



# INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

## CHANDIPURA VIRUS

The current Chandipura virus (CHPV) outbreak in India is the largest in 20 years, with 245 cases of acute encephalitis syndrome (AES).

26 AUG - 31 AUG 2024

# WEEKLY CURRENT AFFAIRS

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### INDIAN

## GENERAL STUDIES – 1

Topics: Indian culture will cover the salient aspects of Art Forms, Literature and Architecture from ancient to modern times.

### 1. STATES PUSH FOR GREATER AUTONOMY IN PROMOTING CLASSICAL LANGUAGES

#### Context:

The centres for the promotion of **classical languages Telugu, Kannada, Malayalam, and Odia** are demanding autonomy to improve their functioning.

#### What is the issue involved?

1. **Current System:** Under the current system, these centres **operate under the Central Institute of Indian Languages (CIIL), Mysuru**, which requires pre-approval for events and has caused staffing and funding issues.
2. **Funding and Staffing:**
  - Telugu and Odia Centres: Facing delays and funding issues; staff positions remain unfilled.
  - Malayalam Centre: Only two staff members, struggling with financial constraints.
3. **Comparison:** Tamil and Sanskrit centres are autonomous and funded directly by the Union Education Ministry. Tamil language is promoted through an autonomous institute named **Central Institute of Classical Tamil (CICT)**. Sanskrit is promoted through **three Central Universities**.

Currently, six languages enjoy the 'Classical language' status in India. These are **Tamil** (declared in 2004), **Sanskrit** (2005), **Kannada** (2008), **Telugu** (2008), **Malayalam** (2013), and **Odia** (2014).

**Criteria for classical language status:** The Government has over time given the following criteria to determine the declaration of a language as a Classical language:

1. **High antiquity** of its early texts/recorded history over a period of 1500-2000 years
2. A body of **ancient literature/texts**, which is considered a valuable heritage by generations of speakers
3. The **literary tradition should be original** and not borrowed from another speech community
4. The classical language and literature being distinct from modern, **there may also be a discontinuity** between the classical language and its later forms or its offshoots.

#### Benefits of having classical language criteria:

- The **Ministry of Human Resource and Development** provide the following benefits to a language declared as a "Classical Language."
  1. Two major **international awards** for scholars of eminence in Classical Indian Languages are to be awarded annually.
  2. A '**Centre of Excellence** for Studies in Classical Languages' will be set up.
  3. The University Grants Commission will be requested to create and to start with at least in the Central Universities, a **certain number of Professional Chairs** for Classical Languages for scholars of eminence in Classical Indian Languages.

#### Government measures to promote classical languages:

- **Central Institute of Indian Languages (CIIL):**
  - In addition to promoting all Indian languages, the CIIL, Mysore works for the promotion of four Classical Languages namely **Kannada, Telugu, Malayalam, and Odia**.
  - CIIL works and **collaborates with various stakeholders** including Universities, Institutes, State Governments, etc. for the development of languages through its various schemes.
    - These include the **National Translation Mission, Linguistic Data Consortium of Indian Languages, Bharatvani**, etc.
- **Allocation of funds:**
  - The Union Government **allocates funds** for the promotion of classical Indian languages.
    - To note, a grant of **Rs 1,074 crore** has been released for the **promotion of Sanskrit from 2017-2022**.

#### Conclusion

As discussed, classical languages in India are declared based on a **defined set of criteria** and enjoy some **literary and financial benefits for their status**.

#### Prelims Link:

**Q. Which one of the following was given classical language status recently? (UPSC 2015)**

- (a) Odia
- (b) Konkani
- (c) Bhojpuri
- (d) Assamese

**Answer: (a)**

**Q. Consider the following languages (UPSC 2014)**

Gujarati  
Kannada  
Telugu

Which of the above has/have been declared as 'Classical Language / Languages' by the Government?

- 1 and 2 only
- 3 only
- 2 and 3 only
- 1, 2 and 3

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

## 2. HIMACHAL PRADESH RAISES THE BAR: MARRIAGE AGE NOW 21

### Context:

Himachal Pradesh has **passed a Bill to raise the minimum marriage age for women from 18 to 21 years**, amending the Prohibition of Child Marriage (PCM) Act.

The Bill **redefines a "child" as anyone under 21**, eliminating the age difference between genders. It also **overrides any conflicting laws or customs**. To annul a marriage, the time limit has been **extended to five years after reaching the age of 21**. Since the Bill amends a central law, it **must receive the President's assent to become enforceable**, following approval from the state's Governor.

