boosting the production, productivity, and income of horticulture farms. How far has it succeeded in increasing the income of farmers? (UPSC 2018)

5. COOPERATIVE SECTOR AND ITS ROLE IN INDIAN FARMING

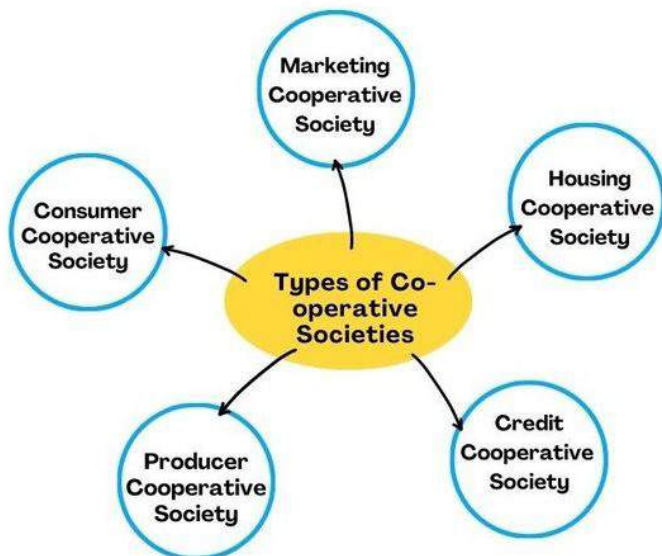
Context:

The Prime Minister inaugurated and laid the **foundation stone for several key initiatives** in the cooperative sector. This included:

1. Pilot project of the **'World's Largest Grain Storage Plan in Cooperative Sector'** in 11 Primary Agricultural Credit Societies (PACS) across 11 states
2. The foundation stone for an **additional 500 PACS for the construction of godowns** and other agricultural infrastructure nationwide.
3. **Project for computerization in 18,000 PACS** across the country

What is the Cooperative Sector?

A cooperative society is a **voluntary association aiming to fulfil common economic interests** through **self-help and mutual assistance**. India's cooperative movement dates back to its independence era. The **97th Constitutional Amendment Act of 2011** recognized the right to form cooperative societies as a **fundamental right** (Article 19), introduced a new Directive Principle (**Article 43-B**) on promoting cooperatives, and added a new part to the Constitution focusing on cooperatives (**Articles 243-ZH to 243-ZT**). This amendment empowers both **Parliament and state legislatures to enact laws governing cooperatives**. In 2021, **the Union Ministry of Cooperation** was established to oversee cooperative affairs, which were previously managed by the Ministry of Agriculture.



The Indian cooperative movement is the world's largest cooperative movement, with more **than 8 lakh cooperatives**. The collective strength of the agricultural cooperatives offers unique benefits to farmers in various ways.

Role of Cooperatives for Indian Farmers:

Market access and bargaining power:

- **Marketable surplus:**
 - With agricultural cooperatives, the constraint of **small and fragmented landholdings** and less produce is overcome.
 - The marketable surplus of food grain and industrial raw materials can be **transported and marketed on a bulk basis** for remunerative prices.
- **Market reach:**
 - With collective strength, cooperatives enable farmers to **control supply and marketing channels**.
 - Agricultural cooperatives assist farmers in **expanding their market reach** so they may sell their products for remunerative prices.
 - Cooperatives increase the **farmers' credit-worthiness**, and thus, they have a better capacity to sell surplus items for more money.
- **Collective strength:**
 - Small farms would not have been able to **expand irrigation potential** and land production on their own.
 - Farmers in cooperative farming have access to **more land and resources**, including men, materials, and money, thus increasing production capacity.
- **Better price realization:**
 - Cooperatives could offer better **competitiveness for smallholder farmers**.
 - They can thus give farmers more **negotiating leverage**, access to new markets and technology, and **cost savings** by pooling their resources and expertise.
 - Farmers who are efficiently organized can form a **collective voice** to advocate for their needs and access services at affordable prices for better yields, sales, and profits.
- **Government interaction:**
 - From the administrative viewpoint, cooperatives facilitate easier interaction and transactions with the government.
 - E.g., **collecting taxes, distributing subsidies**, introducing improved methods of production, etc.
 - This, in turn, increases the **bargaining power** of the cooperatives in terms of price fixing, subsidies, etc.

Profitability:

- **Knowledge sharing:**
 - Agricultural cooperatives can play a vital role in **educating the farmers** to reduce the cost of cultivation through balanced use of fertilizer, and improve water-use efficiency.

- It also helps farmers understand new technologies in farming.
- **Credit facilitation:**
 - Cooperatives can give farmers **access to finance**, which they can use to buy farming-related supplies and equipment.
 - It facilitates credit to farmers at a **reasonable rate of interest**
- **Income generation:**
 - Cooperatives can help establish more warehouses to avoid distressed sales of produce, link with the **National E-market (e-NAM)**, emphasize value addition and encourage farmers to take up other allied activities like poultry, beekeeping, and fisheries.

Challenges with Cooperatives in India:

1. **Regulation and Supervision:** Fragmented regulatory framework and dual control issues lead to inconsistencies in supervision.
2. **Governance and Management:** Poor governance and management contribute to mismanagement and fraud, leading to failures.
3. **Capital Adequacy:** Struggles to maintain sufficient capital levels hinder operational resilience and expansion.
4. **Credit Risk Management:** Lending to SMEs and individuals with limited credit history poses challenges in managing credit risks.
5. **Technology and Innovation:** Lack of investment in modern technology limits competitiveness against larger banks and fintech firms.
6. **Competition:** Intense competition from commercial banks and fintech companies makes customer retention difficult for financial cooperatives.

Other Government Initiatives for the Cooperative Sector:

1. **Financial Support:** The government ensures that every farmer in the country receives approximately ₹50,000 annually through various means, providing financial security and assistance.
2. **Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs):** This Central Sector Scheme aims to empower farmers by enabling them to enhance their bargaining power, leverage economies of scale, reduce production costs and increase their incomes through the aggregation of agricultural produce, contributing to sustainable livelihoods.
3. **Fertilizer Subsidy:** Over the past nine years, the government has allocated ₹10 lakh crore towards fertilizer subsidies, ensuring that farmers have access to crop nutrients at affordable prices despite global price fluctuations.
4. **Parliament passed the Multi-State Cooperative Societies (Amendment) Bill, 2022,** aimed at enhancing transparency, accountability, and ease of

doing business in the cooperative sector. The bill introduces provisions such as the **establishment of a Cooperative Election Authority, the creation of a Cooperative Rehabilitation Reconstruction and Development Fund**, the appointment of a cooperative ombudsman and information officers, and the representation of women and SC/ST members on cooperative society boards.

5. **Government's Electronic Marketplace (GeM):** GeM version 4 is an innovative online platform dedicated to marketing goods and services from MSMEs and non-financial cooperatives, boasting over 62,000 government buyers, 49 lakh sellers, and numerous products and services.
6. **Welfare Schemes for Dairy Development:** Several welfare schemes support dairy development and fisheries, pivotal for rural households, with milk cooperatives proving successful.
7. **Cooperatives as a Business Model:** Cooperatives serve as a viable business model for post-harvest processing, warehousing, and packaging.
8. **Use of Technology:** The government envisions rural development through technology adoption in schemes like **Digital India, BharatNet, and e-Governance**.

For FPOs: [Role of Farmer Producers' Organizations \(FPOs\)](#)

Conclusion

Cooperatives play a **vital role in supporting farmers by offering financial aid**, sharing modern farming knowledge, facilitating the marketing of produce, and procuring essential inputs. Their efforts contribute significantly to the advancement of the agricultural sector and the well-being of farmers.

Mains Links:

Q. "In the villages itself, no form of credit organization will be suitable except the cooperative society." – All Indian rural credit survey. Discuss this statement in the background of agriculture finance in India. What constraints and challenges do financial institutions supply agricultural finances? How can technology be used to better reach and serve rural clients? (UPSC 2014)

[Topics: Conservation related issues, environmental pollution and degradation, environmental impact assessment.](#)

6. '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 pollution** 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:

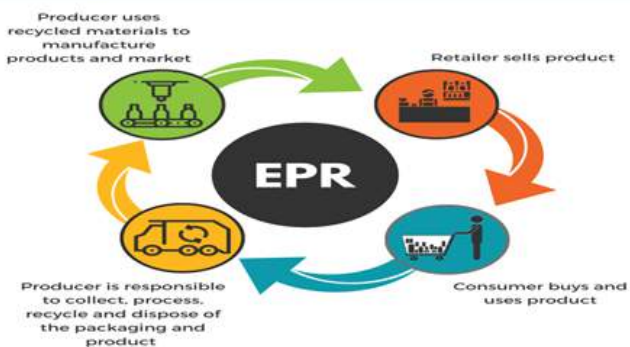
Issues	Details
Inadequate capacity and resources	Shortage of personnel, especially in technical positions. Lack of training and pollution monitoring equipment. Absence of competent leadership. Enforcement mechanisms are protracted. Insufficient funds
Skewed representation	Boards are largely represented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

What is Extended Producer Responsibility (EPR)?



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

7. CONVENTION ON THE CONSERVATION OF MIGRATORY SPECIES OF WILD ANIMALS (CMS COP 14)

Context:

The **Fourteenth Meeting of the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS COP 14)** concluded on February 17, 2024 (in Samarkand, Uzbekistan) with parties agreeing to adopt listing proposals for 14 migratory species and several other resolutions for global wildlife conservation.

What is CMS?

The **Convention on Migratory Species (CMS) (enforced since 1983; HQ: Bonn (Germany))**, also known as the Bonn Convention, is an environmental treaty of the United Nations (UNEP provides support) that provides a global platform for the conservation and sustainable use of terrestrial, aquatic and avian migratory animals and their habitats. It has **133 members including India**. It consists of two appendices:

- Appendix I** (migratory species that are in danger of extinction)
- Appendix II** (Migratory species that will benefit from conservation)

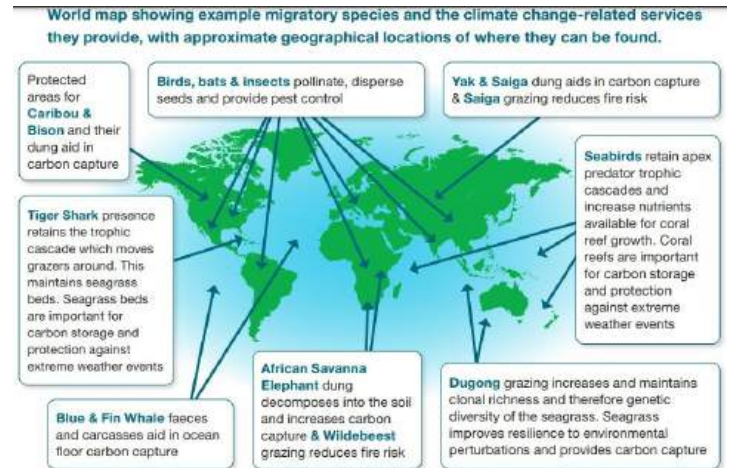
Major outcomes of COP 14 of CMS:

Outcomes	Details
Adoption of Plan	Adoption of the Samarkand Strategic Plan for Migratory Species for 2024-2032.

On Light Pollution	Introduction of new Global Guidelines addressing the impacts of Light Pollution on migratory species.
Action for Species	<p>Addition of 14 species to CMS Appendices including Eurasian Lynx, Pallas's Cat, and Sand Tiger Shark.</p> <p>Implementation of new Concerted Actions for six species, including Chimpanzee, Straw-colored Fruit Bat, and Blue Shark.</p> <p>Development of three new Action Plans for aquatic species: the Atlantic Humpback Dolphin, the Hawksbill Turtle, and the Angelshark.</p>
Migratory Birds	Agreement on the Central Asian Flyway (CAF) spanning 30 Range States of migratory birds, with the establishment of a coordinating unit in India.
Scientific Reports	Publication of the first-ever State of the World's Migratory Species report.
New Global Initiative	Launch of the Global Partnership on Ecological Connectivity (GPEC) aiming to maintain, enhance, and restore ecological connectivity for migratory species. Parties supporting GPEC include Belgium, France, Monaco, and Uzbekistan.
Amendment proposal for CMS	<p>Discussion and recommendation of proposals for amendment of CMS Appendices I and II by the Committee of the Whole (COW) or countries for adoption.</p> <p>Committee of the Whole (COW): The main decision-making body of CMS, reviewing the work of the secretariat.</p> <p>Slogan: "Nature Knows No Borders"</p>
India and CMS	<p>India was one of the recipients of the Migratory Species Champion Programme for its contribution to the conservation of migratory birds in CAF</p> <p>Previously, India had signed non-legally binding Memorandums of Understanding (MoUs) with CMS for the conservation and management of Siberian Cranes (1998), Marine Turtles (2007), Dugongs (2008), and Raptors (2016).</p> <p>Despite covering only 2.4% of the world's land area, India hosts approximately 8% of global biodiversity.</p> <p>India serves as a temporary shelter for various migratory species such as Amur Falcons, Bar-headed Geese, Black-necked Cranes, Marine Turtles, Dugongs, and Humpback Whales.</p>

Significance of Migratory Species:

Migratory species play a crucial role in ecosystems, offering essential services that mitigate climate change impacts and **enhance resilience to climatic hazards.** Examples include **whales aiding nutrient transfer and storing carbon,** and antelopes reducing wildfire risks through grazing. Climate change **poses severe threats to migratory species,** impacting their habitats, migration patterns, and reproductive success



Initiatives taken by India:

- National Action Plan for the Conservation of Migratory Birds (2018-2023):** India launched this plan to address challenges faced by migratory birds, including habitat loss, hunting, pollution, and climate change.
 - Goals include stopping bird decline by 2027,** promoting transboundary cooperation, and improving the database on migratory birds.
- Conservation of marine turtles:** India launched the **Marine Turtle Policy and Marine Stranding Management Policy in 2020** to protect marine turtles and reduce pollution from micro-plastic and single-use plastic.
- Transboundary protected areas:** India established protected areas for species like Tigers, Asian elephants, Snow Leopard, the Asiatic Lion, the one-horned rhinoceros, and the Great Indian Bustard.
- Project Snow Leopard (PSL):** Launched in 2009, PSL promotes an inclusive approach to conserving snow leopards and their habitat.
- Dugong Conservation Reserve:** India established its first Dugong conservation reserve in Tamil Nadu.
- Wildlife Protection Act, 1972:** The act provides stringent punishments for violating wildlife protection laws and includes migratory birds in Schedule I for the highest protection.
- Other initiatives:** India imposed a **ban on the veterinary use of diclofenac** to conserve vultures, established Vulture breeding centres, and set up the Wildlife Crime Control Bureau to control illegal wildlife trade.

Definitions:

Migratory Species: Wild animals that cyclically and predictably cross national boundaries. This includes any part of the population.

Central Asian Flyway (CAF): A major migratory route covering 30 countries from the Arctic to the Indian Ocean, hosting over 400 species of migratory birds.

Flyways: Areas used by birds during their annual cycle, including breeding, stopover, and wintering areas. There are nine major flyways globally identified by the CMS Secretariat.

Insta Links:

[Climate change and migratory species](#)

Prelims Links:

Q. Consider the following pairs: (UPSC 2020)

	International agreement/set-up	Subject
1.	Alma-Ata Declaration	Healthcare of the people
2.	Hague Convention	Biological and chemical weapons
3.	Talanoa Dialogue	Global climate change
4.	Under2 Coalition	Child rights

Which of the pairs given above is/are correctly matched?

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

Ans: (c)

8. LAND DEGRADATION AND LAND MANAGEMENT POLICY

Context:

An urgent need exists for a comprehensive land management policy, considering land's critical role in **ecological, economic, social, and cultural aspects**. **India**, with a small geographical area but a large population, faces numerous land management issues, including the **degradation of around 30% of its total land**.

What are Soil degradation, Land Degradation and Desertification?

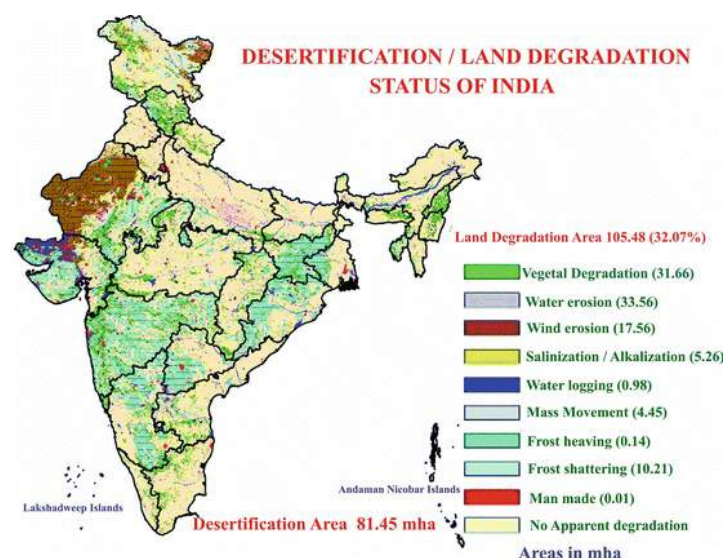
- Soil Degradation** refers to the decline in **soil quality and fertility** due to various factors such as erosion, chemical pollution, and loss of organic matter. It primarily affects the health and productivity of the soil.

For Soil Degradation: World Soil Day: Soil Degradation

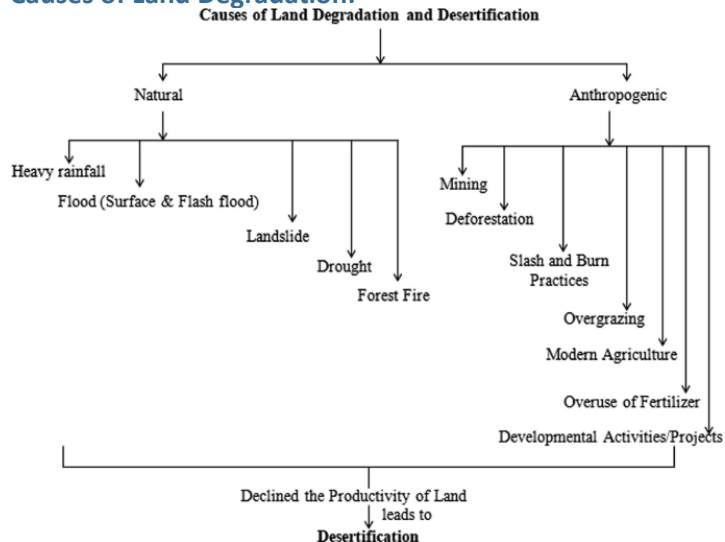
- Land degradation** is a broader term that encompasses not only soil degradation but also degradation of other land resources like **vegetation, water resources, and biodiversity**. It includes processes such as soil erosion, deforestation, salinization, and loss of biodiversity.
- Desertification** specifically refers to the process by which **fertile land becomes increasingly arid and barren, ultimately transforming into desert-like conditions**. It is a type of land degradation in **dry regions like arid, semi-arid, and dry sub-humid areas**, where biological productivity declines. It **doesn't necessarily involve the expansion of existing deserts** but rather the deterioration of land quality and productivity within these dryland regions.

Status of Land Degradation:

The **Desertification and Land Degradation Atlas of India**, published by ISRO's Space Applications Centre, estimates India's land degradation and desertification at over **97 million hectares in 2018-19**



Causes of Land Degradation:



Consequences of Land Degradation:

- Food and Water Security:** For instance, Land degradation and climate change are estimated to lead to a reduction of global crop yields by **about 10% by 2050**. Most of this will occur in **India, China, and sub-Saharan Africa**.
- Impact on Lives:** According to UNCCD, The degradation impacts the lives of an estimated **1.3 billion people** who are directly exposed to land degradation.
- Economic Impact:** The economic impact of land degradation is significant, with countries spending **billions of dollars annually to combat desertification, land degradation, and drought**.
- Drought-Stricken Population:** A significant proportion of the world’s population live on land affected by drought. Out of **1.84 billion people, 4.7% are exposed to severe or extreme drought**.
- Biodiversity Loss:** Land degradation leads to loss of biodiversity, affecting ecosystems and species survival.

What is Land management policy?

It refers to a **set of guidelines, regulations, and practices** established by governments or other relevant authorities to govern the use, development, conservation, and protection of land resources within a particular region or jurisdiction.

Challenges of Land Management in India:

Challenges	Description
Acute Disparity Between Land Area and Population	India’s small geographical area (2.4% of the world’s) and large population (17% of the world’s) create significant challenges in managing land.
	Only about 55% of land is arable, 22% forest cover, leaving 30% degraded . Access to agricultural land is crucial for livelihoods.
Competition Between Agriculture and Other Land-resources Based Sectors	Increasing land stress leads to competition among farmers and sectors, escalating land prices and conflicts .
Adverse Effects of Climate Change	Land degradation not only affects livelihoods but also weakens natural ecosystems’ resilience against disasters like floods, droughts, and pollution, exacerbated by climate change.
Sectoral Approach to Land Management	Land management practices in India are fragmented among departments and states , with private land ownership complicating synchronized approaches.
Inadequate Land Management Practices	Administrative complexity, knowledge gaps, short-term planning bias, fragmented approaches, lack of preparedness for unforeseen events, and regulatory barriers hinder effective land management in the country.

Suggestions for Effective Land Degradation Management:

- Effective land restoration involves a continuum of activities:**
 - Avoid:** Eliminate practices degrading the environment, from land conversion to socio-economic inequalities.
 - Reduce:** Adopt sustainable land and water management practices to mitigate degradation.
 - Reverse:** Revitalize soil, watersheds, and ecosystems to restore degraded land, meeting human needs and improving ecology.
- Achieving Land Degradation Neutrality (LDN):** Maintaining or improving land resources to sustain ecosystem functions, services, and food security.
- Integrated Land Use Planning:** Identifying optimal land use combinations to meet stakeholder needs sustainably, including identifying global restoration hotspots for maximum benefit.
- Regenerative Agricultural Practices:** Implementing techniques like terrace farming and rainwater harvesting to restore land, increase crop yields, reduce emissions, sequester carbon, and support livelihoods.
- Establish Multi-Stakeholder Platforms:** Create district-level platforms involving farmers, policymakers, civil society, and businesses to integrate sectors and address challenges collectively.
- Adopt Climate-Smart Landscape Approach:** Utilize landscape assessment to allocate land effectively, contributing to climate goals, agricultural productivity, livelihoods, and biodiversity conservation.
- Promote Integrated Landscape Management:** Emphasize the systemic approach to land management, drawing on experiences and institutional support, aligning with international conventions for societal well-being.
- Ensure Inclusive Engagement:** Engage parliamentarians to address emerging challenges, and involve all stakeholders horizontally and vertically for sustainable land management policies.
- Conduct Country-Level Land Management Assessment:** Undertake comprehensive assessments of land management practices at the national level, guided by international recommendations, prioritizing co-benefits and ecosys-

tem services conservation.

10. **Follow FAO Recommendations:** Urgently address land degradation as highlighted by the FAO, recognizing the critical role of land, soil, and water in ensuring long-term public welfare and sustainability.

Initiatives:

- **UNCCD Data Dashboard:** Highlighting rapid global land degradation.
- **Bonn Challenge:** Restoring 350 million hectares by 2030.
- **Great Green Wall:** Combatting land degradation in Sahel-Saharan Africa.
- **G20 Global Initiative on Reducing Land Degradation and Enhancing Conservation of Terrestrial Habitats:** Launched in 2020, it aims to prevent, halt and reverse land degradation and reduce degraded land by 50% by 2040.
- **UN Decade on Ecosystem Restoration:** The Decade (2021-2030) is being championed by the UNEP and FAO.
- **India's Commitment:**
 - **Signatory to UNCCD,** aiming to restore 26 million hectares by 2030.
 - **Pursuing Land Degradation Neutrality (LDN)** under SDG 15.3.
 - **Key Reports:**
 - **COP14:** Focused on achieving land degradation neutrality.
 - **IPCC Report:** Suggested country-level stocktaking of land management.
 - **FAO Report:** Urged action to address land degradation crisis.
 - **Other Initiatives:** [IWMP](#), [Desert Development Programme](#), NAP, GIM, National Action Programme to Combat Desertification, Desertification and Land Degradation Atlas, [Soil Health Card Scheme](#).