Earlier, **in June 2024, a Central bill 'Prohibition of Child Marriage (Amendment) Bill, 2021'** lapsed in Lok Sabha which aimed to bring uniformity in the age of marriage for men and women. 2021 Bill was based on recommendations of **Jaya Jaitley Committee**

### Background:

- According to the NFHS-5, 23%** (47% in NFHS-3 and 27% in NFHS-4 ) of women between the age of 20 and 24 were married before 18 years of age.
- In India, the practice of child marriage was first legally prohibited through the Child Marriage Restraint Act, 1929 (also called **Sarda Act**) (legal age G = 14 years and B = 18 years)
- This Act was amended in 1978** to increase the minimum age to 18 years for females, and 21 years for men.
- The Prohibition of Child Marriage Act, 2006 replaced the 1929 Act, with the same minimum age limits.
- In 2020, the central government set up a task force (Chairperson: Ms Jaya Jaitly) to examine the correlation between the age of marriage

and the mother, and the child's health. The Committee suggested **increasing the age of marriage for females to 21**.

### What the law says?

Currently, the law prescribes that **the minimum age of marriage is 21 and 18 years for men and women**, respectively.

The minimum age of marriage is distinct from the age of majority, which is gender-neutral.

- An individual attains the age of majority at 18 as per the Indian Majority Act, 1875.
- For Hindus, Section 5(iii) of **the Hindu Marriage Act, 1955 sets 18 years** as the minimum age for the bride and 21 years as the minimum age for the groom. **Child marriages are not illegal** but can be declared void at the request of the minor in the marriage.
- In **Islam**, the marriage of a **minor who has attained puberty** is considered valid under personal law.
- The **Special Marriage Act, 1954 and the Prohibition of Child Marriage Act, 2006** also prescribe 18 and 21 years as the minimum age of consent for marriage for women and men respectively.

### Reasons for Prevalence of Child Marriages in India

- Poverty:** Families often marry off daughters early to reduce economic burdens.
- Cultural Norms:** Deep-rooted traditions prioritize early marriage.
- Lack of Education:** Limited access to education perpetuates the cycle of early marriage.
- Safety Concerns:** Families marry off girls early to protect them from perceived dangers.

### Raising the Legal Age of Marriage to Curb Child Marriages

The government's recent approval to raise the legal age of marriage for women from 18 to 21 aims to align the age for both genders and address several issues:

- Health and Wellbeing:** Early marriage and pregnancies negatively affect mothers' nutritional and mental health.
- Delay in Responsibilities:** Raising marriage age delays women's family transition, allowing more time for education and self-development.
- Gender Equality:** Equalizing legal marriage age promotes gender neutrality, challenging stereotypes.
- Social and Economic Benefits:** Reduced maternal mortality, improved nutrition, more opportunities for women in higher education and careers.

### Limitations of Raising the Legal Age

1. **Limited Success of Legal Measures:** Despite existing laws, child marriages remain prevalent. For example, NFHS-5 data shows that 23% of women aged 20-24 were married before 18. Legal measures alone have limited effectiveness without societal support.
2. **Need for Social Reforms:** Laws alone cannot drive change. Improving health, education, and awareness, along with incentivizing later marriages, are crucial. The decline in child marriages has been more linked to better education and employment for women than to legal penalties.
3. **Risk of Negative Consequences:** Raising the marriage age without addressing underlying patriarchal norms may lead to an increase in sex-selective abortions and illegal marriages.

### Way Forward

1. **Invest in Girls' Education:** Education is key to delaying marriage. According to NFHS-4, the median age of marriage rises with higher levels of education.
2. **Economic Empowerment:** Financial independence gives girls more control over their marriage decisions, reducing the likelihood of early marriage.
3. **Social and Behavioral Change Campaigns:** Changing societal norms around marriage decision-making is essential.
4. **Marriage Registration:** A system to ensure all marriages are registered can help track and enforce legal marriage ages.

### Conclusion

**Legislation alone cannot solve the problem of child marriage.** A holistic approach that includes education, economic empowerment, and societal change is needed to create lasting impact. Learning from countries like South Korea and Japan, where greater female workforce participation has helped address gender imbalances, can provide useful insights for India.

#### Insta Links:

[The Prohibition of Child Marriage Amendment Bill 2021](#)

#### Mains Links:

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

## GENERAL STUDIES - 2

Topics: [Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.](#)

## 3. REVAMPING ELECTION COMMISSIONS: IGNITING GRASSROOTS DEMOCRACY

### Context:

The article highlights that **State Election Commissions (SECs)** need urgent reform

### What are State Election Commissions (SECs)?

Aspect	Details
<b>About SEC</b>	<b>Independent constitutional authority</b> administering elections to local bodies (municipalities, panchayats, etc.) within states.
<b>Before 1992</b>	Elections to local bodies were conducted by respective State Governments.
<b>Establishment</b>	Amended Constitution in <b>1992 via the 73rd and 74th Amendments</b> to provide legal sanctity to Local Self-Governments (LSGs).
<b>Articles</b>	<b>Article 243K &amp; Article 243ZA</b> established SECs in every state as constitutional bodies.
<b>Appointment</b>	State Election Commissioner appointed by the <b>Governor</b> .
<b>Tenure &amp; Condition</b>	Conditions and tenure determined by the <b>Governor</b> ; cannot be varied to the disadvantage of the Commissioner after appointment.
<b>Removal</b>	Can only be removed in the manner and on grounds prescribed for the removal of a <b>High Court judge</b> .
<b>Significance</b>	Ensures fair play for political parties by enforcing the Model Code of Conduct.
<b>Powers &amp; Functions</b>	Superintendence, direction, and control of electoral rolls and conduct of elections to Panchayats and Municipalities.
<b>Voter List Preparation</b>	<b>Does not prepare a separate voter list</b> ; uses lists prepared by the Election Commission of India, modified for local body elections.
<b>Delimitation Powers</b>	Responsible <b>for delimiting constituencies</b> before each general election to local bodies (every 5 years).
<b>Political Party Registration</b>	<b>Empowers to register and deregister political parties</b> within the state.

### Key issues with the functioning of State Election Com-

**missions (SECs):**

1. **Disempowerment:** State governments often delay delimitation and elections for panchayat raj institutions, weakening SECs' authority and harming local governance.
2. **Urban Local Governments:** CAG's audit revealed that 70% of urban local governments in 18 states did not have elected councils.
3. **Survey Findings:** Janaagraha's 2023 survey found only 11 out of 34 states/UTs have empowered SECs to handle ward delimitation, covering only 35% of India's population.
4. **Legislative Ambiguities:** Legal ambiguities and overlapping powers create confusion and conflict, with state governments sometimes passing legislation that limits SECs' powers.
5. **Lack of Judicial Support:** Weak judicial intervention in disputes can undermine SEC autonomy, emboldening state governments to interfere.
6. **Implementation Issues:** Delays in conducting local body elections and administrative excuses can prevent timely electoral processes.
7. **Interference by State Governments:** Attempts to influence SECs, such as delaying appointments or undermining authority, compromise their independence.

**Implications of these issues:**

1. **Erosion of Local Democracy:** Weakens grassroots democracy and accountability.
2. **Undermining Public Trust:** Compromises public confidence in the electoral process.
3. **Reduction in Electoral Integrity:** Risks unfair practices and electoral malpractices.
4. **Centralization of Power:** Contributes to power centralization, reducing decentralized decision-making effectiveness.

**Reforms needed in the State Election Commissions (SECs):**

Reform	Description
<b>Supreme Court in the 2006 Kishan Singh Tomar case</b>	SECs should have the <b>same independence and authority as the Election Commission of India (ECI).</b>
<b>2nd ARC</b>	The 2nd ARC suggests that the <b>State Election Commissioner should be appointed by the Governor</b> based on the recommendation of a collegium comprising the Chief Minister, the Speaker of the State Legislative Assembly, and the Leader of the Opposition in the Legislative Assembly.

<b>Law Commission 255th Report on Electoral Reforms</b>	The report recommends <b>adding a new sub-clause to Article 324 of the Constitution</b> to establish a <b>separate, independent, and permanent Secretariat</b> for the Election Commission of India, similar to the Lok Sabha/Rajya Sabha Secretariats under <b>Article 98</b> . Similar provisions can be made for the <b>State Election Commissions to ensure autonomy</b> and fair local body elections.
<b>Fixed Intervals for Delimitation</b>	<b>Delimitation of ward boundaries and seat reservations</b> should be mandated every 10 years to prevent arbitrary delays and ensure timely elections.
<b>Preventing Malpractices</b>	SECs should <b>oversee elections for critical local roles</b> , such as mayors and presidents, to prevent malpractice.
<b>Adequate Resources and Funding</b>	SECs should receive <b>direct funding from the state budget</b> , with adequate infrastructure, technology, and staffing to manage elections effectively.
<b>Stronger Judicial Oversight</b>	<b>Establish fast-track courts</b> for timely resolution of disputes involving SECs and strengthen legal protections to prevent undue interference from state governments.