Conclusion:

Land degradation is a complex issue with multiple causes and far-reaching consequences. Addressing this issue requires a comprehensive approach that includes sustainable **land management practices, conservation efforts, and policies** aimed at mitigating the impacts of climate change.

Insta Links:

- [Forest landscape restoration](#)

Mains Links:

Q. The process of desertification does not have climate boundaries. Justify with examples. (UPSC 2020)

Q. In what way do micro-watershed development projects help in water conservation in drought-prone and semi-arid regions of India? (UPSC 2016)

Prelims Links:

Q. What is/are the importance/importances of the 'United Nations Convention to Combat Desertification'? (UPSC 2016)

1. It aims to promote effective action through innovative national programmes and supportive international partnerships.
2. It has a special/particular focus on South Asia and North Africa regions, and its Secretariat facilitates the allocation of major portion of financial resources to these regions.
3. It is committed to a bottom-up approach, encouraging the participation of local people in combating desertification.

Select the correct answer using the code given below:

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

Ans: (c)

GENERAL STUDIES – 4

1. EXAMPLES OF ETHICS

Example 1: Nainital District Magistrate Vandana Singh

She is in the news **for her role in diffusing communal violence in Haldwani, Uttarakhand, following the demolition of an illegally constructed madrasa**. Despite criticism, Singh has been praised for her efforts in restoring peace. She is a 2012-batch IAS officer known for her notable career in Uttarakhand.

Nainital District Magistrate Vandana Singh demonstrated ethical values such as:

1. **Integrity:** Upholding the law by taking action against illegal structures despite facing criticism.
2. **Courage:** Displaying bravery in diffusing communal tensions and maintaining peace.
3. **Accountability:** Accepting responsibility for her decisions and actions in the face of public scrutiny.
4. **Empathy:** Considering the impact of her decisions on the community and striving for a peaceful resolution.
5. **Fairness:** Ensuring that the law is applied equitably, regardless of public opinion or pressure.

Example 2: District Magistrate Divya Mittal

Last year, District Magistrate **Divya Mittal of Mirzapur district in Uttar Pradesh** garnered attention for her efforts in **bringing piped water to Lahuria Dah village**, where residents previously relied on tankers and wells. Despite achieving this milestone, she was transferred to Basti district shortly after the water supply inauguration, since the local MLA, MP, and

others were not invited for the event.

Mittal, who has an **MBA from IIM Bangalore and did her B.Tech from IIT Delhi**, had quit her job as an exotic derivatives trader in London to join the civil services.

Mittal's **proactive approach and dedication to improving living conditions** in rural areas reflected ethical values such as **empathy, responsibility, and commitment to public service**. Despite the setback of her transfer, Mittal's work left a **lasting impact on the community**, showcasing her leadership and determination.

What does Divya Mittal's transfer mean?

Her transfer suggests a **potential clash between bureaucratic protocol and political expectations**. The incident highlights the **complexities of governance, where adherence to administrative procedures may conflict with political sensitivities**.

The potential solution involves:

1. **Improved communication and collaboration** between officials and politicians.
2. Transparency through **clear channels of communication**.
3. **Engagement of local politicians** in project planning.
4. Consultation with politicians and community leaders.
5. Conflict resolution **through constructive dialogue**.
6. **Accountability** for all parties involved.

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**.



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.

2. HERITAGE TOURISM

Context:

The President of India cited **impressive visitor numbers at prominent sites like Kashi, Mahakaal, and Kedar Dham** and anticipated tourism to become a significant source of employment in the near future.

What is Heritage Tourism?

Heritage tourism involves travelling to places of **historical, cultural, and natural significance** to explore and experience the preserved remnants of the past.

Significance:

The significance of heritage tourism lies in **preserving and promoting cultural heritage, generating income and employment**, enhancing India's image and reputation, and fostering cross-cultural understanding and exchange.

India's Rich Heritage:

Aspect	Examples
Rich Cultural Heritage	Historical monuments like the Taj Mahal, Qutub Minar
Diverse Architectural Styles	Jaipur's Hawa Mahal, Hampi's Vijaya Vittala Temple
Ancient Temples and Shrines	Khajuraho Temples, Konark Sun Temple
Vibrant Festivals and Traditions	Varanasi's Ganga Aarti, Rajasthan's Pushkar Fair
UNESCO World Heritage Sites	Ajanta Caves, Ellora Caves, Red Fort India boasts 42 World Heritage sites, including 34 cultural sites, 7 natural sites, and one mixed site
Living Heritage and Crafts	Varanasi's Ghats, Rajasthan's Handicrafts
Culinary Heritage	Diverse regional cuisines across the country
Pilgrimage Centers	Varanasi, Rishikesh, Golden Temple in Amritsar
Strong Global Presence	The influential Indian diaspora has played a role in promoting India's cultural heritage globally, contributing to increased awareness.
Supportive Government Policies	Initiatives like Incredible India, Swadesh Darshan, PRASAD, and Adopt a Heritage have been launched by the government to support and promote heritage tourism. Creation of facilities like Bharat Mandapam and Yashobhoomi

3. DRAFT GUIDELINES FOR ACCESSIBILITY FOR THE HEARING AND VISUALLY IMPAIRED IN MOVIE HALLS

Context: The deadline for public comments on draft accessibility guidelines for movie halls catering to the hearing and visually impaired ends next week.

As per the Census 2011, **2.21% of the total population in India** has been marked as 'disabled', of which **19 per cent are with disability in seeing**, and another **19 per cent are with disability hearing**.

What does the guideline include:

Aspect	Summary
Purpose	To ensure accessibility for the hearing and visually impaired individuals in movie halls.
Compliance Requirement	Film production houses and movie theatres are mandated to provide dedicated shows or accessibility provisions.
Accessibility Features	Audio description - Open/closed captioning - Indian Sign Language Interpretation
Producer Requirement	Provide two sets of films for certification : one original, and one with accessibility features.
Theater Requirement	Offer dedicated showings with accessibility services - Provide necessary equipment for accessibility during regular screenings
Equipment Options for Theaters	Smart glasses for captions - Closed caption stands - Separate small screen for captions - Headphones for audio description
Compliance Monitoring	Licensing authorities to monitor accessibility provision. A committee was set up by the I&B Ministry to oversee implementation.
Information Publication	CBFC to annually publish accessible services provided in certified feature films.

The proposal aligns with the [Rights of Persons with Disabilities Act, 2016](#), and aims to promote universal access to films.

Benefits: The guideline promotes inclusivity and equal access to cultural experiences for individuals with hearing and visual impairments. By mandating accessibility features in movie theatres, the guidelines **uphold principles of fairness, dignity, and respect for all** members of society.

4. SAFE CITY PROJECT

Context:

U.N. Women has partnered with the **Kerala State government to support its Safe City project and gender data hub**. They will offer technical assistance in collaboration with the State's gender parks.

Background:

Ministry of Home Affairs had in 2018 sanctioned Safe City Projects under the Nirbhaya Fund Scheme in eight cities (including Bengaluru), which involves **identifying hotspots for crime against women and deploying infrastructure**, technology, and capacity-building programs.

Technologies deployed as part of the project: Audio-visual systems including drones, CCTV cameras and emergency **call boxes in "vulnerable" areas of the city**.

Other measures: Setting up Pink Police Out-posts, Augmentation of existing Asha Jyoti Kendra, Improving Street Lighting in Hot Spot areas; Setting up Pink Toilets; **single Emergency number '112'**; Gender sensitization awareness campaigns Etc.

Benefits: The Safe City Project aims to provide safety, equality, and privacy for women. It prioritizes the **safety and security of women while ensuring equality and non-discrimination in urban environments**.

Usage: The example can be used in questions related to women's safety/Gender justice.

5. ECONOMIC NATIONALISM

Context:

The president has called for 'economic nationalism' for India's growth, urging the import of only essential goods **to safeguard foreign exchange and jobs**. The government champions **'Vocal for Local' as integral to self-reliance**, echoing the Swadeshi movement.

Renowned economic thinkers hold diverse views on economic nationalism:

- **Adam Smith:** Supported free trade and specialization for overall economic welfare.
- **Friedrich List:** Advocated protective tariffs and government intervention to foster domestic industries and national strength.
- **John Maynard Keynes:** Favored international cooperation and trade for global economic stability.
- **Dadabhai Naoroji:** Emphasized self-reliance and economic empowerment for India's development, supporting domestic industries.
- **M. Visvesvaraya:** Advocated for industrialization and economic self-sufficiency to strengthen India's economy.

Issues with economic nationalism include:

1. **Trade Barriers:** Tariffs and trade barriers can trigger trade wars, reducing global trade and harming businesses.
2. **Inefficiency:** Shielding domestic industries can lead to inefficiencies and lower-quality products.
3. **Resource Misallocation:** Prioritizing domestic industries can lead to misallocation of resources, hindering growth.
4. **Geopolitical Tensions:** Economic nationalism can strain international relations and cooperation.
5. **Global Economic Instability:** Restrictions on trade and investment can disrupt global markets, leading to instability.

Usage: The example can be used in Indian Economy/ Essay

6. AI'S IMPACT ON MERITOCRACY

What is Meritocracy?

Meritocracy is a system where **individuals progress based on abilities and hard work, not social status**. It values **fairness, equal opportunity, and personal merit**. However, critics argue it can **perpetuate inequality and elitism**.

Different Views on Meritocracy:

Views	Summary
Michael Young	Predicted a dystopian future where social class and mobility were solely determined by intelligence and effort . Criticized the emerging trend towards a merit-based system, fearing it would lead to new forms of social stratification .
Michael Sandel	Argued that meritocracy fosters entitlement among the successful and resentment among those left behind, eroding social cohesion . Criticized meritocracy for masking deeper power dynamics and perpetuating social hierarchies.
Post-Structuralists	Challenge the notion of merit, highlighting its socially constructed nature and subjective measurement. Emphasize how meritocratic systems can reinforce existing inequalities .
Adrian Wooldrige	Emphasized the practical evolution of meritocracy and its potential for reform . Acknowledged how meritocracy has inadvertently fostered new inequalities but believes in its intuitive fairness . Proposes reforms including improving access for underprivileged students and advocating better technical education.

Artificial Intelligence (AI)'s Impact on Meritocracy:

1. **Enhancing Human Abilities:** AI's capabilities challenge human merit by surpassing traditional tasks, questioning the relevance of conventional merit metrics. Access to AI tools grants advantages, potentially **shifting the definition of individual merit**.
2. **Exacerbating Inequalities:** AI-trained systems can perpetuate biases present in historical data, leading to **discriminatory outcomes in various sectors**. Advanced AI capabilities **may displace jobs and polarize the workforce**, worsening socioeconomic disparities.
3. **Opaque Decision-Making:** The opaque nature of AI algorithms can obscure the criteria for evaluating merit, challenging the transparency and accountability of meritocratic ideals.
4. **Data Hegemony:** Tech giants' access to **vast data gives them an advantage in setting standards for merit in the digital age**, potentially sidelining smaller players with innovative ideas but limited access to data.

Solution:

A balanced solution to the debate on AI and meritocracy involves **leveraging technology responsibly while upholding the principles of fairness and equality**. This includes:

1. **Ethical AI Development:** Implementing stringent ethical guidelines for AI development to minimize biases and ensure transparent decision-making processes.
2. **Accessible Education:** Prioritizing accessible education and training programs to equip individuals with the skills needed to thrive in an AI-driven society, thereby democratizing opportunities.
3. **Continuous Adaptation:** Continuously adapting meritocratic systems to accommodate technological advancements and evolving societal needs, ensuring that everyone has a fair chance to succeed.
4. **Regulation and Oversight:** Implementing robust regulations and oversight mechanisms to prevent the concentration of power and data monopolies, promoting competition and innovation.
5. **Social Safety Nets:** Establishing comprehensive social safety nets to support individuals adversely affected by AI-driven changes, mitigating socioeconomic disparities and ensuring inclusivity.

Usage: The debate can be used in Essay/Sociology/PSIR/ Ethics of AI/ Indian Polity etc.

7. SCHOOL WHERE TEACHERS NEVER SHOUT AT CHILDREN

Context: At Uphall Primary School in Ilford, East London (United Kingdom), a different approach to discipline is taken. **Head-teacher Dr Kulvarn Atwal** believes in not shouting at pupils or resorting to detentions or suspensions. Instead, **misbehaving children are given learning opportunities through discussions about their actions, emotions, and alternative behaviours**.

The school's approach is **part of Unicef's 'rights respecting' scheme**, promoting children's rights and involvement in school life. It encourages **schools to adopt similar approaches to reduce absenteeism and suspensions**, aiming to create safer environments for children.

Other benefits:

This approach **fosters a positive and supportive environment**, encourages open communication, and promotes empathy and understanding. It helps children learn from their **mistakes, develop emotional intelligence, and build healthier relationships** with peers and adults.

8. CAPITALISM AND ITS TYPES

Context:

Capitalism exhibits diverse variations both between and within countries, with the classic division between **liberal market economies (LMEs) and coordinated market economies (CMEs)**.

What is Capitalism?

Capitalism is an economic system **characterized by private ownership of the means of production and the pursuit of profit**. In capitalist economies, goods and services are **produced and distributed based on market demand and supply**, with minimal government intervention. For example, the **United States, the United Kingdom, and Germany** are often cited as examples of countries with capitalist economies

Type of Capitalism:

Type of Capitalism	Characteristics
Liberal Market Economies (LMEs)	Examples: US, UK, Canada; Emphasis on free market principles; Minimal state intervention; Firms interact mainly through market mechanisms
Coordinated Market Economies (CMEs)	Examples: Germany, Japan; Firms rely on non-market relationships for coordination; Strong labour unions; Close collaboration between government and industry
Intermediate Models Between LMEs and CMEs	Mediterranean Capitalism: Found in Spain and Italy, combines elements from LMEs and CMEs, notable presence of family businesses and state intervention.
	East Asian Capitalism: Seen in South Korea and Singapore, mixes state-guided policies with market operations, often focusing on export-driven growth.
	Social Capitalism: Characteristic of Sweden, a blend of market mechanisms and strong social welfare systems.
	State-Guided Capitalism: E.g., China. The state plays a crucial role in controlling and guiding the economy, often through ownership of key sectors.
Types of Capitalism Varieties within a Country	Informal Sector: Small, labour-intensive businesses operating in competitive markets with less than 20 employees.
	Formal Competitive Sector: Medium-sized enterprises, operating in competitive markets as price-takers without significant market power
	Formal Oligopolistic Sector: A small number of large firms with significant market share, further divided into non-politically connected firms and politically connected oligopolistic sectors.

Major Ideas of Thinkers about Capitalism:

- Adam Smith:** Championed the concept of the **“invisible hand”** in **“The Wealth of Nations,”** arguing that individual pursuit of self-interest in free markets leads to overall societal benefit.
- Karl Marx:** Critiqued capitalism as inherently exploitative, with a focus on the class struggle between the **bourgeoisie** (owners of the means of production) and the **proletariat** (workers). He advocated for the **overthrow of capitalism in favour of socialism.**
- John Maynard Keynes:** Introduced Keynesian economics, advocating for **government intervention in the economy to manage demand and stabilize fluctuations.** He emphasized the role of aggregate demand and the importance of fiscal policy in achieving full employment and economic stability.

Indian Style of Capitalism:

The Indian style of capitalism **combines state intervention with market forces,** aiming for **inclusive growth.** It leverages a **diverse and youthful population** and fosters entrepreneurship. While facing challenges like bureaucratic hurdles, it adapts to **India’s unique developmental needs.** It provides a framework for **balancing social welfare with economic growth.**

Usage: It can be used in Economy Optional/GS3 paper/Essay

9. EQUAL OPPORTUNITIES POLICY FOR TRANSGENDER PERSONS

Context: The Ministry of Social Justice and Empowerment has introduced **India’s First Equal Opportunities Policy for Transgender Persons,** aimed at fostering a workplace environment devoid of discrimination, harassment, and bias.

Key highlights of the Policy:

Highlights	Details
	The policy aligns with the Transgender Persons (Protection of Rights) Rules 2020 and Transgender Persons (Protection of Rights) Act, 2019. It allows transgender individuals to choose their pronouns, gender, and preferred names, which must be respected in all official communications. It emphasizes confidentiality regarding gender identity and prohibits disclosure without consent. Bullying based on gender identity is strictly prohibited.

Scope	Applicable to all employees of MoSJE and its operations.
	Acts as a guiding document for business partner workforce, interns, trainees, etc.
Objective	To create an atmosphere ensuring fair treatment of transgender individuals , free from discrimination, harassment, and bias, while establishing a robust grievance redress mechanism.
Policy Statements	Non-discrimination and enabling work environment: Prohibits discrimination based on gender identity in recruitment, appointment, promotion, etc.
	Privacy and Confidentiality: Non-disclosure of gender identity without explicit consent.
	Access to Facilities: Ensure infrastructure facilities (such as Unisex toilets) and amenities (such as hygiene products) are provided to transgender persons.
	Grievance Redressal Mechanism: To redress instances of experienced discrimination or harassment based on gender identity.

10. ACCORDION TAX

The “**accordion tax**” is a progressive taxation system aimed at **redistributing income from the wealthy to the poor** while maintaining incentives for innovation and entrepreneurship. It operates by **taxing higher-income individuals more heavily**, similar to how an accordion expands and contracts.

Example:

In India, the **income tax rates increase as the taxable income increases**. Individuals with higher incomes are subject to higher tax rates, while those with lower incomes face lower tax rates.

Economic Thinker:

Economic Thinker	Views
Adam Smith	Emphasizes the importance of market forces and individual self-interest in driving economic growth . Argues against excessive government interference in taxation , favouring policies that promote competition and free exchange.
John Maynard Keynes	Supports progressive taxation and government intervention to reduce income inequality, aligning with principles of social justice and equitable wealth distribution.
Amartya Sen	Argues for a nuanced approach to taxation that considers its impact on social welfare and individual freedoms, emphasizing the importance of balancing redistribution with incentives for innovation and growth .
Jagdish Bhagwati	Expresses scepticism towards excessive taxation , warning of potential negative consequences on entrepreneurship and economic growth. Advocates for policies that encourage investment and innovation.
Abhijit Banerjee	Supports progressive taxation as a means to address income inequality and promote social welfare, but emphasizes the need for careful implementation to avoid disincentivizing wealth creation and economic dynamism.
Raghuram Rajan	Advocates for policies that strike a balance between addressing income inequality and fostering economic growth . Suggests that taxation should be designed to promote fairness while incentivizing productivity and investment.

11. HOMOSEP ATOM

Context:

India’s **first septic tank cleaning robot, the Homosep Atom**, developed by the startup Solinas incubated at the **DST-TBI of IIT Madras**, is revolutionizing sanitation practices across India.

Benefits: This innovative technology **eliminates manual scavenging** by employing robotic cleaning methods, reducing costs, and promoting sewer sanitation. The Homosep Atom has been **deployed in 16 cities**, offering extensive cleaning capabilities and **employing AI for the inspection and management** of confined spaces.

Solinas, with support from DST, specializes in developing miniature robots, addressing water and sanitation challenges, climate change issues, and human concerns like manual scavenging. Their technologies, such as **Endobot and Swasth AI**, detect and mitigate water contamination and pipeline defects, contributing significantly to water access and environmental sustainability.

Usage: The example can be used to show the values of:

1. **Firstly, it promotes human dignity** by preventing individuals from being subjected to hazardous and degrading work conditions.
2. **Secondly, it fosters equality by providing a safer and more dignified work** environment for sanitation workers, regardless of their background or social status.
3. **Additionally, it demonstrates responsibility towards society** by addressing a pressing social issue and contributing to public health and well-being.
4. **Finally, it reflects a commitment to innovation and progress** by leveraging technology to solve long-standing societal challenges and improve the quality of life for vulnerable populations.

12. GREEN ELECTION

Context:

Encouraging **eco-conscious electoral practices** in India is imperative amidst the climate crisis.

What is a Green Election?

A Green Election refers to an electoral process that **prioritizes eco-conscious practices** to minimize environmental impact. This includes **reducing carbon footprints** through measures such as using sustainable materials for campaign materials, adopting digital voting systems, **promoting energy-efficient transportation, and minimizing waste generation**

Initiatives for Green Elections in India and Worldwide:

India:

1. **Electronic Voting Machines:** Introduced during 1998-2001
2. **Kerala's Ban on Single-Use Plastic:** During the 2019 general election, the Kerala State Election Commission urged political parties to **avoid single-use plastic materials while campaigning**. The Kerala High Court subsequently imposed a **ban on flex and non-biodegradable materials in electioneering**.
3. **Goa's Eco-Friendly Election Booths:** In 2022, the **Goa State Biodiversity Board** implemented eco-friendly election booths for the Assembly elections, **utilizing biodegradable materials** crafted by local traditional artisans.

Worldwide:

1. **Sri Lanka: Carbon-Sensitive Election Campaign:** Sri Lanka's SLPP party launched the world's first carbon-sensitive environmentally friendly election campaign in 2019. They **measured carbon emissions from campaign vehicles and electricity usage** and compensated for these emissions by planting trees in each district, involving public participation.
2. **Estonia: Digital Voting:** Estonia introduced digital voting as an online alternative during elections. This method encouraged voter participation and reduced the environmental impact associated with traditional voting methods.

FACTS FOR PRELIMS

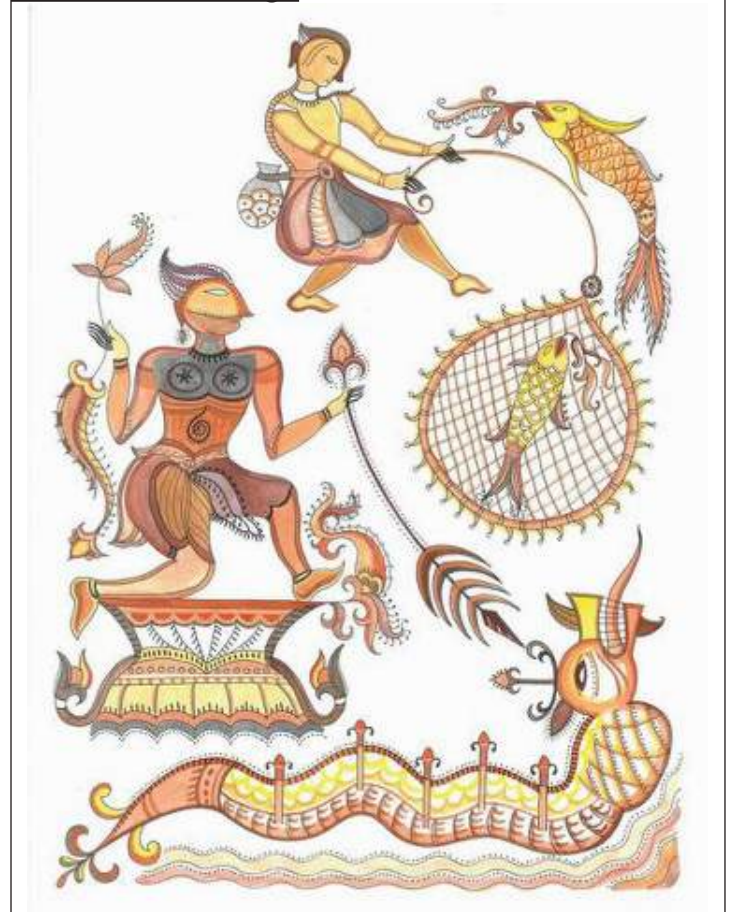
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1. SUBIKA PAINTINGS

Context:

An Assistant Professor from Manipur University is **dedicated to preserving the ancient painting style used in Puyas (archaic Manipuri manuscripts)**, specifically the **Subika paintings, which are on the verge of extinction**.

About Subika Paintings:



- The Subika painting style is **deeply connected to the**

Meitei community's cultural history through its **six surviving manuscripts** - Subika, Subika Achouba, Subika Laishaba, Subika Choudit, Subika Cheithil and Thengra-khel Subika.

- The paintings are a composition of **cultural motifs** created by **pre-existing features** and other influences. However, the **Subika painting style is nearly extinct due to neglect.**
- The Subika Laishaba is a composition of **cultural motifs influenced by the cultural worldviews of the community.**
- Its illustrations incorporate visual elements like **lines, shapes, forms, colours, and patterns.**
- These visual images serve as **cultural motifs, creating visual effects and expressing cultural significance.**
- The paintings are done on **handmade paper, and the materials for manuscripts, such as handmade paper or tree bark, are prepared locally.**

2. MAA KAMAKHYA DIVYA LOK PARIYOJANA

Context:

The Prime Minister laid the foundation stone for **Maa Kamakhya Divya Lok Pariyojana**, which aims to **enhance access and amenities for pilgrims visiting the Kamakhya temple (under the PM-DevINE scheme)**

The Kamakhya Temple is a significant pilgrimage site and one of the largest Shakti shrines in India. It is located on the **Nilachal hills in Guwahati, Assam.**

The temple is dedicated to the **goddess Kamakhya** and is a centre of **Tantric practices**. It is also the site of the **Ambubachi Mela**, an annual festival that celebrates the **goddess's menstruation.**

About

PM-DevINE is a Central Sector scheme introduced in the Union Budget 2022-23. It aims to fund infrastructure projects and support social development initiatives in the North-East Region (NER). Implemented by the Ministry of Development of the North-East Region, it focuses on ensuring connectivity, addressing critical issues, and empowering youth and women in the NER.

3. GRAMMY AWARDS 2024

Context:

Shankar Mahadevan and Zakir Hussain's fusion band Shakti earned recognition at the 66th Grammy Awards in Los Angeles, **winning the Global Music Album award for their album "This Moment."**

- **Formation: Shakti was formed in 1973** after the disbandment of the first Mahavishnu Orchestra.
- **Album: Shakti reformed in 2020** and released their first album in 46 years, **"This Moment," in 2023**, featuring eight new compositions.

- The highlight is the historic achievement of **Ustad Zakir Hussain winning three Grammys in one night.**

The Grammy Awards, often referred to simply as the Grammys, is an **annual ceremony recognizing outstanding achievements in the music industry.** Hosted by the **Recording Academy**, the awards cover various genres and categories, **including pop, rock, rap, country, classical, and more.** Winners are selected through a **voting process involving music industry professionals.** The Grammy Awards ceremony features live performances by popular artists and serves as a platform to celebrate artistic excellence and innovation in music.

4. UNDERWATER CANYON

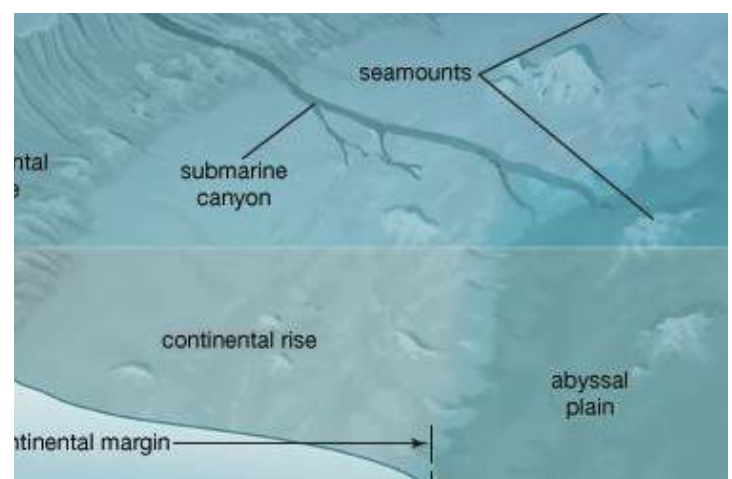
Context:

The Geological Institute of Israel has discovered a previously **unknown underwater canyon near Cyprus**, named **Eratosthenes after the nearby underwater mountain.**

- This canyon dates back to the **Messinian Event approximately 5.5 million years ago.**
- It measures about **10 kilometres wide and 500 meters deep and was formed during a period of decreased Mediterranean Sea levels and increased salinity**, resulting in gravity currents and subsidence of the seabed.

This discovery sheds light on the environmental conditions during the Messinian event, also known as the Messinian salinity crisis, **when the Mediterranean Sea experienced partial or nearly complete desiccation**

A submarine canyon is a **steep-sided valley that cuts into the continental slopes and rises of the ocean.**



5. SATYENDRA NATH BOSE

Context: Satyendra Nath Bose, born on January 1, 1894, and passing away on February 4, 1974, was an **eminent Indian mathematician and physicist renowned** for his collaboration with Albert Einstein in developing a **theory concerning**

the gas-like properties of electromagnetic radiation.

- Bose’s contributions to quantum physics are significant, **with his name associated with the Boson particle, Bose-Einstein condensate, and Bose-Einstein statistics.**
- His achievements earned him prestigious honours, **including the Padma Vibhushan, India’s second-highest civilian award,** and a Nobel Prize nomination for his contributions to Bose-Einstein statistics.

Contributions:

His ground-breaking work **introduced a new class of particles and laid the foundation for quantum statistics,** bridging the gap **between classical and modern quantum mechanics.** His collaboration with Einstein led to the **development of the Bose-Einstein condensate theory, predicting the existence of a unique state of matter.** Deduced **Planck’s Black body radiation** law without any reference to classical electrodynamics. Einstein applied Bose’s method to give the theory of ideal quantum gas and predicted the phenomenon of Bose-Einstein Condensation (BEC).



6. KOKBOROK

Context: After protests and dialogue, the **Tripura Board of Secondary Education (TBSE)** has announced that both **Roman and Bengali scripts will be allowed for Kokborok exams**

Kokborok is the **mother tongue of the Borok people,** also

known as Tripuris, **residing in Tripura and other North-Eastern states,** including Uttarakhand. As a member of the **Tibeto-Burman language** family, it serves as the **lingua franca among various tribal communities in Tripura.** Additionally, Kokborok is officially recognized as **one of the state languages of Tripura**

7. DEEPASTAMBHAM (LAMP POST)

Context:

Archaeologists in Nalgonda, Telangana, uncovered a significant discovery - **a 20-foot-tall lamp post along the River Krishna,** shedding light on the **region’s trade connections during the early medieval period.**

- The pillar, bears a **multi-lingual inscription dating back to June 1635,** primarily in Telugu with traces of Tamil.
- Dedicated to **Kasi Viswanatha,** the pillar likely served as a **lighthouse on the riverine trade route due to its imposing height.**
- The inscription credits Madiraju Narasayya for engraving it and Polinedu, son of Vali Munulayya, for its erection.
- This finding suggests active trade links in the area, **supported by the discovery of an eighth-century inscription from the Badami Chalukya era,** affirming the village’s role in trade routes over millennia.

8. PARUVETA UTSAVAM

Context:

Efforts are underway to **secure UNESCO recognition for the annual ‘Paruveta’ (mock hunting festival)** held at **the Sri Narasimha Swamy temple in Ahobilam** as an **‘intangible cultural heritage’.**

- Legend has it that Lord Vishnu, in **his incarnation as Narasimha,** married **a tribal girl named Chenchulakshmi,** and the festival commemorates this union.
- Participants observe **‘Narasimha Deeksha’** by wearing yellow robes and **‘Tulasi Mala’** and practicing celibacy.
- The festival highlights the **absence of caste discrimination,** with temple staff residing in tribal hamlets throughout the event.
- The ceremony **involves tribals shooting arrows at the deity’s palanquin as a sign of reverence and protection.**

The Ahobila Mutt has historically promoted the festival to spread Srivaishnavism among tribal communities, further affirming the tribal link to Lord Vishnu.

9. 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.**




10. 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> 
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Known as the ‘Father of the Green Revolution.’	Almost quit politics before becoming Prime Minister in 1991.	Prominent political figure in Uttar Pradesh.
Played a significant role in revolutionizing farming in the 1960s and 1970s.	Emerged as Congress President after the assassination of Rajiv Gandhi.	Advocated for peasant rights and rural issues.
Inspired by the Bengal famine and Mahatma Gandhi’s Quit India Movement.	Preferred choice due to experience and support from key figures.	Instrumental in implementing legislation for zamindari abolition and land ceiling.
Dedicated career to agricultural research, serving in various institutions globally.	Elected Congress President in May 1991.	Became UP’s first non-Congress Chief Minister in 1967.
Developed high-yielding varieties of rice and wheat essential for India’s staple foods.	Became Prime Minister in June 1991 after the party’s electoral success.	Entered national politics, serving as Deputy Prime Minister under Morarji Desai.
Collaborated with Nobel laureate Norman Borlaug in developing semi-dwarf wheat varieties.	His candidacy was supported by key figures like President R Venkataraman.	Short-lived tenure as Prime Minister in 1979, lasting only 23 days.
<u>RECOGNIZED GLOBALLY, INCLUDING BEING THE FIRST WORLD FOOD PRIZE LAUREATE IN 1987.</u>		Hailed as a champion of the peasantry and is credited with creating a new political class encompassing farming communities.
Recommended fair minimum support prices for crops, ensuring farmers’ welfare.		<u>HIS POLITICAL INFLUENCE AND LEGACY CONTINUE THROUGH HIS FAMILY, PARTICULARLY HIS SON AJIT SINGH AND GRANDSON JAYANT CHAUDHARY.</u>



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	<p>Enhanced crop productivity: Conducted research on transferring genes for fertilizer response from Japonica varieties to Indica varieties, enhancing crop productivity.</p> <p>Dwarf variety of Wheat: Collaborated with Norman Borlaug to develop high-yielding dwarf wheat varieties suitable for Indian conditions.</p> <p>Developing high-yielding Basmati rice varieties, innovative use of mutation technology for various crops</p> <p>Raised awareness about the importance of sustainable agriculture, genetics, and breeding in improving crop varieties.</p> <p>Launched programs like "lab to land"</p>
Fair Minimum Support for Farmers	<p>Served as the head of the National Commission on Farmers and recommended fair minimum support prices for farmers' crops.</p> <p>Focus on nutrition, biofortification, funding for agriculture, precision farming, and promoting women in agriculture</p>
Leadership	<p>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</p> <p>Swaminathan is hailed as a true visionary and pioneer in agriculture and sustainable development</p>

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11. 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.

- 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

12. 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.

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13. 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.**

14. 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 Mudra in the left hands, along with bangles.



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.**

15. JNANPITH AWARD

Context: Renowned poet and lyricist **Gulzar**, along with **Sanskrit scholar Swami Rambhadracharya**, has been honoured with the prestigious **Jnanpith Award**.

- The award recognizes their **exceptional contributions to literature**.
- Gulzar is celebrated for his **impactful poetry and timeless lyrics in Bollywood**, while Swami Rambhadracharya is acknowledged for his **scholarly works in Sanskrit**.

The **Jnanpith Award** is a prestigious accolade in the **field of literature**, highlighting the remarkable achievements of **individuals who have enriched the literary landscape with their talent and dedication**.

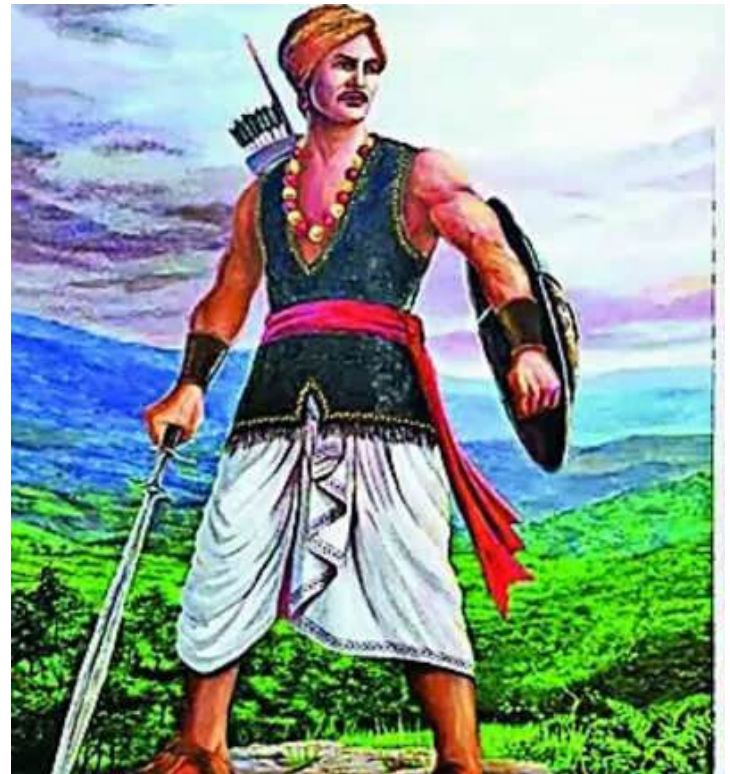
16. U TIROT SING

Context:

A statue of **U Tirot Sing**, a **Khasi freedom fighter** who **rebelled against British colonialism** around 200 years ago, was **unveiled at the Indira Gandhi Cultural Centre in Dhaka**.

About Tirot Sing:

- **Tirot Sing**, also known as **'the Hero of the Khasi Hills'**, led an **attack against British forces in 1829, resisting their attempts to control the Khasi Hills**.
- Captured after the **Anglo-Khasi War**, he **died as a political prisoner in Dhaka in 1835**.



17. RIP CURRENTS

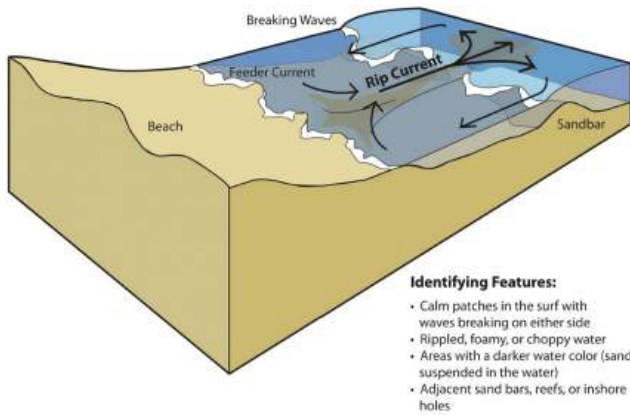
Context:

The **Indian National Centre for Ocean Information Services (INCOIS)** and the **Indian Space Research Organisation (ISRO)** are collaborating on a **project to monitor rip currents more effectively to enhance beach safety**.

About Rip Currents:

- A rip current is a **strong, narrow flow of water moving directly away from the shore, cutting through the lines of breaking waves**.
- They pose a **significant risk to beachgoers who might inadvertently enter one and attempt to swim directly back to shore**, a response that can lead to exhaustion and, in the worst cases, drowning.
- It's crucial to **distinguish rip currents from rip tides**, with the latter relating to tidal movements through narrow coastal features and not the shore-directed flow of rip currents.

Rip Current



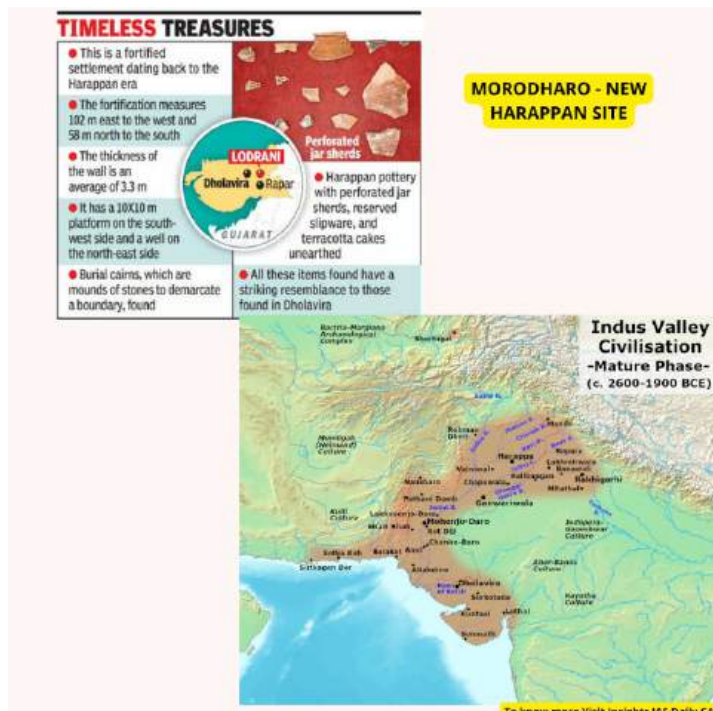
The Indian National Centre for Ocean Information Services (INCOIS) is an autonomous organization that provides ocean information services. It was established in 1999 as a division of the Earth System Science Organization (ESSO) in New Delhi.

18. MORODHARO

Context:

Residents of Lodrani, unearthed a Harappan-era fortified settlement.

- The site, named Morodharo, yielded a large quantity of Harappan pottery similar to that found in Dholavira.
- The settlement, dating back 4,500 years, shows architectural similarities to Dholavira and depended on the sea, suggesting that the desert was once navigable water.



19. CHHATRAPATI SHIVAJI MAHARAJ

Context:

Pune city commemorated the birth anniversary of Chhatrapati Shivaji Maharaj.

- Maharashtra Chief Minister paid tribute to Shivaji Maharaj at Shivneri Fort.

About Chhatrapati Shivaji Maharaj:

- Chhatrapati Shivaji Maharaj, born in 1630 in Shivneri in what is now Maharashtra, India, was a revered warrior king and the founder of the Maratha Empire.
- His leadership was marked by his dedication to the welfare of his subjects, regardless of their caste or religion, earning him the title "Rayatecha Raja" (King of the People).

Shivneri Fort is an ancient military fortification in the Pune district of Maharashtra, India.

The 17th-century fort is known as the birthplace of Chhatrapati Shivaji Maharaj, the founder of the Maratha Empire. It was an important citadel during Maratha rule.

Shivaji Maharaj

Context: 350th anniversary of Chhatrapati Shivaji Maharaj's coronation is being celebrated

	Description
	Shivaji Maharaj was a Maratha warrior king who lived from 1630 to 1680 . He was the founder of the Maratha Empire in western India and is known for his military strategies, administrative skills, and promotion of Hindu self-rule.
Birth	Born on 19th February 1630 at Shivneri Fort in District Pune to Parents: Shahaji Bhonsle and Jijabai
Early Life	Showed military zeal by gaining control of Torna Fort and Kondana Fort from Adil Shah of Bijapur (in 1645 when he was still a teenager)
Important Battles	Battle of Pratapgad, 1659; Sacking of Surat, 1664; Battle of Purandar, 1665 (Fought between the Mughal Empire and Maratha Empire); Battle of Kalyan, 1682-83 (Bahadur Khan of the Mughal Empire defeated the Maratha army and took over Kalyan); Battle of Sanganner, 1679 (Fought between the Mughal Empire and Maratha Empire. This was the last battle in which the Maratha King Shivaji fought)
Conflict with Mughals	In the late 1650s and early 1660s, Shivaji Maharaj raided Mughal territories near Ahmednagar and Junnar. In 1664, Shivaji sacked the wealthy Mughal trading port of Surat. In June 1665, the Treaty of Purandar was signed between Shivaji and Raja Jai Singh I, representing Aurangzeb. The treaty involved relinquishing many forts to the Mughals and an agreement for Shivaji to meet Aurangzeb in Agra, along with sending his son Sambhaji .
Arrest of Shivaji	When Shivaji went to meet the Mughal emperor at Agra in 1666 , he felt insulted by Aurangzeb and left the court. He was arrested and imprisoned , but he cleverly escaped with his son in disguise.
Granted Title	Crowned as king of the Marathas in 1674, at Raigad; Took on titles of Chhatrapati (Monarch), Shakakarta, Kshatriya Kulavantas, and Haindava Dharmodhhaarak
Death	Died on 3rd April 1680 Visit Insights IAS Daily Current Affairs to know more

20. RANI CHENNAMMA

Context: Commemorating the 200th anniversary of Rani Chennamma's rebellion, social groups across India are organizing a national campaign called "Naanoo Rani Chennamma" (I am Rani Chennamma too).

- This campaign aims to empower women to fight against patriarchal, anti-democratic, and casteist forces in the country, drawing inspiration from Rani Chennamma's legacy of courage and resistance.

About Rani Chennamma:

Rani Chennamma, the **Queen of Kittur**, led the **Kittur revolt of 1824**, one of the earliest woman-led **anti-colonial struggles against British rule in India**. Born in 1778 in present-day Karnataka, she married **Raja Mallasarja of Kittur** and played a **crucial role in defending her kingdom after his death**.

When the British refused to recognize her adopted son as the **successor under the 'doctrine of lapse'**, she led a **rebellion against them**.

Despite initial success, the **British eventually captured Kittur Fort in December 1824**, leading to Rani Chennamma's **imprisonment and subsequent death in 1829**. Her bravery and leadership in resisting **colonial oppression have made her a symbol of Karnataka's political imagination and a significant figure in Indian history**.



21. MAKHA BUCHA

Context:

On **Makha Bucha**, nearly 100,000 devotees in **Bangkok paid homage to the Sacred Relics of Lord Buddha** and his two disciples, **Arahata Sariputra and Arahata Maudgalyayana**.

Arahata Sariputra and Arahata Maudgalyayana are two of the **Buddha's most important disciples**. They are often depicted together in **Buddhist art**, with Sariputra on the **Buddha's right** and Maudgalyayana on his left.

- These relics were brought from India.
- The four **Holy Piparahwa Relics** were enshrined at the specially **built Pagoda in the Sanam Luang Pavilion in Bangkok on February 23rd for public veneration**.

Makha Bucha, also known as **Māgha Pūjā**, is a **Buddhist holiday** that marks a three-day period and is celebrated in **many countries, including Thailand, Cambodia, Myanmar, and Sri Lanka**.

Makha Bucha Day is a significant Buddhist holiday that commemorates the **"fourfold assembly of 1,250 enlightened monks"** that took place over **2,500 years ago**. The meeting is

known as the **Chaturangasannibat, or the Fourfold Assembly**, and is considered a religious miracle in Buddhist lore.



22. BADAMI CHALUKYA TEMPLES

Context:

Two **Badami Chalukya temples**, estimated to be **1,300-1,500 years old**, along with a 1,200-year-old label inscription, were recently **discovered in Mudimanikyam village on the banks of the Krishna River**.

- The Badami **Chalukyas**, established by **Pulakesi I in 550 AD**, ruled from **Badami (Vatapi) in Karnataka**.
- They were known for their **unique Vesara style of architecture**, a blend of **South Indian and North Indian styles**, seen in monuments like the rock-cut temples of **Pattadakal, Badami, and Aihole**.

GS-2

1. 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 helminthiases**.

2. '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.

3. 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**.

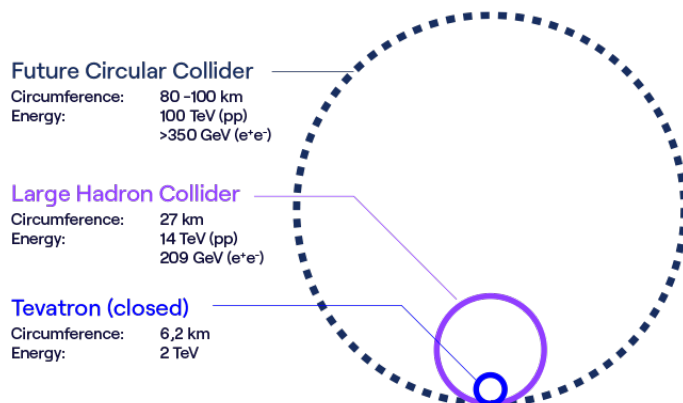
- Estimated to cost around 16 billion euros, the **collider aims to commence operations by 2040**

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**.



4. 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.

5. 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.

6. 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**.

7. 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 KFRI Field Research Centre in Thrissur**.
- It’s named after **Syam Viswanath, a former director of KFRI**. 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**.

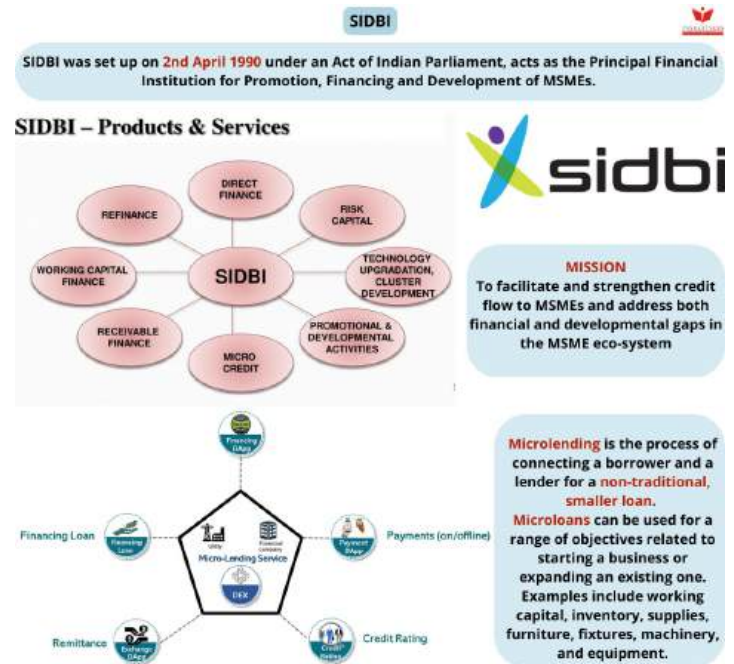
The discovery was made by **researchers from KFRI, the Botanical Survey of India, and the University of Hyderabad**, and the findings were published in the **journal Persoonia - Molecular Phylogeny and Evolution of Fungi**.