**Conclusion:**

These reforms aim to enhance the effectiveness, independence, and accountability of SECs in managing local elections.

**Insta Links:**

- State Election Commission (SEC)

**Mains Link:**

**Q. Are the State Election Commissions in India as independent as the Election Commission of India? Discuss. (250 Words)**

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

**4. UNIFIED PENSION SCHEME (UPS)**

**Context:** The **Unified Pension Scheme (UPS)** approved

by the Union Cabinet promises assured pensions for government employees after retirement, starting April 2025. The Unified Pension Scheme (UPS), based on the **T.V. Somanathan Committee's recommendations (2023)**, aims to combine the benefits of both the Old Pension Scheme (OPS) and the New Pension Scheme (NPS).

### Key Features of UPS:

1. **Assured Pension:** 50% of the average basic pay from the last 12 months for a minimum of 25 years of service. Proportionate for service periods between 10 and 25 years.
2. **Assured Family Pension:** 60% of the retiree's pension to their family after their demise.
3. **Assured Minimum Pension:** ₹10,000/month (higher than ₹9,000 under OPS and NPS).
4. **Inflation Indexation:** Dearness relief linked to the All India Consumer Price Index for Industrial Workers (AIC-PI-IW), similar to OPS.
5. **Lump Sum Payment:** An additional payment equal to 1/10th of the monthly salary + dearness allowance for every six months of service, alongside gratuity, without affecting the pension amount.

### Differences between the Unified Pension Scheme (UPS), National Pension Scheme (NPS), and Old Pension Scheme (OPS):

Feature	Unified Pension Scheme (UPS)	National Pension Scheme (NPS)	Old Pension Scheme (OPS)
Effective Date	April 1, 2025	January 1, 2004	Pre-2004 (replaced by NPS)
Pension Type	Assured Pension	Market-linked returns	<b>Assured Pension</b>
Pension Calculation	50% of average basic pay of last 12 months (min. 25 years service); proportionate for lesser service (min. 10 years)	Based on market performance of funds, no assured amount	50% of last drawn basic pay
Minimum Pension	₹10,000/month (min. 10 years service)	No minimum assured pension	₹9,000/month (adjusted for inflation)
Family Pension	60% of the retiree's pension	No family pension guarantee	50% of retiree's pension
Inflation Indexation	Dearness Relief based on AICPI-IW	Not applicable (market-based returns)	Dearness Relief based on AICPI-IW
Lumpsum Payment	1/10th of monthly salary + Dearness Allowance for every 6 months of service (in addition to gratuity)	No lumpsum payment	No lumpsum payment
Fiscally Funded	Yes (contributory funded scheme)	Yes (contributory funded scheme)	No (unfunded scheme)

### Concerns with the Old Pension Scheme (OPS) and the issues with the National Pension Scheme (NPS):

Concerns/Issues	Old Pension Scheme (OPS)	National Pension Scheme (NPS)
<b>Funding</b>	<b>Unfunded Pension Liability:</b> No dedicated corpus for pensions. The government provided annual budgets without a clear future plan.	Funded by employee contributions (10% of basic pay + dearness allowance) and government contributions.
<b>Sustainability</b>	<b>Unsustainable:</b> Pension liabilities increased with salary hikes and indexation. Extended life expectancy added to the <b>burden</b> .	<b>Market-linked and return-based:</b> Payouts are uncertain due to dependence on market performance.
<b>Payout Stability</b>	<b>Fixed pension</b> amount, but with increasing financial strain due to rising liabilities.	<b>Variable pension</b> amount, subject to market fluctuations and investment returns.
<b>Pension Calculation</b>	<b>50% of last drawn basic</b> pay, with benefits adjusted for inflation.	<b>No guaranteed pension</b> amount; depends on market performance and contributions.
<b>Impact on Government Finances</b>	<b>Massive pension burden</b> due to increasing liabilities and longer lifespans.	<b>More controlled fiscal impact</b> due to contributory nature, but with uncertain returns for employees.

**Insta Links:** Old Pension Scheme (OPS): A Caution by RBI

**Prelims Link:**

**Q. Who among the following can join the National Pension System (NPS)? (UPSC 2017)**

- (a) Resident Indian citizens only
- (b) Persons of age from 21 to 55 only
- (c) All State Government employees joining the services after the date of notification by the respective State Governments
- (d) All Central Government employees including those of Armed Forces joining the services on or after 1st April, 2004

**Ans: (c)**

## 5. 10 YEARS OF PM JHAN DHAN YOJANA

**Context:**

The government is celebrating 9 years of completion of **Pradhan Mantri Jan-Dhan Yojana (PMJDY)** in revolutionizing financial inclusion in India.