8. PRABHA AV

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

- REFINANCE
- DIRECT FINANCE
- RISK CAPITAL
- WORKING CAPITAL FINANCE
- TECHNOLOGY UPGRADATION, CLUSTER DEVELOPMENT
- PROMOTIONAL & DEVELOPMENTAL ACTIVITIES
- RECEIVABLE FINANCE
- MICRO CREDIT

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

Micro-lending 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.

Financing Loan, Remittance, Micro-Lending Service, Payments (on/offline), Credit Rating

9. 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 **whole-sale 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 whole-sale 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**.

10. 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, MIIS, and KCC

These initiatives aim to empower **farmers technically and digitally**, aligning with the government's vision to transform India's agriculture sector.

11. 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.**

12. 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.**

13. 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.**

14. 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.**

15. KAJI NEMU

Context:

The Assam government has declared '**Kaji Nemu**' (**Citrus Limon**) as the state fruit, highlighting its unique aroma, anti-oxidant 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.



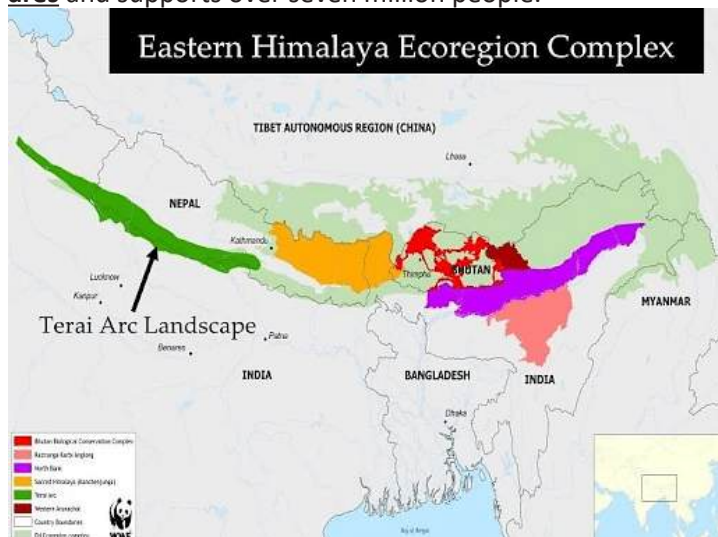
16. TERAJ ARC LANDSCAPE (TAL)

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**

17. 'E-JAGRITI' PORTAL

Context:

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

What is 'E-Jagriti' Portal?

The e-Jagriti 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**.

18. 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.

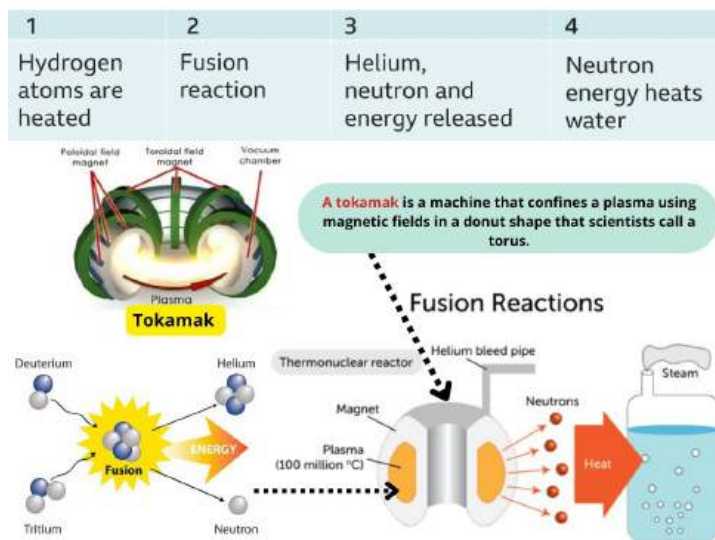
What is JET?

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.

19. 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 **manually 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**.



20. DATA EXCLUSIVITY

Context:

India has **rejected the demand for 'data exclusivity' in on-going 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.

21. 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**.

22. 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**.

- 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.

23. 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**.

24. 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.

Targeted holders	Stakeholders	Targets various stakeholders in the fisheries value chain, including fishers, fish farmers, fish workers, fish vendors, and micro and small enterprises.
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25. 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**.

26. 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 within 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.

27. 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.

28. 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.

29. 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.

30. 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.

31. 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.

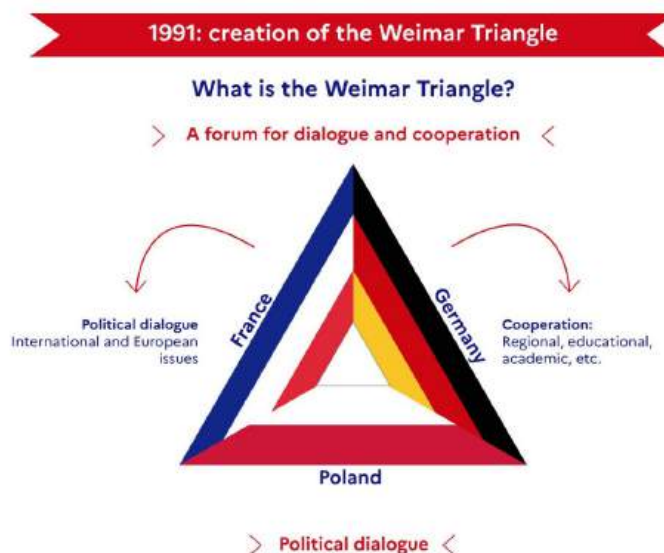
PM-WANI, or Prime Minister Wi-Fi Access Network Interface, is a scheme launched by the **Department of Telecom (DoT) in December 2020**. The scheme aims to increase the number of **public Wi-Fi hotspots in India, especially in rural areas**, to create a robust digital communication infrastructure

32. 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**.



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.

33. 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 inter-governmental 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.

34. 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**.

35. GHAR (GO HOME AND RE-UNITE) PORTAL

Context:

The **National Commission for Protection of Child Rights (NCPCR)** has launched the **GHAR (GO Home and Re-Unite) Portal** for the digital monitoring and tracking of the **restoration and repatriation of children** as per the protocols under the **Juvenile Justice (Care and Protection of Children) Act, 2015**.

- The portal facilitates the **digital tracking and monitoring of children** in the Juvenile Justice system who need to be **repatriated to another country, state, or district**.
- It enables the **digital transfer of cases to the concerned Juvenile Justice Board/Child Welfare Committee** for speedy repatriation and allows for requests for **translators or interpreters if required**.

The **National Commission for Protection of Child Rights (NCPCR)** is a statutory body in India that was **established in 2007**. The NCPCR's mandate is to ensure that **all laws, policies, and administrative systems** align with the **rights of the child as outlined in the Constitution of India** and the **United Nations Convention on the Rights of the Child**

36. C-CARES

Context:

The Union Minister of Coal, Mines, and Parliamentary Affairs, inaugurated **the C-CARES web portal of the Coal Mines Provident Fund Organization (CMPFO)**.

- Developed by the **Centre for Development of Advanced Computing (C-DAC)**, the portal marks a **significant step in digitizing CMPFO's records and processes**.
- CMPFO administers the **Provident Fund and Pension schemes for coal sector workers**.
- The portal **enables online processing and settlement of PF and pension claims**, enhancing efficiency, transparency, and record management.
- C-CARES allows subscribers to **access their details and subscription status**, while coal management can submit contributions, subscriber particulars, and claims for online settlement.

37. ARTICLE 142

Context: The Supreme Court of India, has ordered the release of a **man sentenced to 20 years in jail for raping a minor girl whom he later married in 2014**.

- The court invoked its **powers under Article 142 of the Constitution** due to the **peculiar circumstances of the case**, despite previously upholding the conviction twice.
- Judgement was delivered in response to curative petition which is **the last recourse open to a petitioner after the review petition is dismissed**.

Article 142 of the Constitution of India gives the **Supreme Court the power to pass any decree or make any order to ensure complete justice in any matter pending before it**

Any decree so passed or order so made shall be **enforceable throughout the territory of India**

38. LOKPAL

Context:

A committee led by Prime Minister Narendra Modi has selected **Supreme Court judge Ajay Manikrao Khanwilkar** as the new **chairperson of Lokpal**, and Aeratu S. Rajeev, managing director of Bank of Maharashtra, as the **Vigilance Commissioner**

Lokpal is an anti-corruption authority or body of ombudsman that represents the public interest. The Lokpal Act was passed in 2013 and came into force on January 16, 2014. The Lokpal's purpose is to inquire into **allegations of corruption against public functionaries**

Lokpal and Lokayukta

■ No Lokayukta bill
■ Having Lokayukta bill

Context: A parliamentary panel report has pointed out that Lokpal disposed of **68% corruption complaints** against public servants without any action in the last 4 years.

The Lokpal of India is India's first anti-corruption body instituted in 2019 to investigate complaints against public functionaries, including the Prime Minister. Though the Lokpal Act was passed in 2013, the country's first Lokpal, **Justice Pinaki Chandra Ghosh**, was appointed in 2019 along with eight other members.

Basis for Comparison	Lokayukta	Lokpal
Meaning	Lokayukta is the body operating at state level, set up to investigate individual's complaints against public servants or any politician with respect to corruption.	Lokpal is the body operating at union level, set up to investigate individual's complaints against public servants or any politician with respect to corruption.
Jurisdiction	All the members of legislative assembly and state government employees.	All the members of Parliament and central government employees.
Appointment	Governor	President
Members	It is a three member body, (depending on the state laws)	It comprise of a maximum of eight members. <small>Visit insights IAS Daily CA for detailed news.</small>

39. REGISTRATION OF NRI, OCI MARRIAGES

Context:

The **Law Commission's 287th report** proposes mandatory registration of marriages involving **Non-Resident Indians (NRI) and Overseas Citizens of India (OCI)** to address the challenges **faced by Indian women deserted by their NRI or OCI spouses**.

Key Recommendations:

- The report suggests revisions to the pending **Registration of Marriage of Non-Resident Indians Bill, 2019, to include OCIs and enforce new provisions**.
- These provisions cover penalties **for failure to register divorce, maintenance, child support, and non-compliance with legal procedures**.
- The recommendation aims to **combat fraudulent marriages and provide legal recourse for women vulnerable to abandonment or exploitation**.

Additionally, the report suggests **amending the Passport Act, 1967, to require marital status declaration in passports** and establishing a separate division within the Ministry of Home Affairs or External Affairs to maintain a registry for NRI and OCI marriages.

40. MISSION BASUNDHARA 4.0

Context:

Assam Chief Minister announced the initiation of a **survey of land within char (riverine) areas under Mission Basundhara 4.0**, aimed at settling land in these regions.

- **Mission Basundhara is a program in Assam**, India that aims to **make land revenue services** more accessible to citizens. The program includes **land-related services** like:
 - Land mutation
 - Updating land records
 - Delivery of services to people at their homes through online mode

Mission Basundhara 1.0 was launched on October 2, 2021, and Mission Basundhara 2.0 was launched on November 14, 2022. **Mission Basundhara 3.0 will aims to ease the process of buying and selling land and end conflicts between families** arising out of land boundaries.

The **riverine areas (island) of the river Brahmaputra**, locally known as **"Char/ Chapori"**
The chars follow a **peculiar pattern of migration**. They are **subjected to erosion on their upstream and deposition on the downstream**, due to which they migrate downstream.

41. SC: TN GODAVARMAN RULING

Context: The Supreme Court of India has temporarily suspended the implementation of the **Van (Sanrakshan Evam Samvardhan) Adhiniyam, 2023**, which activists and experts

claimed diluted **environmental protections for forests.**

- The court’s interim order mandates that the **identification of forests should adhere to the “dictionary definition” of forests**, in line with a **precedent set by a 1996 ruling (the TN Godavarman ruling)**, which expanded the **definition of forests beyond those officially recorded or notified.**
- The establishment of **“zoos or safaris”** by any government or authority **should not be consented to without the final approval of the apex court.**

T.N. Godavarman Thirumulpad vs Union of India Case (1996), concerned authorities used to apply the provisions of the Act only to the forests notified under the Indian Forest Act of 1927.

As per Judgement “forest” covered include: All areas recorded as **“forest” in any government (Union and State) record.**

All areas that **conformed to the “dictionary” meaning of forest.** Areas identified as “forests” by an expert committee of SC.

42. PM-USHA SCHEME

Context:

Six universities in Uttar Pradesh have each been awarded ₹100 crore in funding under the **Pradhan Mantri Uchchar Shiksha Abhiyan (PM-USHA) scheme**, aimed at developing these institutions as **multi-disciplinary education and research universities (MERUs).**

- The funding aims to **upgrade laboratories, modernize classrooms, foster innovation hubs, and promote interdisciplinary research**, thereby improving the **quality of higher education and making it more inclusive for women, minorities, SC/ST/OBCs, and special-abled persons.**
- The initiative reflects a **significant investment in India’s educational infrastructure**, aiming to **elevate the nation’s knowledge landscape and ensure higher education opportunities for socially disadvantaged communities.**

The Pradhan Mantri Uchchar Shiksha Abhiyan (PM-USHA) scheme **is a National Education Policy RUSA scheme** that aims to **strengthen higher education institutions in India.** The scheme has two phases, with the first launched in 2013 and the second in 2018.

43. GOVERNMENT PROPOSES HIKE IN MINISTRIES’ FINANCIAL REPORTING LIMITS

Context:

Parliament’s Public Accounts Committee (PAC) has approved the Finance Ministry’s proposal to **raise reporting limits for new policy-related expenditures** by ministries/departments.

What does the new reporting limit mean?

The new reporting limit **dictates the amount of spending** that requires prior approval or oversight from Parliament or other relevant authorities.

The new limits are **set above Rs 50 crore but not exceeding Rs 100 crore**, with mandatory **prior approval of Parliament for spending over Rs 100 crore.** The move comes after **nearly 18 years** and is in line with GDP growth and budget size expansion. The revision also covers **New Service (NS) and New Instrument of Service (NIS) expenditure**, aiming to encourage better budget estimation by ministries.

Aim: This revision aims to **reduce delays in project execution** caused by frequent supplementary demands for grants. The proposed changes are expected to **streamline the spending process and improve decision-making** while ensuring parliamentary oversight.

About NS and NIS:

Category	New Service (NS)	New Instrument of Service (NIS)
Definition	Expenditure arising from a new policy decision not previously brought to Parliament.	Relatively large expenditure for expanding an existing policy.
Purpose	Includes new activities or investments.	Involves significant expansion of an existing policy.
Amendments’ Objective	Encourage ministries to better estimate budgetary needs.	Address a surge in supplementary proposals , reducing delays in project execution.

About PAC:

Public Accounts Committee (PAC)	
Establishment	Introduced in 1921 under the Government of India Act, 1919 (Montford Reforms), existing in the Indian Constitution since then.
Purpose	Exercise's oversight of public expenditure scrutinizes the value for money of government projects, programs, and service delivery, and holds government officials accountable for public spending.
Responsibilities	Examines annual audit reports of CAG, including appropriation accounts, finance accounts, and public undertakings.
Composition	Comprises 22 members from the Indian Parliament , with 15 elected from Lok Sabha (Lower House) and 7 from Rajya Sabha (Upper House).
Accountability	Holds government and civil servants accountable for economy, efficiency, and effectiveness of public spending .

44. AUTHORISED CAPITAL OF FOOD COOPERATION OF INDIA (FCI)

Context:

The government has **raised the authorised capital of FCI from ₹10,000 crore to ₹21,000 crore** to bolster its operational capabilities and fulfil its mandate effectively.

What is Authorised Capital?

Authorized capital, also known as **nominal or registered capital**, refers to the **maximum amount of share capital** a company is permitted to issue as outlined in its Memorandum of Association (MoA). The company **cannot issue shares beyond this specified amount**. For the Food Corporation of India (FCI), an enhanced authorized capital would facilitate initiatives such as:

1. Modernizing storage facilities
2. Improving transportation networks
3. Adopting advanced technologies
4. Alleviate the interest burden of FCI

About Food Corporation of India (FCI):

It is a **Public Sector Undertaking** under the Department of Food & Public Distribution, Ministry of Consumer Affairs, Food, and Public Distribution. Established in **1965 under the Food Corporations Act 1964**, FCI was created to address **significant grain shortages, particularly in wheat**. It operates alongside the **Commission for Agricultural Costs and Prices (CACP)**, which recommends **fair prices to farmers**. FCI's main responsibilities include **purchasing, storing, transporting, distributing, and selling food grains** and other essential food items.

Related news:

Exports by APEDA

Source: [PIB](#)

Context: In the fiscal year 2022-23, APEDA accounted for nearly half (USD **26 billion**) of the **total agricultural exports** (which stood at nearly USD 53 billion).

About APEDA:

Established under **the Agricultural and Processed Food Products Export Development Authority Act, 1985**, APEDA is mandated with promoting and developing exports of scheduled products including **fruits, vegetables, poultry, dairy, and confectionery products**. APEDA also, serves as the **Secretariat to the National Accreditation Board**, accrediting certification bodies under the **National Programme for Organic Production**.

45. ARTICLE 142

Context: The Supreme Court **utilized its authority under Article 142 of the Constitution** to **nullify the outcome of the January 30 Chandigarh mayoral election** due to deliberate invalidation of eight ballots by the presiding officer.

- It emphasized the need to **uphold the sanctity of electoral democracy** and **cited potential harm to democratic principles if irregularities were allowed**.

Article 142 gives the Supreme Court the discretion to **pass decrees or make orders that are necessary for complete justice in any case or matter pending before it**. This power can be used when the **law or statute does not provide a remedy**. In

these situations, the court can extend itself to resolve a dispute in a way that fits the facts of the case

46. FACT-CHECK UNIT

Context:

The **Bombay High Court** delivered a split verdict on petitions challenging the constitutionality of the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2023 (IT Rules)** that permit a **“Fact Check Unit” (FCU) of the Union Government to identify “fake or false or misleading” online content “related to the business of the Central Government”** and demand its removal.

The **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules, 2023 (IT Rules)** are intended to regulate **online gaming and misinformation**. The rules include new provisions, such as:

Fact-check unit

The union government is **now able to create a fact-checking unit (FCU) to fact-check online information related to the government**. The FCU can review online comments, news reports, and opinions about government officials and ministries and tell online intermediaries to censor them.

Online gaming

Intermediaries are prohibited from **hosting, publishing, or sharing any online game** that can cause the user harm or that has not been verified as a permissible online game by an SRB.

Online games and advertisements

No platform can **allow harmful unapproved online games and their advertisements**.

False information

Platforms should **not share false information about the Indian government**, as confirmed by a fact-checking unit.

47. IBSA FUND

Context:

India has **contributed \$1 million** to the **Poverty and Hunger Alleviation Fund**, which is part of the **India, Brazil, and South Africa (IBSA) initiative**.

- This contribution reflects India’s commitment to **promoting cooperation and development among nations of the Global South**.

The IBSA Fund, **established in 2004** and operational **since 2006**, aims to implement projects in developing countries to alleviate poverty and hunger, aligning with internationally agreed development goals.

IBSA may refer to the **India-Brazil-South Africa Dialogue Forum**, which is a **tripartite grouping that promotes international cooperation between India, Brazil, and South Africa**. IBSA was established in June 2003 to contribute to the construction of a new international architecture.

48. GLOBAL INITIATIVE ON DIGITAL HEALTH (GIDH)

Context:

The **World Health Organization (WHO)** launched the **Global Initiative on Digital Health (GIDH) virtually**, in line with one of the priority areas agreed upon during **India’s G20 presidency in 2023**.

- The initiative aims to **facilitate the sharing of knowledge and digital health products among countries**.
- GIDH will prioritize assessing **Member States’ needs, evaluating digital health resources, supporting the achievement of strategic objectives, and building capacity for digital health technologies**.
- It will address variability in **digital solutions by promoting best practices and standards**.

It will function as a **“Network of Networks,”** focusing on four foundational pillars:

- Country Needs Tracker** - facilitating digital health investments to be informed by country priorities;
- Country Resource Portal** – identifying traditional as well as **innovative resource opportunities, and promoting transparency**, while reducing the risk of duplication for enabling a standards-based prospective and retrospective analysis of resourcing gaps in digital health.
- Transformation Toolbox** – advocating for **quality-assured tools and resources** that strengthen the country’s capacity and autonomy to manage the national digital health transformation.
- Convening and Knowledge Exchange** - promoting **strengthened collaboration and knowledge exchange** across global, regional, and national networks in digital health.



49. RIGHT TO ADOPT A CHILD

Context: The Delhi High Court upheld alterations to **Adoption Rules under the Juvenile Justice (Care and Protection of Children) Act, 2015**, clarifying that the **right to adopt children is not a fundamental right**.

- The ruling came in response to a case concerning **regulations barring parents with two children from adopting a 'normal child.'**
- The court endorsed the decision to **prioritize children with special needs for adoption, even applying the new policy to pending adoption applications.**
- The court clarified that the **right to adopt does not constitute a fundamental right under Article 21 of the Constitution** and does not grant prospective adoptive parents the authority to demand their choice of adoptee.

50. SHOMPEN TRIBE

Context: Experts warn that the **development of Great Nicobar** into a shipping hub and tourist destination could lead to the extinction of the **indigenous Shompen tribe.**

- The \$9 billion development plan could **introduce 650,000 people to the island, increasing the risk of contact and diseases that could devastate the Shompen.**

The Shompen are an **indigenous group of people who live on Great Nicobar Island** in the Andaman and Nicobar Islands. They are **hunter-gatherers who hunt wild game, forage for fruits and forest foods, and farm yams, roots, vegetables, and tobacco.**

The Shompen are one of the **most populated tribes in the Andaman and Nicobar Islands, with around 200–300 people living mainly on Great Nicobar Island.** They were first contacted in the 1840s and are **designated as a Particularly Vulnerable Tribal Group (PVTG)**

There are six main tribes in the Andaman Islands: **the Great Andamanese, Onge, Jarawa, Sentinelese, Shompens, and Nicobarese**

51. RASHTRIYA UDYAMITA VIKAS PARIYOJANA

Context:

The Union Minister of Education and Skill Development & Entrepreneurship, **inaugurated the Rashtriya Udyamita Vikas Pariyojana.**

Features of the scheme:

- This initiative, **tailored for PM SVANidhi scheme beneficiaries, aims to provide comprehensive entrepreneurship training over 22 weeks, combining theoretical knowledge with practical exposure.**
- The training will be conducted **offline, online, and in hybrid modes, with certificates awarded upon completion.**
- The project will be implemented through **20 Centres of the National Institute of Entrepreneurship and Small Business Development (NIESBUD) and 10 Centres of the Indian Insti-**

tute of Entrepreneurship (IIE), initially focusing on selected districts with a 40% participation target for women.

The project reaffirms the government's commitment to **harnessing skill potential and fostering a culture of entrepreneurship, aligning with the vision of a "Kushal Bharat Viksit Bharat."**

52. INCOME TAX BY POLITICAL PARTIES

Context:

The Congress party alleged that the **Income Tax Department instructed banks to transfer over Rs. 65 crore from its accounts, amidst a pending challenge of a Rs. 210 crore tax demand.**

- **Section 13A of the Income Tax Act, 1961 provides 100% exemption to political parties on income from specified sources, subject to conditions such as maintaining proper accounts, auditing, and reporting donations.**
- Parties must **file returns if their total income exceeds the exemption limit.**
- Despite the exemption, **political parties are required to file income tax returns, with the responsibility falling on the Chief Executive Officer of the party.**

53. G-33

Context:

The G-33, a coalition of developing countries with India as a key member, called for progress on **agricultural trade negotiations** ahead of the **13th WTO Ministerial Conference in Abu Dhabi.**

- They urged for a **permanent solution on public stockholding for food security purposes and emphasized the importance of the Special Safeguard Mechanism.**

Additionally, they highlighted the **need to preserve special treatment for developing countries and consider non-trade concerns in future negotiations.**

The **G-33 (Friends of Special Products in Agriculture)** is a coalition of **developing countries** that was established **before the 2003 Cancun ministerial summit.**

The **G-33 has 47 member nations, including India, China, Indonesia, Pakistan, Nigeria, Philippines, Turkey, Tanzania, Kenya, and South Korea.**

54. NORDIC-BALTIC COOPERATION - NB8

Context:

The joint delegation of **eight Nordic-Baltic countries, known as NB8, visited India to emphasize the importance of trust, dialogue, and cooperation in global affairs, particularly in**

light of **geopolitical shifts and conflicts like Russia’s invasion of Ukraine.**

- The NB8 countries **share deep historical, economic, and cultural ties and are committed to democracy, human rights, and multilateralism**

The **Nordic-Baltic cooperation (NB8)** is a regional cooperation format that was **founded in 1992**. It includes **five Nordic countries and three Baltic countries:**

Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Sweden



55. PURPLE FEST 2024

Context:

The **Department of Empowerment of Persons with Disabilities, Ministry of Social Justice & Empowerment, Government of India**, organized **Purple Fest 2024** at Rashtrapati Bhawan, celebrating **diversity and unity.**

- Major launches included the **“INDIA NEURODIVERSITY PLATFORM”** and a handbook **addressing language barriers.**

The ‘Purple Fest’, organised by the Ministry of Social Justice and Empowerment, Government of India, aims to raise **awareness about different disabilities and their impact on people’s lives and to promote understanding**, acceptance and **inclusion of persons with disabilities within society.**

56. RECENT MAJOR AMENDMENTS AND SCHEMES

Amendment	Summary
2024 Amendment to IT Rules, 2009	The Central Government amended the IT Rules, 2009, under the IT Act, 2000 , mandating the destruction of interception records every six months . This power, previously held only by security agencies, is now extended to competent authorities, including the Union Home Secretary or equivalent state officials.
Support to Poor Prisoners Scheme	Nationwide relief for poor prisoners unable to pay fines or secure bail due to financial constraints , administered by MHA, involving district Empowered Committees and state-level Oversight Committees , offering maximum assistance of Rs. 40,000 for undertrials and Rs. 25,000 for convicts , with proposals exceeding this needing state-level approval.
Surrogacy (Regulation) Amendment Rules, 2024	The Government, under the Surrogacy (Regulation) Act 2021 , amended rules to allow couples certified by a District Medical Board with medical conditions to use only one gamete from the intending couple for surrogacy . Previously, Rule 7 prohibited donor gametes. Single women undergoing surrogacy must use self-eggs and donor sperm. A 2023 Supreme Court case allowed surrogacy with donor eggs for women with MRKH Syndrome , a rare congenital disorder causing infertility
Pension Fund Regulatory and Development Authority Amendments	Key reforms include strengthening provisions for NPS Trust , bringing pension funds under PMLA , establishing additional board committees, requiring PFRDA approval for trustee bank changes, and implementing fraud prevention measures by CRA (Central Recordkeeping Agency), including fit and proper criteria similar to SEBI.

57. A.M. KHANWILKAR: NEW LOKPAL CHAIRMAN

Context:

Former Supreme Court judge A.M. Khanwilkar has been appointed as the **chairperson of the anti-corruption ombudsman Lokpal**, filling a vacancy that existed for nearly two years.

The **Lokpal** had been **operating without a regular chief** since the completion of Justice Pinaki Chandra Ghose’s term on May 27, 2022. Additionally, retired justices Lingappa Narayana Swamy, Sanjay Yadav, and Ritu Raj Awasthi have been appointed as judicial members, while Sushil Chandra, Pankaj Kumar, and Ajay Tirkey will **serve as non-judicial members.**

About Lokpal:

It consists of a chairperson and up to eight members, with 50% being judicial members. 50% of Lokpal members are from SC/ST/OBCs, minorities, and women. Selection is made by a committee comprising the PM, Speaker of Lok Sabha, leader of opposition in Lok Sabha, and Chief Justice of India or a nominated Supreme Court judge. **An eminent jurist** is nominated by the President based on consensus among the committee members. Lokpal's jurisdiction **covers all public servants and entities receiving over Rs 10 lakh per year** in foreign donations under FCRA are also under its purview.

58. SWAYAM PLUS PLATFORM

Context:

Union Minister of **Education and Skill Development and Entrepreneurship** launched the **SWAYAM Plus platform**, in collaboration with **industry leaders such as L&T, Microsoft, and CISCO**.

- Operated by the **Indian Institute of Technology, Madras (IIT Madras)**, the platform aims to offer courses **focusing on employability and professional development**, covering sectors like **manufacturing, energy, computer science, engineering, IT, management studies, healthcare, hospitality, and tourism**.
- SWAYAM Plus** combines academic **rigour with real-world expertise from industry partners** to enhance the **employability of college students and lifelong learners**

SWAYAM is a **free online platform** that offers **educational courses for college and university students**. It is an initiative by the Government of India that aims to **provide access to the best teaching and learning resources to everyone, including the most disadvantaged**

GS-3

1. INPUT SERVICE DISTRIBUTOR (ISD) UNDER GST

Context:

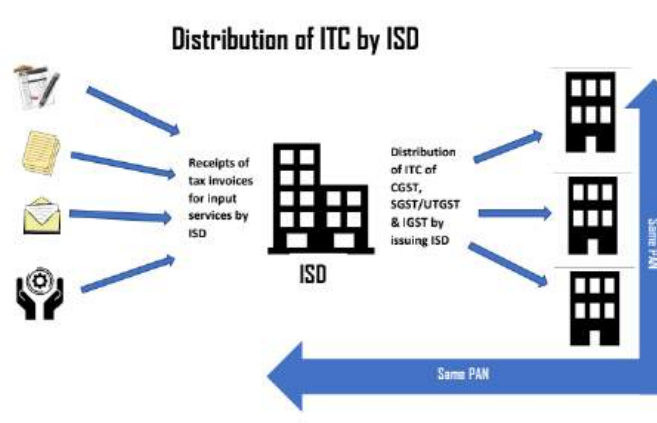
The **Finance Bill 2024 proposed** an amendment for **mandatory registration of Input Service Distributor (ISD) offices**, which receive invoices for common input services.

What is an Input Service Distributor (ISD) under GST?

An input Service Distributor (ISD) is an office of a goods or services supplier that receives tax invoices for input services and issues a prescribed document to distribute the tax credit to branches with the same PAN. ISD is essential for businesses with multiple branches, ensuring proper distribution of Input Tax Credit (ITC) on common expenditures.

The ISD receives invoices for common services and instead of each branch dealing with these invoices separately, the

ISD takes care of it centrally.



2. ASTEROID RYUGU

Context:

Scientists analysing **samples from the asteroid Ryugu**, brought back to Earth by Japan's **Hayabusa2 mission**, have detected **two organic compounds essential for living organisms**.

- A study published in the journal Science Advances suggests **that these samples contain evidence of cometary organic matter** being transported **from space to regions near Earth**.
- The analysis found **melt splashes on the sample surfaces**, created when **Ryugu was bombarded by micrometeoroids of cometary dust**.
- The study proposes that **cometary matter could have been transported from the outer solar system to a region near Earth**.

Asteroid Ryugu is a **carbonaceous or C-type asteroid**, which means it **contains a lot of carbon and water**.

3. GREEN HYDROGEN – SHIPPING AND STEEL SECTORS

Context:

The Government of India has issued **guidelines for pilot projects using green hydrogen in the shipping and steel sectors** under the **National Green Hydrogen Mission**.

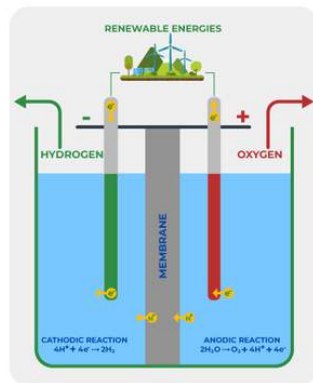
- The **Ministry of New & Renewable Energy (MNRE)** will implement these projects, focusing on **replacing fossil fuels with green hydrogen** in the shipping and steel industries.
- For shipping, the **pilot projects will retrofit existing ships for green hydrogen use** and **develop bunkering and refuelling facilities** in ports on international shipping lanes.

Green hydrogen is hydrogen produced by **splitting water molecules into hydrogen and oxygen using renewable electricity**. The process is called electrolysis.

HOW IS GREEN HYDROGEN OBTAINED ?

Producing green hydrogen by electrolysis from renewable sources involves breaking down water molecules (H₂O) into oxygen (O₂) and hydrogen (H₂).

- 1 The water used in the electrolysis must contain **salts and minerals** to conduct the electricity.
- 2 Two **electrodes are immersed in the water** and connected to a power source and a direct current is applied.
- 3 The dissociation of hydrogen and oxygen occurs when the electrodes attract **ions with an opposite charge** to them.
- 4 During the electrolysis an **oxidation-reduction reaction** occurs due to the effect of the electricity.



4. MANATEES

Context:

A record-breaking **gathering of nearly 1,000 manatees** has in Florida, **marking a very unusual phenomenon.**

- Manatees, **typically solitary animals**, are known to **gather in warm waters during colder weather.**
- The recent influx may be attributed to a **drop in the water temperature in the nearby St Johns River**, compelling the manatees to seek warmer waters in the park's hot springs.

Manatees are **large, aquatic mammals that are sometimes called "sea cows".** Manatees are **herbivores that eat over 60 different types of plants.**

IUCN Status: Vulnerable



5. WORLD WETLANDS DAY 2024 – 2ND FEBRUARY

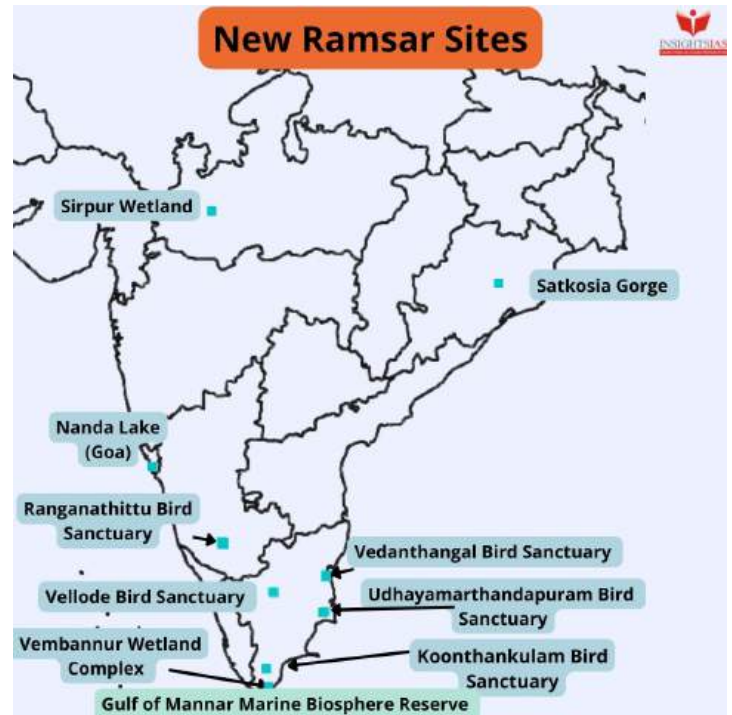
Context: India celebrated **World Wetlands Day 2024** at **Sirpur Lake, a Ramsar site in Indore.**

- The theme of World Wetlands Day 2024 was '**Wetlands and Human Wellbeing**,' emphasizing the crit-

ical role wetlands play in flood protection, clean water, biodiversity, and recreational opportunities.

- India increased its **tally of Ramsar sites to 80** by designating five more wetlands as Ramsar sites recently.

Wetlands are **low-lying areas of land** that are saturated **with water, either permanently or seasonally.** They are transition zones between **land and water**, where the **flow of water, the cycling of nutrients, and the energy of the sun meet.**



6. UNIFIED PAYMENTS INTERFACE (UPI)

Context:

India formally launched the **Unified Payments Interface (UPI)** at the **iconic Eiffel Tower in Paris, France, during the Republic Day reception.**

- It is a significant step towards taking **UPI global and fostering stronger ties.**

About UPI:

UPI, developed by the **National Payments Corporation of India (NPIL) in 2016**, enables round-the-clock mobile-based payments **through virtual payment addresses**

It merges multiple banking features, **seamless fund routing, and merchant payments** into a single **mobile application, allowing Indian tourists in France** to make **payments in rupees**

7. SAGARSETU (NLP-MARINE) PLATFORM

Context: Union Minister for Ports, Shipping & Waterways and AYUSH launched two digital modules, the **Maritime Single Window (MSW)** and the **Mercantile Marine Department (MMD)**, within the **SagarSetu (NLP-Marine) platform.**

- These initiatives align with the Maritime Vision 2030, focusing on operational efficiency, technology integration, and improved ease of doing business in India’s maritime sector.

Module	Objective	Impact
MSW	Reduce waiting time for vessels and goods in ports by up to 40%	Facilitate faster turnaround times through online submission/approval processes
MMD	Enhance transparency and planning of vessel departure and maritime operations, reducing processing time by up to 30%	Improve vessel monitoring, inspection, and release processes, ensuring efficiency and coordination

8. LUNAR NUCLEAR REACTOR PROJECT

Context:

NASA has completed the first phase of its project to develop a nuclear fission reactor for the Moon, aiming to create a small electricity-generating reactor for future lunar missions and outposts.

- The project involves designing a reactor, power conversion systems, heat rejection mechanisms, and power distribution systems.
- This initiative supports NASA’s goal of establishing a sustained human presence on the Moon for at least a decade.

Nuclear power is seen as a reliable option for lunar exploration, especially during extended lunar nights, as it operates independently of solar conditions.

9. ERGOSPHERE

Context:

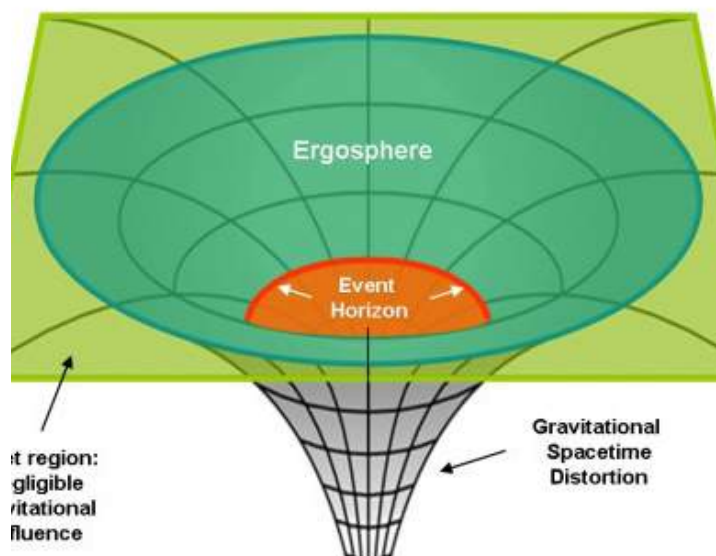
Scientists theorize that extracting matter and energy from the Ergosphere, the region between the event horizon and the stationary limit of a rotating black hole, is possible.

What is Ergosphere?

The ergosphere is a region surrounding a rotating black hole, located between the event horizon and the stationary limit. In this area, space-time itself is dragged along with the rotation of the black hole. Objects within the ergosphere are forced to rotate along with the black hole’s spin due to the distortion of spacetime caused by its immense gravitational pull.

The event horizon, on the other hand, is a theoretical boundary around a black hole beyond which no radiation can escape.

Black Hole Regions



10. DUSTED APOLLO

Context:

The Dusted Apollo (Parnassius stenosemus), a rare high-altitude butterfly, has been sighted and photographed for the first time in Himachal Pradesh’s Chamba district.

- Discovered in 1890, this species is extremely rare and has never been photographed in the region before.

Its distribution range extends from Ladakh to West Nepal, flying between 3,500 to 4,800 meters in the inner Himalayas.



11. ANNUAL SURVEY OF INDUSTRIES (ASI)

Context:

The Annual Survey of Industries (ASI) for the years 2020-21 and 2021-22 revealed significant growth across various parameters in the manufacturing sector.

Key Findings:

- Gross Value Added (GVA) increased by 8.8% in 2020-21 and by a remarkable 26.6% in 2021-22 compared to the respective previous years.
- Industrial output witnessed a growth of more than 35% in 2021-22 over the previous year.
- Total employment in the sector showed a robust growth of 7.0% in 2021-22 over the previous year, exceeding pre-pandemic levels by over 9.35 lakh.
- Among the major states, Gujarat remained at the top in 2020-21, while Maharashtra ranked first in 2021-22.
- Tamil Nadu, Karnataka, and Uttar Pradesh were among the top five states contributing significantly to manufacturing GVA and employment in both years.

The Annual Survey of Industries (ASI) is a **statutory survey** that has been conducted in India since 1959.

It is the **primary source of industrial statistics in the country**. The ASI is used to assess changes in the **structure and growth of registered manufacturing units**.

It also helps to build a **database on labour cost, earnings, employment, labour turnover, and absenteeism in manufacturing industries**.

12. SMART FOOD GRAIN STORAGE SYSTEM (SAFEETY) TECHNOLOGY

Context:

The Ministry of Electronics & IT (MeitY) has **transferred the Smart Food Grain Storage System (SAFEETY) technology** to Paras Défense and Space Technology Ltd.

- SAFEETY, developed by the Society for Applied Microwave Electronics Engineering and Research (SAMMEER) **under MeitY's guidance**, features **conveyORIZED loading and unloading of grain bags with RFID traceability, online weight and moisture measurement, and Radio Frequency Based Removal of Moisture from Grain**.
- This advanced system can handle **nearly one truck-load (approximately 28 tons) of grains in** just 40 minutes.
- The transfer marks a step towards **realizing the Innovation, Science, and Technology theme of Viksit Bharat @2047**, showcasing collaboration between **government entities and the private industry** to leverage technology for national progress and development.

13. GRAPES-3 EXPERIMENT

Context:

The **GRAPES-3 experiment**, conducted by **the Tata Institute of Fundamental Research in Ooty, India**, has identified a **new feature in the cosmic-ray proton spectrum** around **166 tera-electron-volts (TeV)**, expanding our understanding of cosmic-ray origins and acceleration mechanisms.

- Cosmic rays, the universe's **most energetic particles**, constantly bombard Earth's atmosphere, **producing**

particle showers.

- This finding **challenges the traditional single power-law description** of cosmic rays and **could prompt a re-evaluation of existing models.**

The GRAPES-3 experiment, also known as the **Gamma Ray Astronomy PeV Energies phase-3**, is a **collaboration between the Indian Tata Institute**. The experiment is **located in Ooty, India and is designed to study cosmic rays.**

The experiment uses an **array of air shower detectors and a large area muon detector** to study cosmic rays in the **energy range from a few TeV to over 10 PeV**. The experiment's goal is to probe the **acceleration of cosmic rays in four astrophysical settings.**

14. THE HEALTHY INDIAN PROJECT (THIP)

Context:

The Healthy Indian Project (THIP), a health information platform in India, has joined the **World Health Organization's Vaccine Safety Net (VSN)**, a global network of websites providing **trustworthy vaccine safety information.**

- This move reflects THIP's commitment to **delivering credible vaccine safety information** to the Indian population.
- By joining VSN, THIP strengthens its role as a **reliable source of verified vaccine safety information**, contributing to the global dissemination of accurate immunization details.

About Vaccine Safety Net (VSN):

- The Vaccine Safety Net (VSN) is a **global network of websites that provide reliable information on vaccine safety**. The VSN is an initiative of the **World Health Organization (WHO)**.
- The VSN is a **diverse group of websites** that provide **vaccine safety information in various languages.**
- The **Global Advisory Committee on Vaccine Safety (GACVS)** advises the WHO on vaccine-related safety issues. The **GACVS was established in 1999** and enables the WHO to respond quickly and efficiently to vaccine safety issues with potential global importance.

The Healthy Indian Project (THIP) is a **health information and fact-checking platform in India**. The platform's goal is to **improve health literacy among Indians**. THIP offers trusted health information, question and answers, fact checks, and health literacy.

15. BLACK-NECKED CRANE

Context:

The **Wildlife Institute of India and the Zoological Survey of India** have been conducting assessments of **the black-necked crane population.**

About Black Necked Crane:

The black-necked crane (*Grus nigricollis*) is a medium-sized crane that is native to Asia. It is the only alpine crane species in the world and lives at high altitudes in the Himalayas and on the Tibetan Plateau.

The black-necked crane is listed in **Schedule I of the Wild Life (Protection) Act, 1972, receiving the highest degree of protection.**

It is also listed in **Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora** and the Convention on Conservation of Migratory Species.



leading to **thousands of these megaherbivores** repopulating the island for **the first time in 600 years.**

- This initiative aims to restore the island’s degraded ecosystems, **including forests, grasslands, and shrublands, which were previously maintained by giant tortoises.**

Reintroducing the Aldabra giants could contribute **to re-establishing habitat mosaics across Madagascar,** benefiting biodiversity, and tourism, and potentially mitigating the impacts of climate change.

The **Aldabra giant tortoise (*Aldabrachelys gigantea*)** is a species of tortoise native to the Seychelles. It’s one of the **world’s largest land tortoises,** with males weighing up to 550 pounds and measuring up to 4 feet long. Aldabra tortoises can live to be over 150 years old, **making them one of the longest-living animals on earth.**

16. INVASIVE THRIPS

Context:

In a session of the Rajya Sabha, it was disclosed that the **invasive pest species Thrips Parvispinus** may have **significantly damaged chilli crops in Andhra Pradesh and Telangana,** causing up to **80% of the crop loss**

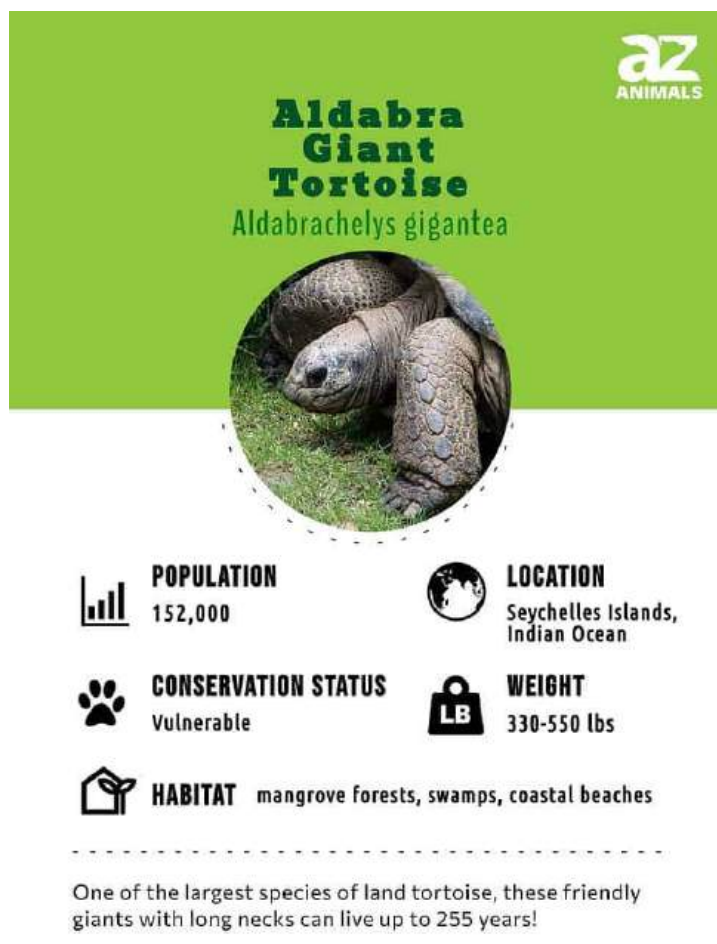
Thrips parvispinus is an **invasive pest species that is native to Thailand** and is most prevalent in **Southeast Asian countries.** It is also known as **Taiwanese thrips** or **Southeast Asia thrips.**

Thrips parvispinus can **feed on a variety of host plants,** including **ornamental plants, vegetables, and fruit crops.** It can cause **severe damage, wilting, and yield loss by piercing the cells of plant tissues and extracting their contents**








17. ALDABRA GIANT TORTOISES

Context: A project spanning six years has successfully **reintroduced Aldabra giant tortoises to Madagascar,** potentially



Aldabra Giant Tortoise
Aldabrachelys gigantea

 POPULATION 152,000	 LOCATION Seychelles Islands, Indian Ocean
 CONSERVATION STATUS Vulnerable	 WEIGHT 330-550 lbs
 HABITAT mangrove forests, swamps, coastal beaches	

One of the largest species of land tortoise, these friendly giants with long necks can live up to 255 years!

18. PAYMENT AGGREGATORS

Context:

Several startups, **including Decentro, Juspay, and Zoho,** have recently **obtained regulatory approval** from the Reserve Bank of India (RBI) to operate **as payment aggregators (PAs).**

- Other notable companies that received licenses earlier include Zomato, Stripe, and Tata Pay.

A payment aggregator is a service provider that allows **businesses to process card payments and mobile transac-**

tions. They act as an **intermediary between businesses and financial institutions**, simplifying the process of accepting electronic payments.

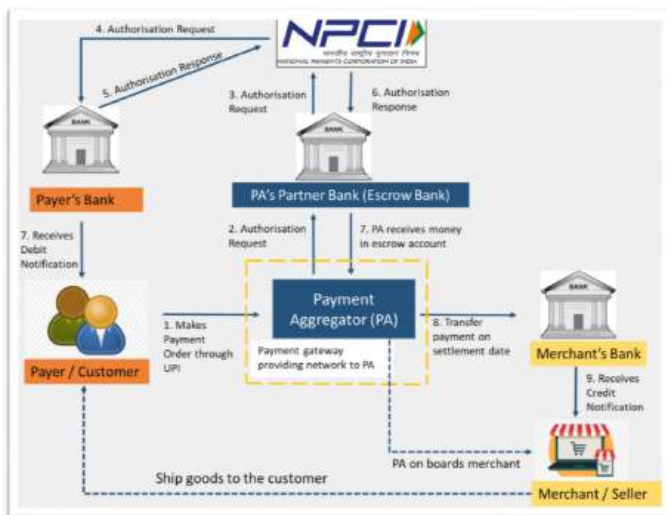


Fig 1: End to end non-bank payment aggregator transactional flow
The blue dotted lines in the fig. do not form part of payment system, but forms an important part of legal basis in merchant on-boarding process and shipment of goods to the customers in a PA business model.
Source: Author

19. HYPERVELOCITY EXPANSION TUNNEL TEST FACILITY

Context:

The **Indian Institute of Technology Kanpur (IITK)** has developed and successfully tested **India's first hypervelocity expansion tunnel test facility**, making the country one of the few nations with this advanced hypersonic testing capability.

- The facility, **named S2 or "Jigarthanda,"** is located within IIT Kanpur's hypersonic experimental aerodynamics laboratory (HEAL) and is **capable of simulating hypersonic conditions with flight speeds ranging from 3 to 10 km/s.**

The facility aims to inspire aerospace enthusiasts, foster innovation, and strengthen India's space and defence sectors by providing sophisticated hypervelocity testing capabilities domestically.

Hypersonic means **moving at a speed that is five times or more the speed of sound.** Hypersonic speeds are often stated to **start at Mach 5 and above.** Typical speeds for hypersonic aircraft are greater than 3000 mph and Mach number M greater than five.

20. RED DWARF STAR TOI-715

Context:

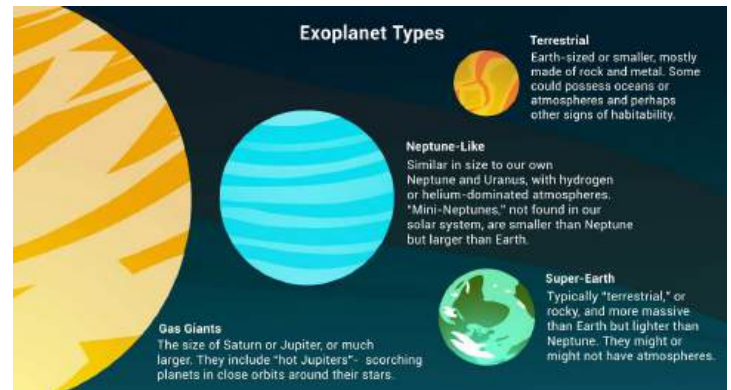
Astronomers utilizing data from **NASA's Transiting Exoplanet Survey Satellite (TESS)** have identified a super-Earth exoplanet, **TOI-715b,** orbiting the nearby **red dwarf star TOI-715** in the constellation of Volans.

- This planet, **approximately 1.5 times the width of Earth,** resides within the habitable zone of its parent star, **suggesting conditions suitable for liquid water.**

About TESS:

The **Transiting Exoplanet Survey Satellite (TESS)** is a **NASA space telescope** that searches for **exoplanets.** TESS was launched on April 18, 2018, and is designed to search for exoplanets around 200,000 nearby stars.

An exoplanet is a planet that orbits a star outside of our solar system. The word "exoplanet" comes from the term "extrasolar planet", which means it exists beyond the influence of our star.



21. 'SAGAR AANKALAN' GUIDELINES

Context:

The Union Minister of Ports, Shipping & Waterways, introduced the **'Sagar Aankalan' guidelines** during a stakeholders meet aimed at **implementing MoUs from the Global Maritime India Summit 2023 (GMIS 2023).**

- These guidelines aim to **transform the performance assessment of Indian ports,** focusing on **benchmarking, efficiency, and sustainability.**
- GMIS 2023 attracted significant **investment commitments, demonstrating India's potential as a global maritime leader.**

22. OPENAI: SORA

Context:

OpenAI has introduced **Sora,** a new **generative artificial intelligence (GenAI) model** capable of converting **text prompts into videos up to a minute long** with maintained visual quality and adherence to user instructions.

- Sora can create **complex scenes with multiple characters,** accurate details, and vibrant emotions, **though it still faces challenges with more complex prompts.**
- While other companies have ventured into text-to-video technology, **Sora is not yet available for general use as OpenAI is ensuring safety protocols and gathering feedback from visual artists and filmmakers.**
- The model has weaknesses, such as struggling with complex physics simulations and precise temporal descriptions, **but OpenAI is continuously working to improve it.**

23. MUSHROOM GROWING ON A FROG

Context:

Scientists were astonished to find a **mushroom growing out of the side of a frog in India**, marking the **first known instance of such a phenomenon**.

- Discovered in the **Western Ghats**, the frog, identified as a **Rao's Golden-backed frog**, had a **white-colored growth resembling a Bonnet mushroom**.

The Rao's Intermediate Golden-backed frog (*Indosylvirana intermedia*) is a **species of frog named after its discoverer, C. R. Narayan Rao**, an Indian herpetologist who discovered it in 1937.

It is endemic to the **Western Ghats of Karnataka and Kerala, specifically above the Palghat Gap**

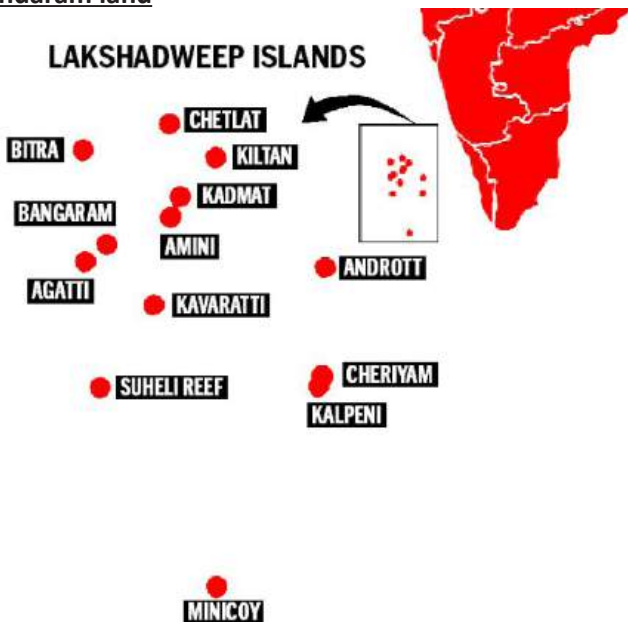


24. PANDARAM LANDS

Context:

Residents of Lakshadweep are upset as the **administration continues to number trees on Pandaram lands**, sparking a **dispute over land ownership**

Around 60% of land in Lakshadweep, which includes **some parts of the Androth, Kalpeni, Kavaratti, Minicoy, and Agatti islands**, along with **six uninhabited islands, constitutes pandaram land**



25. WATER ON THE SURFACE OF AN ASTEROID

Context:

For the first time ever, **scientists have detected water molecules on the surface of two asteroids, Iris and Massalia**, revealing new **insights into the distribution of water in our solar system**.

- This discovery was made using data collected by **NASA's Stratospheric Observatory for Infrared Astronomy (SOFIA)**, specifically its **Faint Object InfraRed Camera (FORCAST) instrument**.

NASA's **Stratospheric Observatory for Infrared Astronomy (SOFIA)** is the world's largest airborne astronomical observatory. It's a **Boeing 747SP jetliner modified to carry a 106-inch (2.7-meter) reflecting telescope**. SOFIA can fly for up to 10 hours, with flight paths chosen to keep ahead of sunrise and maximize darkness.

SOFIA's instruments include:

- FORCAST mid-infrared camera and spectrograph
- GREAT heterodyne spectrometer
- FIFI-LS far-infrared spectrometer
- EXES echelle spectrograph
- FPI+ focal plane imager

26. RHODAMINE-B

Context:

The **sale of cotton candy (panju mittai)** has been banned in **Tamil Nadu** due to the presence of **cancer-causing chemicals, specifically Rhodamine-B, found in samples collected from stalls in Chennai**.

- This chemical is considered **substandard and unsafe under the Food Safety and Standards Act 2006**.
- The **immediate and long-term health hazards** associated with Rhodamine-B consumption, include **stomach issues, breathing problems, organ damage, and an increased risk of cancer**.

27. RUBBER SECTOR

Context:

The **financial assistance for India's rubber sector has been increased by 23%** for the fiscal years **2024-25 and 2025-26** under the **'Sustainable & Inclusive Development of Natural Rubber Sector'** initiative.

- This enhancement aims to **support various facets of the rubber industry**, including the expansion of **rubber planting in traditional and non-traditional areas, improvement of rubber production quality, and empowerment of rubber growers** through the formation of 250 Rubber Producers Societies (RPS) over the next two years.

Rubber

Natural rubber is a polymer of isoprene, an organic compound and obtained from the latex of a number of tropical trees of which Para Rubber tree (*Hevea brasiliensis*) is the most important.

- **Age:** around 32 years in plantations.
- **Soil:** Well-drained and well-weathered soils e.g., Lateritic type, alluvial, sedimentary types
- **Precipitation and Temperature:** An evenly distributed rainfall with at least 100 rainy days a year and a temperature range of about 20 to 34°C.
- **Conditions:** A humidity of around 80%, 2000 hours of sunshine, and absence of strong winds
- **Uses:** Natural rubber is preferred over synthetic rubber due to its high tensile strength and vibration dampening properties, along with tear resistance.

World (major producers): Thailand, Indonesia, Malaysia, India: Kerala (over 75%) > Tamil Nadu > Karnataka
 India fifth largest producer and 2nd largest consumer of Natural Rubber (India currently meets 40% of its requirement through imports)

Rubber Board of India (est. 1955; HQ: Kottayam, Kerala): The Board (under Ministry of Commerce and Industry) is responsible for the development of the rubber industry in India.
 To know more Visit Insights IAS Daily Current Affairs

Rubber Research Institute (RRI) is under the Rubber Board.

28. FERMILAB'S PROTON IMPROVEMENT PLAN-II (PIP-II) PROJECT

Context:

India moves from research and development to the construction phase for its contributions to Fermilab's Proton Improvement Plan II (PIP-II) project, a significant particle accelerator endeavour.

What is Fermilab's Proton Improvement Plan?

Fermilab's Proton Improvement Plan (PIP) is a project aimed at enhancing the capabilities of Fermilab's particle accelerators, particularly the proton beamlines. PIP seeks to improve the intensity, quality, and reliability of the proton beams produced at Fermilab, enabling a wide range of scientific experiments and research, including studies on neutrinos and other fundamental particles.

What is PIP-II?

The Proton Improvement Plan II (PIP-II) marks the first particle accelerator in the U.S. constructed with substantial contributions from global partners. Collaborating institutions from India (through the Department of Atomic Energy (DAE)), France, Italy, Poland, and the UK are involved. India's contribution amounts to \$140 million worth of components. PIP-II's primary purpose is to build a superconducting linear accelerator at Fermilab and generate the world's most high-energy neutrino beam for the Deep Underground Neutrino Experiment (DUNE) at the Long-Baseline Neutrino Facility (LBNF).

Definition of the terms:

Term	Definition
Photons	Photons are <u>elementary particles that represent light</u> . They are massless particles that carry <u>electromagnetic radiation</u> , including visible light, radio waves, ultraviolet light, X-rays, and gamma rays. Photons exhibit both <u>wave-like and particle-like properties</u> .
Particle Accelerator	A particle accelerator is a device that <u>uses electromagnetic fields to propel charged particles to high speeds and energies</u> . These accelerators are essential tools in particle physics, allowing scientists to study the <u>fundamental constituents of matter by colliding particles at high speeds</u> .
Neutrino	Neutrinos are <u>subatomic particles that belong to the family of leptons</u> . They are neutral, nearly massless particles that rarely interact with matter, making them challenging to detect. Neutrinos come in three types: <u>electron neutrinos, muon neutrinos, and tau neutrinos</u> .

29. GSLV-F14/INSAT-3DS SATELLITE

Context:

Recently, ISRO successfully launched the **MoES-funded GSLV-F14/INSAT-3DS satellite** from Srihari Kota, **enhancing India's meteorological services.**

About GSLV-F14/INSAT-3DS satellite:

Feature	Details
Launch Vehicle Stages	3-stage launch vehicle: GS1 with solid propellant motor and four earth-storable propellant stages (EPS); GS2 with earth-storable propellant; GS3 cryogenic stage with LOX and LH2
Flight Number	16th flight of GSLV, 10th with indigenous cryo stage
INSAT-3DS Payloads	Imager, Sounder, Data Relay Transponder (DRT), Satellite aided Search and Rescue (SA&SR) Transponder
	Imager Payload: Multi-spectral Imager generating Earth images in six wavelength bands
	Sounder Payload: 19-channel Sounder for atmospheric vertical profiles data
	Data Relay Transponder (DRT): Receives and relays meteorological, hydrological, and oceanographic data
	Satellite Aided Search and Rescue (SA&SR) Transponder: Relays distress signals for global search and rescue in the UHF band
Objective	Enhance meteorological observations, weather forecasting, and disaster warning capabilities
Funding	Ministry of Earth Sciences (MoES)
Satellite Role	Monitor land and ocean surfaces, augment services of INSAT-3D (2013) and INSAT-3DR (2016)
Benefits	Improved weather forecasts, better disaster management, enhanced data collection and dissemination, satellite-aided search and rescue services

ISRO's Launch Vehicles:

Feature	SSLV (Small Satellite Launch Vehicle)	PSLV (Polar Satellite Launch Vehicle)	GSLV (Geosynchronous Satellite Launch Vehicle)	GSLV MK-III (Geosynchronous Satellite Launch Vehicle Mark III)
Purpose	Launch small satellites into low Earth orbit (LEO)	Launch satellites into polar orbits and geosynchronous transfer orbits	Launch heavier payloads than PSLV into geosynchronous transfer orbit	India's heaviest and most powerful launch vehicle for larger payloads into GTO and beyond
Payload Capacity to LEO	Up to 500 kg	Up to 1,750 kg	Up to 2,500 kg	Up to 10,000 kg to LEO
Payload Capacity to GTO	Not designed for GTO missions	Up to 1,425 kg	Up to 2,000 kg	Up to 4,000 kg
Stages	3 solid stages	4 stages (alternating solid and liquid)	3 stages (solid, liquid, and cryogenic)	3 stages (2 solid strap-ons, 1 liquid, and 1 cryogenic)
Launch History	Introduced for cost-effective access to space for small payloads	PSLV has a long and successful launch history with numerous missions	GSLV has been crucial for launching the INSAT class of satellites but has seen many unsuccessful launches.	GSLV MK-III is designed for future manned missions and heavier satellite requirements. All launches to date have been successful.
Notable Features	Quick turnaround and lower costs	Versatile and reliable, with a high success rate	Intermediate lifting capacity with indigenous cryogenic upper-stage	Capable of carrying the Chandrayaan-2 orbiter, lander, and rover to the Moon
Development Status	Recently introduced, fewer flights	Fully operational with a robust track record	Operational, with ongoing improvements	Operational, designated for high-profile missions like Chandrayaan-2 and Gaganyaan

30. QUASAR

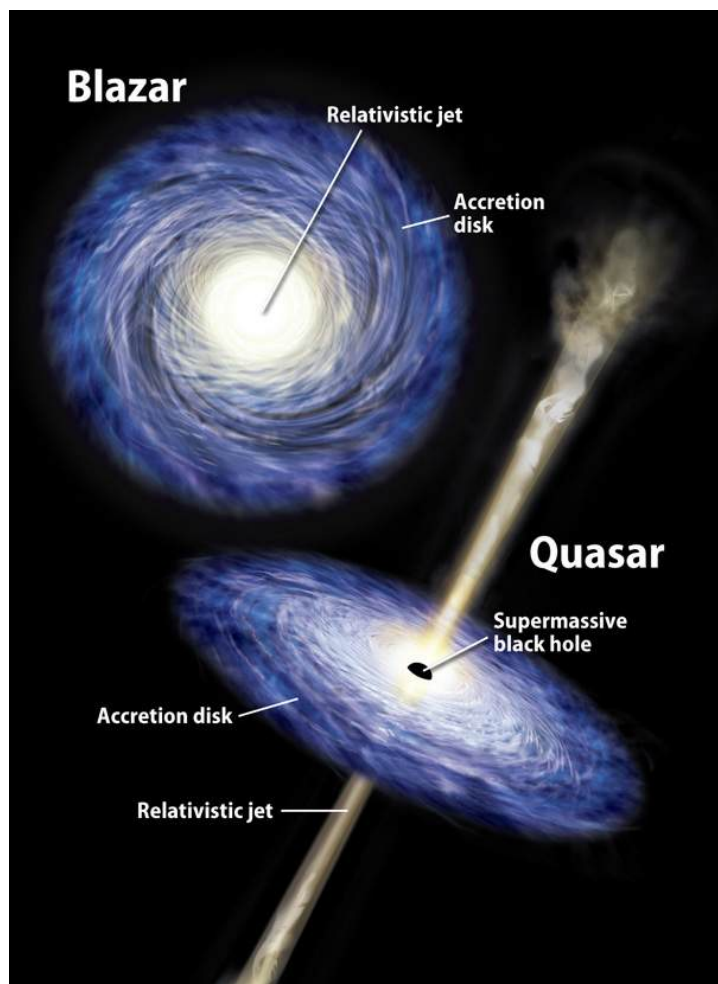
Context:

Astronomers have discovered the **brightest object in the universe, a quasar powered by the fastest-growing black hole on record.**

- Initially mistaken for a star, the quasar, **named J0529-4351, was found using the European Southern Observatory's Very Large Telescope.**
- It is located over **12 billion light-years away and its black hole devours the equivalent of one sun per day,** with a mass 17 billion times that of our sun.

Difference between Blazars and Quasars:

Characteristic	Blazars	Quasars
Orientation	Jet observed almost end-on	Jet observed at larger angles
Spectral Features	Faster-than-light movements	Broad optical lines, thermal spectra
	Smooth energy distributions	X-ray emission features
	Luminosity varies on short timescales	Luminosity varies over longer periods
	Relativistic jet pointing towards Earth	Angled view of the accretion disk



A quasar is a **bright core of a distant galaxy that is powered by a supermassive black hole.** Quasars are a subclass of **active galactic nuclei (AGNs),** which are extremely **luminous galactic cores where gas and dust fall into a supermassive black hole.** Quasars are also known as quasi-stellar objects, abbreviated QSO.

31. POTASSIUM

Context:

Soils worldwide are **experiencing a depletion of potassium,** a crucial nutrient essential for **plant growth, jeopardizing global food security.**

- A recent study proposes six **actions to safeguard potassium supplies and food production.**

These include reviewing **current potassium stocks, improving forecasting of price fluctuations, defining optimal potassium levels for different regions, evaluating environmental impacts, promoting a circular potassium economy, and enhancing international cooperation.**

Potassium is an **essential nutrient required for various physiological functions in plants, animals, and humans.** In plants, it plays a crucial role in **photosynthesis, water regulation, enzyme activation, and overall growth and development.** Potassium deficiency in soil can lead to **stunted growth, reduced crop yields, and increased susceptibility to diseases and environmental stresses.**

For humans, potassium is vital for **maintaining fluid balance, nerve function, muscle contraction (including the heart), and blood pressure regulation.** Adequate potassium intake is associated with a **lower risk of hypertension, stroke, and cardiovascular diseases.**

32. BLENDED FINANCE FACILITY FOR CLIMATE ACTION

Context:

The **Government of Goa and the Power Finance Corporation (PFC)** have signed a **Memorandum of Understanding (MoU)** to support **climate ambitions through a Blended Finance Facility, in partnership with the World Bank.**

- This initiative aims to **promote low-carbon, climate-resilient development.**

A blended finance facility (BFF) is a program that uses **development finance to attract commercial capital for projects that contribute to sustainable development.** Blended finance can also help to **raise capital for projects that are difficult to fund.**

33. GREEN ANACONDA

Context: Researchers have discovered that **the green anaconda,** previously thought to be a single species, actually consists **of two genetically distinct species: the "southern green anaconda" (Eunectes murinus) and the newly identi-**

named “northern green anaconda” (Eunectes akayima).

- Green anacondas are **renowned as the world’s heaviest snakes and are found predominantly in rivers and wetlands in South America.**
- They are known for their ability to **asphyxiate large prey and swallow them whole.**
- Females are usually larger than males
- **IUCN: Least Concern**

The northern green anaconda is found in countries such as Ecuador, Colombia, Venezuela, and Guyana, while the southern green anaconda inhabits regions like Peru, Bolivia, and Brazil.



34. CE20 CRYOGENIC ENGINE

Context:

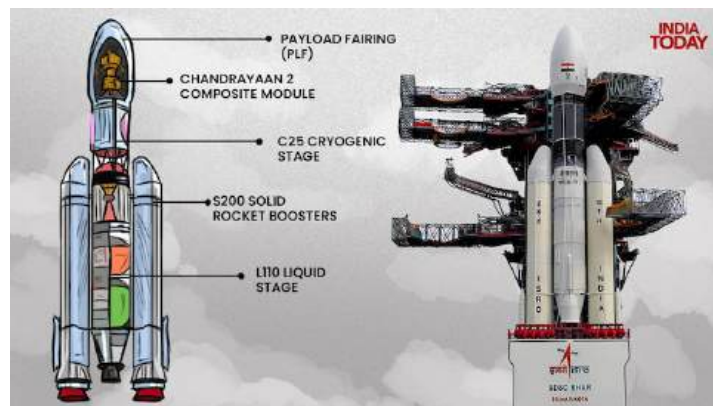
ISRO has achieved a significant milestone in its **Gaganyaan mission** by completing the **human rating of its CE20 cryogenic engine**, which powers the **cryogenic stage of the human-rated LVM3 launch vehicle.**

- Human-rating refers to rating a **system that is capable of safely transporting humans**
- This achievement comes after a series of **ground qualification tests, including vacuum ignition tests, to simulate flight conditions.**

The Gaganyaan mission aims to launch a **crew of three humans into a 400 km orbit for a three-day mission and safely return them to Earth.**

The CE-20 is a cryogenic rocket engine developed by the **Liquid Propulsion Systems Centre, a subsidiary of the Indian Space Research Organisation (ISRO).** It is the first **Indian cryogenic engine to have a gas-generator cycle.**

The CE-20 uses a combination of **LOX and LH2 propellants in a gas generator cycle.**



35. 100% FDI IN THE SPACE SECTOR

Context:

The Union Cabinet, **approved amendments to the Foreign Direct Investment (FDI) policy** in the space sector, allowing **100% FDI to attract investors to Indian companies in space.**

- Under the amended policy, up to **74% FDI is permitted under the automatic route for satellite-related activities, and up to 49% for launch vehicles and associated systems.**
- Beyond these limits, government approval is required.
- Additionally, up to **100% FDI is allowed under the automatic route for manufacturing components and systems for satellites.**

The decision aims to **increase private sector participation, generate employment, and integrate Indian companies into global value chains.**

36. FLOOD MANAGEMENT AND BORDER AREAS PROGRAMME (FMBAP)

Context:

The Union Cabinet, approved the continuation of the centrally sponsored Scheme, the **Flood Management and Border Areas Programme (FMBAP),** with a total outlay of Rs. 4,100 crore for a period of 5 years from 2021-22 to 2025-26. The scheme comprises two components:

Flood Management Programme (FMP):

- Central assistance will be provided to State Governments for critical works related to **flood control, anti-erosion, drainage development, and anti-sea erosion.**
- The funding pattern is set at **90% (Centre): 10% (State) for Special Category States and 60% (Centre): 40% (State) for General/Non-Special Category States.**

River Management and Border Areas (RMBA)

- This component focuses on **flood control and anti-erosion works** on common border rivers with neighbouring countries, including **hydrological observations, flood forecasting, and pre-construction**

- **activities of joint water resources projects.**
- It receives **100% central assistance.**

37. VENTURE DEBT FINANCING

Context: In 2023, Indian start-ups experienced a significant surge in venture debt financing, raising a total of over \$1 billion, marking a notable **50% increase from the previous year.**

What is Venture Debt Financing?

Venture debt is a **financing option commonly utilized by early-stage startups** that have yet to establish a consistent revenue stream. Unlike traditional debt financing, venture debt is offered by **specialized lenders who are willing to assume greater risk** in exchange for the possibility of higher returns. This type of financing allows startups to **access additional capital without diluting ownership**, providing them with the financial resources needed to fuel growth and development.

This shift towards venture debt financing in India contrasts **with a decline observed in the US**, showcasing **India's burgeoning confidence and strategic adoption of alternative funding mechanisms.**

Venture Debt	VS.	Venture Capital
Venture debt issuers tend not to take much equity in a company		VCs tend to take a sizable equity stake in a company in exchange for capital
The cost of debt is limited to pre-agreed interest rates		Equity can fluctuate in value over time – sometimes dramatically
Debt is paid back over time with interest		VCs make money from selling equity
A new company valuation is not required		Equity investments require a company valuation
Funding can be used for any general business purpose		Funding can be used for any general business purpose
There are not typically board seat requirements		Investors often receive a board seat
Typically, there are no financial covenants		Typically, there are no financial covenants
The due diligence process tends to be less comprehensive		There tends to be a strict due diligence process

38. POSITRONIUM

Context: In a significant breakthrough, scientists at CERN have achieved **laser cooling of Positronium for the first**

time, during Anti-hydrogen Experiment: Gravity, Interferometry, Spectroscopy (AEGIS)

What is Positronium?

Positronium is a **unique atomic system consisting of an electron and a positron**, the antimatter counterpart of an electron. It has a very short lifespan, typically **around 142 nanoseconds**, before it annihilates. Positronium holds the distinction of being a **pure leptonic atom**, with its **mass being twice that of an electron.**

Uses: Due to its properties, Positronium is a **valuable system for studying fundamental physics theories** and conducting experiments in areas such as quantum electrodynamics.

What is the AEGIS experiment?

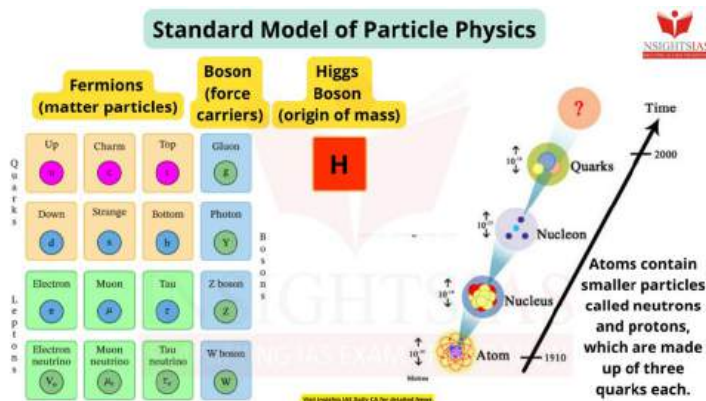
Antihydrogen Experiment: Gravity, Interferometry, and Spectroscopy, aims to **directly measure Earth's gravitational acceleration on antihydrogen.**

How was laser cooling done?

Laser cooling of Positronium was accomplished by lowering its temperature from ~380 Kelvin to ~170 Kelvin using a 70-nanosecond pulse of the **alexandrite-based laser system**, operating in either the deep ultraviolet or infrared frequency bands.

The significance of laser cooling of Positronium lies in several aspects:

1. **Measurement of Earth's gravitational acceleration**
2. **Gamma-ray laser:** Potential to produce a gamma-ray laser for atomic nucleus exploration and applications beyond physics.
3. **Quantum Electrodynamics (QED):** Facilitating spectroscopic comparisons for QED, studying light's interaction with charged matter. **Bose-Einstein condensate:** Enabling the production of a positronium Bose-Einstein condensate, offering a tool for both fundamental and applied research where all constituents occupy the same quantum state.



39. VENOM-NEUTRALISING ANTIBODY

Context:

Scientists at the **Indian Institute of Science (IISc.) in Bengaluru** have developed a **synthetic human antibody** capable of **neutralizing a potent neurotoxin produced** by highly toxic snakes from the **Elapidae family, including cobras, king cobras, kraits, and black mambas.**

- This breakthrough marks the **first time a specific strategy has been applied to create antibodies for snakebite treatment.**

How it works?

- The antibody targets a conserved region in the **core of a major toxin known as the three-finger toxin (3FTx) found in elapid venom.**
- Through extensive screening, researchers identified an antibody **capable of binding strongly to various 3FTxs from different elapid snakes worldwide.**
- Importantly, the **synthetic antibody showed significant potency even when administered after a delay, unlike conventional antivenom treatments,** which lose effectiveness with delayed administration.

This development represents a significant **advancement in snakebite treatment,** potentially offering a **universal solution for broad protection against various snake venoms.**

40. PIGEONPEA

Context:

A new **fast-breeding protocol** has been developed by scientists at the **International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** to accelerate the development of improved **varieties of pigeonpea,** an essential **legume crop for nutritional security in drylands.**

- Traditionally, developing a **new pigeonpea variety takes around 13 years,** but the new protocol can potentially reduce this **breeding cycle to just two to four years.**

About Pigeon Peas:

- Pigeon peas are widely cultivated in **tropical and semitropical regions around the world.** In **India, more than 80% of tur production comes from six states: MS, MP, Karnataka, UP, Gujarat, and Jharkhand.**
- Pigeon peas are commonly eaten in the form of the **split pulse as “dal”**

Speed breeding is a plant breeding technology that uses **protocols to accelerate flowering** in crop plants. It uses **optimal light quality, intensity, photoperiod, and temperatures** to improve biomass accumulation and **stimulate flowering and seed production.** Speed breeding also uses immature seed harvesting to curtail the generation time.

41. CANTOR’S GIANT SOFTSHELL TURTLE

Context:

Conservationists, including those from the University of Portsmouth, have uncovered the first breeding population of the **critically endangered and elusive Cantor’s giant softshell turtle** along the **Chandragiri River in Kerala.**

About Cantor’s Giant Softshell Turtle:

It is also known as the **Asian giant softshell turtle and the frog-faced softshell turtle** is a **critically endangered species** known for its rarity and secretive nature. Found in eastern and southern India, Bangladesh, Burma, and other Southeast Asian countries, these turtles **primarily inhabit slow-moving freshwater rivers, lakes, and estuaries.** They are carnivores, mainly feeding on fish, crustaceans, and molluscs, employing a sit-and-wait strategy to capture prey. Classified as **critically endangered by the IUCN and listed in Appendix II of CITES and Schedule I of the Wildlife Protection Act, 1972,** urgent conservation efforts are necessary to protect this species from extinction.



Image credit: X/Megan English

About Chandragiri River

It is also known as the **Perumpuzha River,** is the **longest river in Kasaragod district, Kerala,** and holds historical significance in Chemnad. Named after the Mauryan emperor **Chandragupta Maurya,** it originates from the **Talakaveri Wildlife Sanctuary** in the Western Ghats of Kodagu district, Karnataka. Serving as a vital water source for domestic and agricultural needs in Sullia taluk, the river is **revered in Chemnad as the land of Chandragiri.**



42. POTASH DERIVED FROM MOLASSES

Context:

Sugar mills in India are now permitted to sell **Potash Derived from Molasses (PDM) to fertilizer companies**, offering them an **additional revenue source**.

- PDM contains **14.5% potash content and can be sold at a price of Rs 4,263 per tonne**, allowing sugar mills to potentially manufacture 10-12 LMT of potash over the next three years.
- PDM is derived from **ash in molasses-based distilleries**, a by-product of the sugar-based ethanol industry, and can be used as a **potassium-rich fertilizer alternative to Muriate of Potash (MOP)**.

This initiative aims to **reduce India's dependency on imported potash fertilizers**.

Potash is a **common name for a group of minerals and chemicals that contain potassium**. Potassium is a basic nutrient for plants and an important ingredient in fertilizer.

43. ENERGY CHARTER TREATY

Context:

The **UK, along with France, Germany, Spain, and the Netherlands**, is withdrawing from the **Energy Charter Treaty**, which allows fossil fuel companies to **sue governments over climate policies**.

- This decision follows **failed negotiations to modernize the treaty**.

About The Energy Charter Treaty:

- The Energy Charter Treaty (ECT) is an **international agreement** that establishes a framework for **cross-border cooperation in the energy industry**. It was **founded in 1991 and covers all aspects of commercial energy activities**, including trade, transit, investments, and energy efficiency.
- The ECT's purpose is to **promote long-term cooperation in the energy field, based on complementarities and mutual benefits**.
- It provides its member states with a unique legal framework for **cooperation through its comprehensive provisions on investment protection and technology transfer**.
- The ECT also aims to protect foreign investments in energy and allows foreign investors to claim compensation through arbitration for unfair losses due to government regulation.

44. INDIAN GHARIAL

Context:

The Indian Gharial, a **critically endangered crocodile species**, has been sighted in the **Greater Kaziranga landscape for the third consecutive year**.

- Kaziranga's abundance of **freshwater fish species makes it one of the best habitats for gharials**.

The Indian gharial, also known as the **fish-eating crocodile or gavial**, is a crocodilian that lives in the **Indian Subconti-**

ent. It is one of the **largest crocodilians**.

The gharial has a **uniquely long and thin snout**, with a **large bulb at the tip called the "ghara"**.

The gharial is the **most aquatic of all crocodilians**, as it never moves far from the water.


India has **three species of Crocodilians** namely:

1. **Gharial (Gavialis gangeticus): IUCN Red List- Critically Endangered**
2. **Mugger crocodile (Crocodylus palustris): IUCN- Vulnerable**.
3. **Saltwater crocodile (Crocodylus porosus): IUCN- Least Concern**.

All three are listed on **Appendix I of CITES and Schedule I of the Wild Life (Protection) Act, 1972**.

Species of crocodilians

There are **three species of crocodilians**—saltwater, Mugger and Gharial. Latest Saltie census 2023 have estimated higher count of estuarine crocodiles in Bhitarkanika



Saltwater Crocodile (estuarine crocodile)

- It is the **largest** of all living reptiles. It is found throughout the east coast of India -**Bhitarkanika mangroves and Sunderbans National Parks**.
- Males are much larger than females, weighing even upto 1000Kg.
- **Habitat:** They inhabit coastal brackish mangrove swamps and river deltas.
- **IUCN:** Least concern

Mugger:

The mugger crocodile (Indian crocodile) is found throughout the Indian subcontinent.

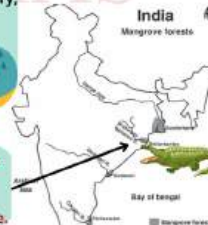
- The mugger is mainly a **freshwater species**, and found in lakes, rivers and marshes.
- They have **broadest snout of all**, they are keystone species of their habitat.
- **IUCN:** Vulnerable

Gharial:

The Gharial or fish-eating crocodile is native to the Indian subcontinent.

- Small released populations are present and increasing in the rivers of the **National Chambal Sanctuary**, **Katarniaghat Wildlife Sanctuary**, **Son River Sanctuary** and the rainforest biome of Mahanadi in **Satkosia Gorge Sanctuary, Orissa**.
- They are easily distinguishable due to their **long snouts (nose)**
- **IUCN:** Critically Endangered

Bhitarkanika National Park (Kendrapara district in Odisha): The park is **second-largest mangrove forest (after Sundarbans)** and is lying in the estuarial region of **Brahmani, Baitarni, Dharma and Patasala River**. It is also a **Ramsar Site**.



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45. KALA AZAR

Context:

India achieved a significant milestone in the **fight against Kala Azar in 2023 by reporting less than one case per 10,000 population across all blocks**, marking the first time it met its elimination target.

- The **National Vector Borne Disease Control Programme** reported 595 cases and four deaths in 2023, down from 891 cases and three deaths in 2022.

To receive World Health Organization (WHO) certification, **India must sustain this momentum for the next three years**.

Kala-azar, also known as **visceral leishmaniasis**, is a disease characterized by a **slow progression caused by a protozoan parasite of the genus Leishmania**.

The term "kala-azar" originates from India, meaning **"black disease,"** referring to the dark discolouration of the skin during infection.

In India, Leishmania donovani is the primary parasite causing this disease. The parasite predominantly infects the reticuloendothelial system and is commonly found in high concentrations in the bone marrow, spleen, and liver.

Post Kala-azar Dermal Leishmaniasis (PKDL) is a condition where the parasite invades skin cells, leading to dermal lesions.

46. GUINEA WORM DISEASE

Context:

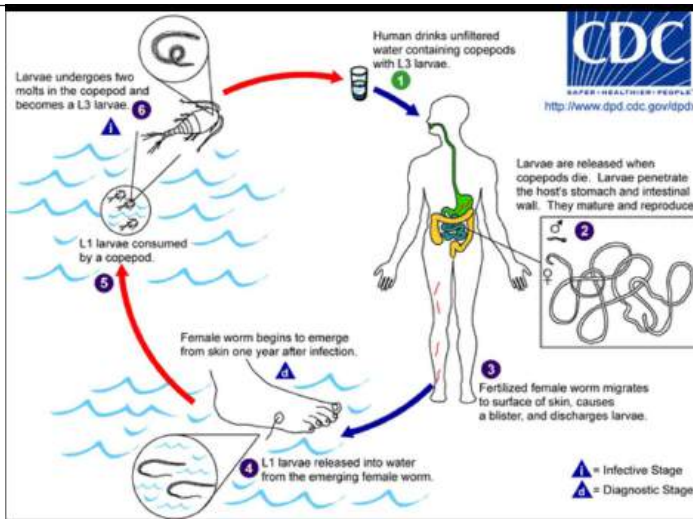
Guinea worm disease, caused by the Guinea worm, is on the verge of eradication globally, with only six cases reported in 2023.

- The infection cycle involves excruciating symptoms, including painful skin lesions and ulcers, primarily affecting the legs.
- India successfully eliminated the disease in the late 1990s through a comprehensive strategy focusing on water safety interventions and community education.

Guinea worm disease (GWD), is a parasitic infection caused by the Dracunculus medinensis parasite. GWD is spread by drinking water containing guinea worm larvae, which are immature forms of the worm.

GWD is a neglected tropical disease (NTD) that mainly affects people in rural, isolated, and deprived communities who rely on stagnant surface water sources like ponds for drinking water.

GWD has historically been considered an anthroponosis, or infectious disease that only affects humans. However, it is now considered a zoonosis because several mammals, mainly dogs, act as reservoirs of the disease in several African countries.



47. HOUSEHOLD CONSUMPTION EXPENDITURE SURVEY 2022-23

Context:

The Household Consumption Expenditure Survey (HCES) for 2022-23 indicates a significant increase in rural consumption spending compared to urban areas over the past 11 years.

Key Findings:

Aspect	Rural	Urban
Average monthly consumption spending per person	Increased by 164%, reaching ₹3,773 per month	Increased by 146%, reaching ₹6,459 per month
The gap between rural and urban spending	Reduced to 71.2% in 2022-23 from 83.9% in 2011-12	N/A
Expenditure on food	Decreased in both rural and urban areas	Decreased, impacting CPI-based inflation
Expenditure on non-food items	Increased, driven by rising spending on conveyance, consumer services, and durable goods	Increased

48. HUNGER MOON

Context:

The full moon on February 24, 2024, is known by various names such as "Snow Moon," "Hunger Moon," and "Minimoon."

- It occurs when the Moon is directly opposite the Earth from the sun.

This particular full moon is called a "minimoon" because it happens a little over a day before apogee when the Moon is farthest from the Earth in its orbit.

The term "Snow Moon" originates from the 1930s Maine Farmers' Almanac, referring to the heavy snows typical of February.

Additionally, it is termed the "Hunger Moon" due to the challenges faced by tribes in the northeastern US in hunting during this snowy season.

49. MILITARY EXERCISES IN NEWS:

Exercises	Details
5th edition of Joint Military Exercise 'D H A R M A GUARDIAN'	Between: Indian Army and Japan Ground Self Defence Force. Location: Rajasthan. Frequency: Annual exercise conducted alternately in India and Japan
16th biennial trilateral Coast Guard exercise: 'DOS-TI-16'	Between: India, Maldives, and Sri Lanka. Observer: Bangladesh. Frequency: Biennial
NATO's Steadfast Defender 2024	Organizer: North Atlantic Treaty Council (NATO). Location: Europe. Purpose: Largest military exercise aimed at showing solidarity against Russia, following its invasion of Ukraine two years ago. Time: Started at the end of January 2024

50. INVESTOR INFORMATION AND ANALYTICS PLATFORM

Context:

The Union Minister of State for Electronics and IT, Skill Development and Entrepreneurship, and Jal Shakti launched the 'Investor Information and Analytics Platform' developed by IIT Madras.

- This platform serves as a **comprehensive resource for startups**, providing access to **venture capitalists, investor networks, government schemes, and various components of the startup landscape.**

Features of the Platform:

- Developed by researchers at **the Centre for Research on Start-ups and Risk Financing (CREST) of IIT Madras**, the platform aims to aid **startup founders, entrepreneurs, and young Indians in building innovative devices, services, and platforms.**
- It includes features like **"StartupGPT," an AI-based conversational platform for easy information access.**
- The platform contains information on over 200,000 startups, nearly 11,000 angel investors, 5,000 VCs, 1000 incubators, over 100 government agencies funding startups, and 550 banks supporting startups.

51. CHROMOSOMAL DISORDERS DISCOVERED FROM PREHISTORIC SKELETAL REMAINS

Context: Researchers have reported the **discovery of chromosomal disorders**, including six cases of **Down syndrome** and one case of **Edwards syndrome**, in **prehistoric skeletal**

remains dating back approximately 5,500 years.

- These findings represent the **first identification of Edwards syndrome from historic or prehistoric remains.**
- The individuals affected by these disorders mostly died either before or shortly after birth, **with some cases dating as far back as the Bronze Age and Neolithic period.**
- The study suggests a potentially **higher frequency of burials of trisomy carriers in certain ancient societies**, indicating a recognition of these individuals as part of their communities.

The findings **shed light on how ancient societies may have perceived and responded to genetic disorders**, offering insight into their **cultural practices and beliefs surrounding such conditions.**

Condition	Description
Down syndrome	A condition characterized by the presence of an extra chromosome or an additional piece of a chromosome , leading to changes in the development of a baby's body and brain . It can result in both mental and physical challenges throughout life.
Edwards syndrome (trisomy 18)	A genetic disorder that causes delays in physical growth during fetal development . Children diagnosed with Edwards syndrome typically have a short life expectancy due to various life-threatening complications . Survivors may experience significant intellectual challenges, especially if they live beyond their first year.

52. HANOOMAN

Context: The **BharatGPT group**, has unveiled **'Hanooman', a series of large language models (LLMs) capable of responding in 11 Indian languages, with plans to expand to over 20 languages.**

- Hanooman** is designed for use in **healthcare, governance, financial services, and education sectors.**
- It is a multimodal AI tool that can **generate text, speech, videos, and more in multiple Indian languages.**
- One customized version, **VizhyGPT, is tailored for healthcare.**

Large language models utilize deep learning techniques to process and understand vast amounts of **text data, learning meanings and relationships between words through training on large datasets like Wikipedia and OpenWebText.**

53. BITCOIN HALVING

Context: The **upcoming Bitcoin Halving**, predicted to occur around April this year, **entails a 50% reduction in the reward paid to Bitcoin miners for processing transactions.**

- This event is significant as it **impacts the supply and scarcity of Bitcoin, potentially affecting its price.**

Bitcoin halving is a significant event in the cryptocurrency world where the **reward for mining Bitcoin transactions is reduced by half.**

This process occurs roughly every four years, with the next halving **expected in early-to-mid 2024, reducing the block reward to 3.125 bitcoins.**

Halving diminishes the **rate of new coin creation, aiming to simulate diminishing returns and increase demand.**

The halving event has occurred **three times since Bitcoin's inception, with the most recent halving in May 2020 reducing the block reward to 6.25 bitcoins.**

As the reward decreases over time, miners may consolidate, and the network relies on transaction fees to incentivize participation **beyond the final supply of 21 million bitcoins, expected around 2140.**



54. GARBHINI-GA2

Context:

Researchers have developed **Garbhini-GA2, an India-specific artificial intelligence model, to accurately determine the gestational age of a fetus during the second and third trimesters of pregnancy.**

- This model, created by the **Indian Institute of Technology Madras and Translational Health Science and Technology Institute, is part of the DBT India initiative (GARBH-Ini) program.**

Features:

- Garbhini-GA2 is the **first late-trimester gestational age estimation model** validated using Indian **population data, addressing variations in fetal growth** compared to Western populations.
- It significantly **reduces estimation errors and enables precise prenatal care**, potentially reducing maternal and infant mortality rates.

55. INDIA'S LARGEST SOLAR-BATTERY PROJECT

Context:

The **Solar Energy Corporation of India Limited (SECI)** has commissioned **India's largest Battery Energy Storage System (BESS) in Rajnandgaon, Chhattisgarh, with an installed capacity of 40 MW/120 MWh.**

- This project combines **solar photovoltaic (PV) panels with battery storage to meet peak energy demands.**
- The project ensures power stability **through efficient power evacuation and transmission.**

It is estimated to save tonnes of carbon dioxide emissions annually and is **financially supported by the World Bank, Clean Technology Fund, and domestic lending agencies,** demonstrating collaborative efforts to drive sustainable financial arrangements.

56. HAM OPERATOR

Context:

A team of **amateur radio operators (HAMs)** conducted an **Island On The Air (IOTA) expedition** from cyclone shelters on Nachugunta Island, Andhra Pradesh.

- The team made **4,000 global contacts, promoting emergency communication preparedness through sessions in local schools and villages.**

HAM is an abbreviation for **Hyman-Almy-Murray**, the call sign of the **first amateur wireless station in 1908.** The station was operated by **Albert S. Hyman, Bob Almy, and Poo-gie Murray**, members of the Harvard Radio Club. The term "ham radio" refers to the hobby of amateur radio, not the equipment.

57. AMMUNITION-MISSILE MANUFACTURING COMPLEX

Context:

Adani Defence and Aerospace inaugurated **two facilities for ammunition and missile manufacturing** in Kanpur, Uttar Pradesh, marking the **first private-sector venture in this domain.**

- The complex aims to become **one of South Asia's largest integrated ammunition manufacturing facilities, producing ammunition for the armed forces, paramilitary forces, and police.**

The government has taken several steps to **promote indigenous defence production, including:**

- Prioritizing the **procurement of capital items** from domestic sources under the **Defence Acquisition Procedure (DAP)-2020.**
- Liberalizing the **Foreign Direct Investment (FDI) policy** by permitting up to **74% FDI under the automatic route.**
- Launching the **Innovations for Defence Excellence (iDEX) scheme** to foster innovation in defence technologies.

58. AMRIT BHARAT STATION SCHEME

Context:

The Prime Minister launched the **Amrit Bharat Station scheme**, laying the foundation for **554 railway stations** as part of a government initiative to **upgrade key railway infrastructure across India**.

- The scheme aims to **transform railway stations**, enhancing **amenities such as access, waiting areas, cleanliness, WiFi connectivity, and local product kiosks**.
- Design of station **buildings inspired by local culture, heritage and architecture**.

59. AFRICA CLUB

Context:

During the **37th African Union Summit**, held in **Addis Ababa, Ethiopia**, African leaders **launched the 'Africa Club', an alliance of African multilateral financial institutions**.

- Focusing on the urgent need for **reforming the global financial system to address climate and development needs**.
- To tackle this, there was a call for **increased access to high-quality finance for climate and development efforts, which led to the**
- African leaders also **demand solutions to the debt crisis**, increased grant and concessional money to Africa, and rechanneling of **Special Drawing Rights (SDR) to African financial institutions**.

60. WOMEN EXPORTERS IN THE DIGITAL ECONOMY (WEIDE) FUND

Context:

The **World Trade Organization (WTO)** and the **International Trade Centre (ITC)** have jointly launched a **USD 50 million global fund called the Women Exporters in the Digital Economy (WEIDE) Fund**.

- The aim of this fund is to **assist women-led businesses and women entrepreneurs in developing economies and least-developed countries in adopting digital technologies and expanding their online presence**.
- The **United Arab Emirates (UAE) has allocated USD 5 million as the first donor** to the fund.

Additionally, the ITC hosted the **SheTrades Summit**, bringing **together women entrepreneurs, global business leaders, and development partners to discuss solutions** to challenges faced by women in accessing new markets in the digital trading system.

Uniform Know Your Customer (KYC) mechanism

Context: A committee led by **Finance Secretary TV Somana-**

than has been tasked with suggesting ways to **enforce a uniform Know Your Customer (KYC) mechanism**.

- The committee, comprising members from various ministries and regulators, was formed after the **Finance Stability and Development Council (FSDC)** decided to **simplify and digitalize the KYC process in the financial sector**.

This initiative is deemed crucial, especially in light of the **ongoing Paytm Payment Bank crisis, which revealed non-compliance with KYC norms**.

“ KYC means **Know Your Customer and sometimes Know Your Client**. KYC or KYC check is the **mandatory process of identifying and verifying the client's identity** when opening an account and periodically over time. In other words, **banks must ensure that their clients are genuinely who they claim to be**.

61. FCV TOBACCO

Context:

The Government of India has taken several measures to **support Flue-Cured Virginia (FCV) tobacco growers in Andhra Pradesh and Karnataka**

Flue-cured Virginia (FCV) tobacco is a **type of tobacco leaf that is cured by exposing it to heat in a flue, or enclosed space**.

This process **removes moisture from the tobacco leaves while retaining their bright colour and producing a mild, sweet flavour**.

FCV tobacco is commonly used in **cigarette blends, prized for its high sugar content and smooth smoking characteristics**.

It is grown in various regions around the world, **with notable production in countries like the United States, Brazil, Zimbabwe, and India**.

FCV tobacco is mainly produced in India in **Andhra Pradesh and Karnataka**. In Karnataka, the **Mysore and Hassan districts produce more than 95% of FCV tobacco**

62. '10,000 GENOMES' PROJECT

Context:

The **Department of Biotechnology (DBT)** announced the **completion of India's '10,000 genome' project**, aiming to create a **reference database of whole-genome sequences representative of the country's diverse population**.

- India's population diversity, **consisting of over 4,600 population groups, contributes to distinct genetic variations, including disease-causing mutations prevalent within certain groups**.

The Genome India Project (GIP) is a national project that

aims to sequence 10,000 genomes by the end of 2023. The project is funded by the Government of India's Department of Biotechnology and is led by the **Centre for Brain Research (CBR)**. The GIP's first phase aims to **identify genetic variations by sequencing the genomes of 10,000 people across India**. The project's goal is to develop personalized medicine based on **patients' genomes**.

63. FIRST EU LAW TO RESTORE DEGRADED ECOSYSTEMS

Context:

The European Parliament has adopted **a ground-breaking law aimed at restoring degraded ecosystems across the EU's land and sea areas called as Nature Restoration Law (NRL)**.

- The law sets ambitious targets, **including restoring at least 20% of the EU's land and sea areas by 2030 and all ecosystems in need of restoration by 2050.**
- Member states must restore specific habitats, **such as forests, grasslands, wetlands, rivers, lakes, and coral beds, to good condition by 2030**, increasing to **90% by 2050**.

64. CENTRE FOR FOURTH INDUSTRIAL REVOLUTION (C4IR)

Context:

The World Economic Forum's Centre for Fourth Industrial Revolution (C4IR) was inaugurated during **BioAsia 2024 in Hyderabad**.

Aim: It aims to create **10,000 job opportunities in health tech**, support emerging companies, and generate novel ideas.

1. The focus areas include **real-world evidence, healthcare analytics, and informatics**.
2. Initiatives like a **clinical registry, innovation sandbox, and data analytics** lab are underway.
3. The centre aims to **develop industry-ready talent through skilling programs**.

What is C4IR?

C4IR stands for the Centre for Fourth Industrial Revolution. It is an initiative by the World Economic Forum (WEF) to establish centres that **focus on harnessing the potential of the Fourth Industrial Revolution (4IR) technologies** and driving collaboration between governments, businesses, and academia to address global challenges and opportunities.

About 4IR:

The Fourth Industrial Revolution (4IR), also known as the Digital Revolution, is characterized by the integration of technologies that blend the physical, digital, and biological realms. **Coined by Klaus Schwab, Founder and Executive Chairman of the WEF**, 4IR includes technologies such as **IoT, robotics, VR, AI, quantum computing, and 3D printing**. It brings about advancements in technology, boosts productivity and efficiency, contributes to economic growth, and facilitates good governance.

About WEF:

The World Economic Forum is an international non-governmental organization for public-private sector collaboration based in Cologny, Canton of Geneva, Switzerland. It was founded on 24 January 1971 by German engineer Klaus Schwab.

MAPPING

1. MEKONG RIVER

Context:

Laos, known for its natural beauty and historic sites, faces a new threat from a **multibillion-dollar dam project on the Mekong River**, with concerns that it could jeopardize the **UNESCO status of the iconic city of Luang Prabang**.

About :

The Mekong River is a significant transboundary river in East and Southeast Asia, ranked as **the world's twelfth-longest and Asia's third-longest**. Originating from the Tibetan Plateau, it flows through **Southwest China, Myanmar, Laos, Thailand, Cambodia, and southern Vietnam**. Despite being a crucial trade route between Tibet and Southeast Asia, its **extreme seasonal fluctuations and natural obstacles** like rapids and waterfalls pose challenges to navigation.



2. KALADAN MULTIMODAL TRANSIT TRANSPORT PROJECT (KMTTP)

About the KMTTP:

Aspect	Information
Project Name	The Kaladan Road Project is an initiative connecting the Kolkata seaport in India to the Sittwe seaport in Myanmar via sea . It extends to Paletwa in Chin State through the Kaladan river route , and then by road to Mizoram state in North-east India.

Route	Kolkata (India) – Sittwe (Myanmar) – Paletwa (Myanmar) – India-Myanmar border															
	<p>Table 1: The Kaladan Multimodal Transit Transport Project</p> <table border="1"> <thead> <tr> <th>Stretch</th> <th>Mode</th> <th>Distance</th> </tr> </thead> <tbody> <tr> <td>Kolkata to Sittwe port in Myanmar</td> <td>Shipping</td> <td>539 km</td> </tr> <tr> <td>Sittwe to Paletwa (River Kaladan)</td> <td>Inland Water Transport (IWT)</td> <td>158 km</td> </tr> <tr> <td>Paletwa to Indo-Myanmar Border (in Myanmar)</td> <td>Road</td> <td>110 km</td> </tr> <tr> <td>Border to NH.54 (Lawngtlai) (in India)</td> <td>Road</td> <td>100 km</td> </tr> </tbody> </table>	Stretch	Mode	Distance	Kolkata to Sittwe port in Myanmar	Shipping	539 km	Sittwe to Paletwa (River Kaladan)	Inland Water Transport (IWT)	158 km	Paletwa to Indo-Myanmar Border (in Myanmar)	Road	110 km	Border to NH.54 (Lawngtlai) (in India)	Road	100 km
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Border to NH.54 (Lawngtlai) (in India)	Road	100 km														
Challenges	The region around Paletwa faces challenges due to conflicts involving the Chin and Rohingya communities, as well as militant groups like the Arakan Army and the Arakan Rohingya Salvation Army .															
Significance	Reduces distance from Kolkata to Sittwe by approximately 1328 km . Provides an alternative route to connect northeast and mainland India. Reduces dependence on the narrow Siliguri corridor for transporting goods															
Status	Under construction. 98% of the project is complete . Sittwe Port was made operational last year (2023)															



3. DACHIGAM NATIONAL PARK

Context:

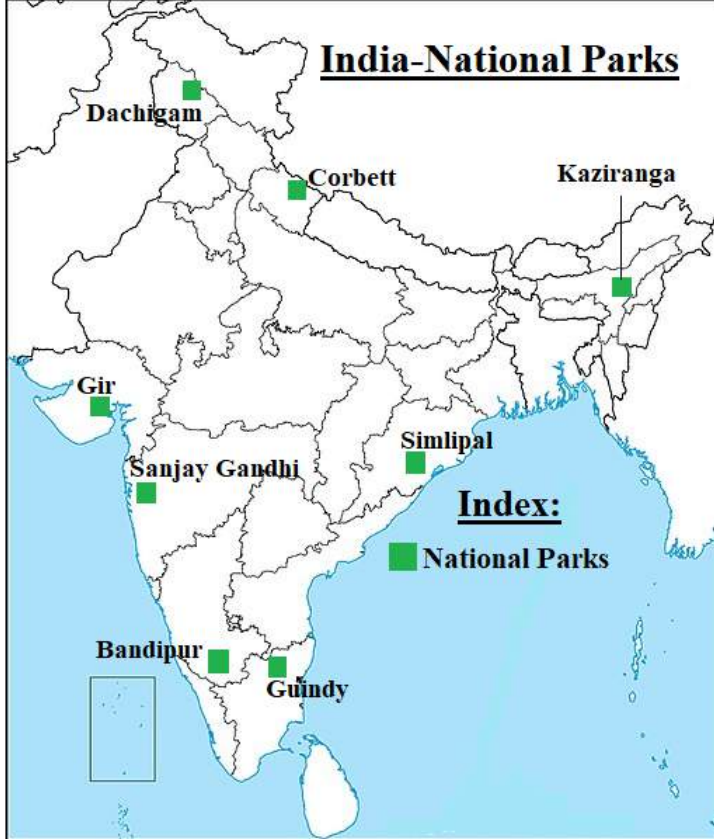
In Winter 2024, Wildlife SOS provided a **specialized diet to Himalayan Black Bears at the Dachigam National Park** in Jammu and Kashmir to support them during their natural hibernation period. Due to heavy snowfall and cold weather, regular food sources became scarce for the bears.

About Himalayan Black Bear (*Ursus thibetanus laniger*) (IUCN: Vulnerable):

It is a **subspecies of the Asian black bear**, playing a crucial role as an **ecological indicator and keystone species in its environment**. Known for its role as a primary seed disperser, it maintains ecosystem stability. Typically nocturnal and elusive, it hibernates in the winter in the northwestern Himalayas but remains active year-round in the eastern Himalayas. Being **omnivorous**, it has a varied diet and is found mainly in the Himalayas of India, Bhutan, Nepal, China, and Pakistan.

About Dachigam National Park:

It is located **22 km from Srinagar in Jammu and Kashmir**, and spans 141 sq km. Its name, meaning **'ten villages'**, possibly commemorates the relocation of ten villages for its creation. Initially established to safeguard **Srinagar's water supply**, it became a national park in 1981, protected since 1910. Situated between 5500 ft to 14,000 ft, it harbours the **endangered Hangul (Kashmir stag)** and diverse flora including wild cherry, apple, oak, and pine.



4. 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.



5. 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

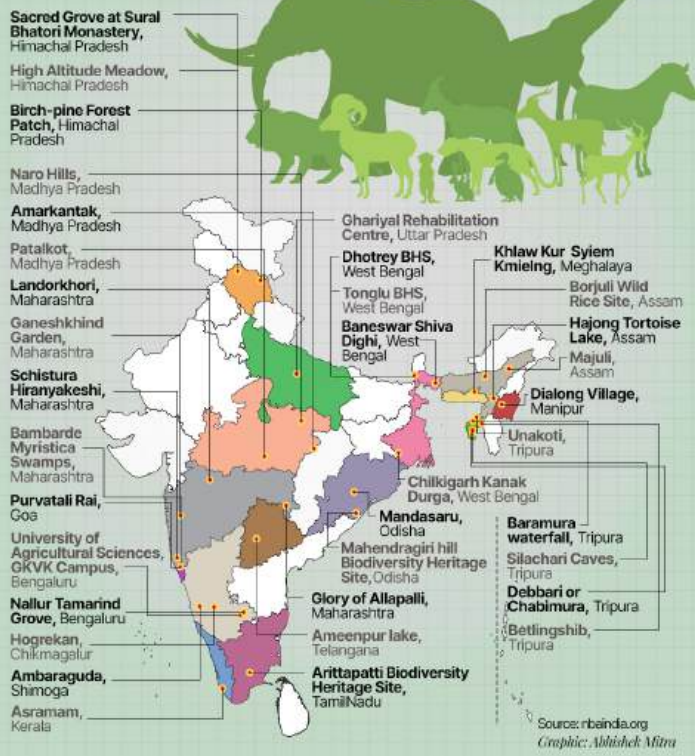


	Information
Definition	Biodiversity Heritage Sites (BHS) are areas that are recognized for their unique ecosystems and rich biodiversity .
Criteria	Unique ecosystems having rich biodiversity with one or more of the following components: (a) Richness of wild and domesticated species (b) High endemism (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); Arrippattai (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. 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.
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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**.



Biodiversity heritage sites in India



6. 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.

7. 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 seafloor, 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.



8. BUXA TIGER RESERVE

Context:

The **Buxa Tiger Reserve** in West Bengal celebrated a **significant ecological milestone** as a 'resident tiger' was spotted after 40 years, marking a crucial development in wildlife conservation efforts.

A '**resident tiger**' refers to a tiger that establishes its territory and habitat within a specific area for an extended period. This term is often used in **wildlife conservation** to denote a tiger that consistently resides and breeds within a particular region, indicating the presence of a **stable population within that ecosystem**.

About Buxa Tiger Reserve:

It spans **760 square kilometres** in **North Bengal's Alipurduar district** and is a vital component of the larger tiger territory stretching into Bhutan. It boasts **corridor connectivity** with forests in Bhutan to the North, Kochugaon and **Manas Tiger Reserve** in Assam to the East, and **Jaldapara National Park** to the West, facilitating the migration and genetic diversity of Bengal tigers.

The Tiger Augmentation Project launched in 2018 aims to monitor and boost the tiger population. Other protected areas in West Bengal include Gorumara, Sundarbans, Neora Valley, Singalila, Jaldapara, Sundarban Tiger Reserve, Mayurjharna Elephant Reserve, and Eastern Dooars Elephant Reserve.



9. MUNICH (GERMANY)

Context:

At **the Sixtieth Munich Security Conference**, world leaders convened amid concerns over the ongoing conflict in Ukraine and NATO cohesion. The conference (held annually in Munich, Germany, since **1963**), often dubbed **the 'Davos of Defence'**, serves as a crucial forum for discussing international security policy and fostering dialogue among global stakeholders. Notably, the conference publishes the **Munich Security Report**, offering insights into key security challenges.

EAM S Jaishankar remarked at the conference that **"India is non-west but not anti-west"**



10. RED SEA (MISSION ASPIDES)

Context:

The European Union launched a **naval mission named Mission Aspides** to protect shipping in the Red Sea from attacks by **Yemen's Houthi rebels**, who claim solidarity with Palestinians in Gaza.

The mission, involving at least four vessels, aims to ensure **freedom of navigation, responding to the Houthis' disruption** of vital shipping lanes since November.

Previously, the US had launched **Operation Prosperity Guardian** with a similar mission.

Vessels passing through the Red Sea are vulnerable to attacks due to its strategic importance as a **global shipping lane connecting the Mediterranean Sea through the Suez Canal to the Indian Ocean**. Its narrowness and proximity to conflict zones, particularly Yemen (where the Houthi rebels operate) and Somalia (for Piracy), make it susceptible to maritime threats.



11. VAITARNA RIVER

Context:

A rare sighting of a **bull shark attacking a fisherman in Maharashtra's Vaitarna River** marked the first occurrence of such an event 40km upstream near Manor. Sharks typically swim only **7-8km into creeks and rivers**. Experts attribute the shark's unusual presence to factors like **sand excavation creating breeding grounds for fishes** and favorable conditions during high tides.

Key facts about Bull Shark:

1. Known for their **aggressiveness towards humans**, considered one of the most dangerous shark species.
2. **Habitat:** Frequently found in **tropical coastal areas worldwide**, including shallow waters along coastlines.
3. **Unique ability to tolerate freshwater and saltwater habitats**, allowing them to venture into rivers and travel great distances upstream.
4. **Reproduces through viviparity**, with embryos developing within the mother's body and leading to live birth.
5. Conservation status: **IUCN lists them as Vulnerable**.

About Vaitarna River:

1. **West-flowing river** situated between **Mumbai and the Tapi River**.
2. Originates in the **Trimbakeshwar Hills of Nasik district, Maharashtra**.
3. Receives **most rainfall from the South West monsoon**, with 98% of annual rainfall occurring from June to October.
4. The main tributaries include **Pinjal, Ganjai, Surya, Daharji, and Tansa**.
5. The entire catchment area lies **within the Thane and Nasik districts of Maharashtra**.
6. Drains an area of 2019 sq. km before flowing into the **Gulf of Khambhat**.



12. T-50 (J&K)

Context:

India’s longest rail tunnel T-50, part of the **Udhampur-Srinagar-Baramulla Rail Link (USBRL)**, was inaugurated in Jammu and Kashmir.

The tunnel, named T-50, spans 12.77 km and is considered one of the most challenging aspects of the project. Additionally, construction progress is being made on the **Silkyara-Barokot tunnel project in Uttarkashi**, with safety measures in place to mitigate risks and ensure worker safety.

Other major tunnels in J&K (see image below):



13. ALBANIA

Context:

Albania and India are bolstering diplomatic relations, with plans unveiled for the opening of **new embassies in each other’s capitals**. Albania’s representation in India is currently led by an Honorary Consul General.

About Albania

Albania is situated in **Southeast Europe on the Balkan Peninsula**. It shares borders with Montenegro, Kosovo, North Macedonia, and Greece, and is bordered by the **Adriatic and Ionian Seas**. Tirana serves as its capital.



14. BADWATER BASIN IN DEATH VALLEY (USA)

Context:

NASA images show **Badwater Basin in Death Valley, North America’s driest place**, hosting a lake for **6 months due to increased precipitation since August 2023**.

About Badwater Basin in Death Valley National Park, California:

It is **North America’s and the United States’ lowest point**, reaching 282 ft (86 m) below sea level. It features a **spring-fed pool of “bad water,”** surrounded by **salt flats**, making the water undrinkable. Despite its inhospitable conditions, the pool sustains some animal and plant life. Named after its brackish pool, Badwater Basin was once believed to be the lowest spot in the Western Hemisphere until **Laguna del Carbón in Argentina** was discovered. Additionally, the **Badwater crater on Mars** shares similarities with this terrestrial basin.

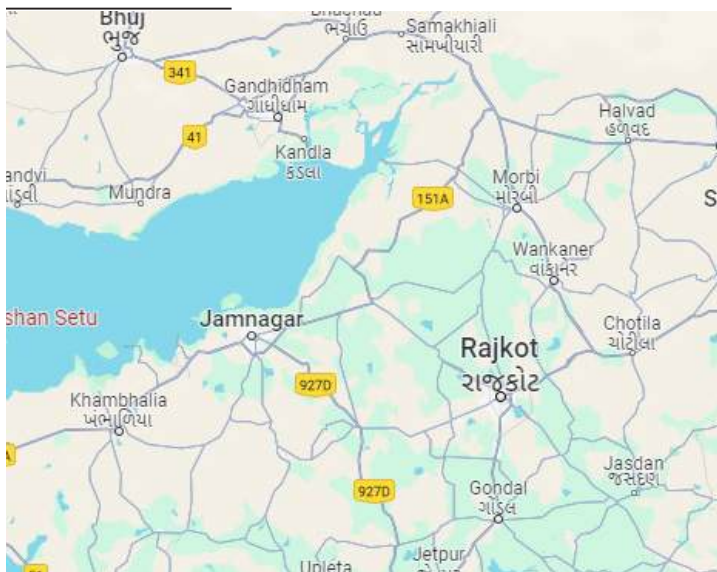


15. SUDARSHAN SETU

Context:

The Prime Minister inaugurated the **Sudarshan Setu, a cable-stayed bridge connecting Okha mainland and Beyt Dwarka island in Gujarat.**

The bridge, **spanning 2.32 km**, is India's **longest cable-stayed bridge.** Featuring a unique design with verses from the **Shrimad Bhagavad Gita and images of Lord Krishna**, the Sudarshan Setu also incorporates solar panels generating one megawatt of electricity. The bridge aims to enhance transportation and reduce travel time for devotees visiting **Dwarka and Beyt-Dwarka**, replacing the reliance on boat transport.



16. BANIHAL-SANGALDAN RAILWAY (J&K)

Context:

The PM inaugurated the **Banihal-Sangaldan railway line in Jammu and Kashmir**, aiming to connect **Baramulla in North Kashmir to Udhampur in Jammu.** The railway section includes tunnels, bridges, and escape tunnels for passenger safety.

Benefits:

- This route provides a crucial travel option **when the National Highway-44** is closed due to landslides. Additionally, it **promotes tourism and economic activity** in remote areas of the Jammu division.
- While the Valley is not yet fully integrated into the Indian railways network, completion is expected by May.
- The new train route **significantly reduces travel time between Srinagar and Jammu** and facilitates the transportation of goods, benefiting the people of Kashmir economically.

About the Jammu–Baramulla railway line:

It aims to **connect the Kashmir Valley with the rest of India**, stretching 338 km from Jammu to Baramulla. **Managed by the Ferozpur railway division** of Indian Railways' Northern zone, it includes the **Udhampur-Srinagar-Baramulla Rail Link (USBRL)**, featuring the **world's tallest railway bridge, the Chenab Bridge.**

It was initiated in 1996 by Prime Minister PV Narasimha Rao and declared a national project in 2002 by Prime Minister Atal Bihari Vajpayee.



17. BELGIUM

Context:

Belgium, often hailed as the cockpit of Europe, has become the **first country on the continent to recognize 'ecocide' as both a national and international crime.**

What is Ecocide?

Ecocide refers to **unlawful acts that result in substantial, widespread, or long-term damage to the environment.** Recognizing ecocide as a crime aims to **hold individuals and corporations accountable for their actions that harm the planet**, with penalties including imprisonment and fines. The term was invented by **American Biologist Arthur Galston in 1970.**

The countries with domestic ecocide laws are France (2021), Ukraine (2001), Kazakhstan (1997), Kyrgyzstan (1997), Russia (1996), Tajikistan (1998), Uzbekistan (1994), Vietnam (1990) etc. India is yet to make it an offence.

About Belgium:

It is a country in **Northwestern Europe, bordered by the Netherlands, Germany, Luxembourg, France, and the North Sea.** Belgium is known for its complex institutional organization, divided into three autonomous regions: **Flanders, Wallonia, and the Brussels-Capital Region.** Linguistically diverse, it has a majority Flemish and minority French-speaking population, along with a small German-speaking commu-

nity. It boasts a developed, high-income economy and is a **founding member of the European Union, Eurozone, NATO, OECD, and WTO**. Brussels serves as the **de facto capital of the European Union**, hosting key EU institutions and major international organizations.