**What is financial inclusion?**

It is ensuring access to financial services and credit for vulnerable groups at an affordable cost. In India, it's vital for development and progress. Access to a transaction account is a key step, allowing storage, payments, and transfers, acting as a gateway to broader financial services.

**What is PMJDY?**

The PMJDY, the world's largest financial inclusion mission, reached a significant milestone by surpassing 500 million accounts after nine years since its launch.

**About the scheme:**

**Pradhan Mantri Jan Dhan Yojana**

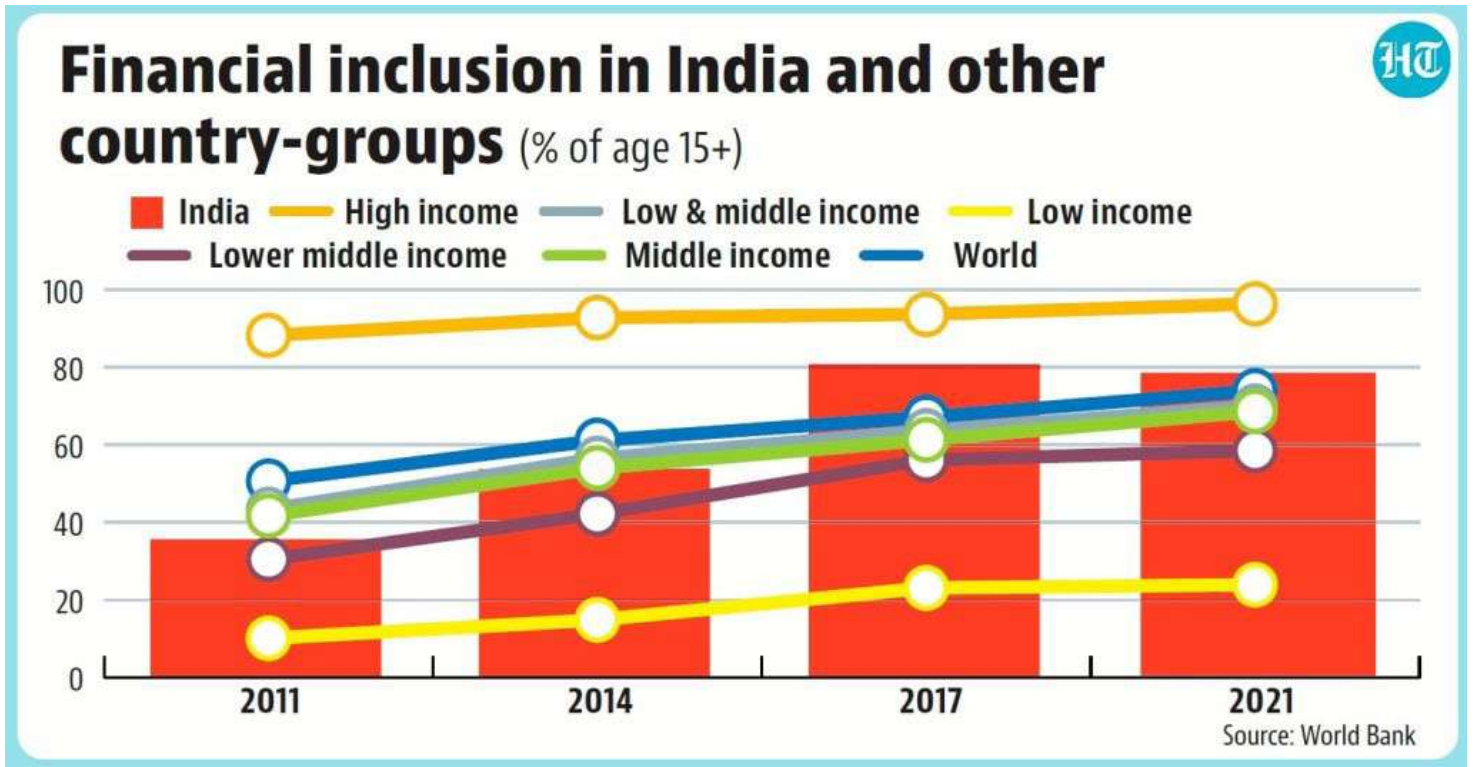
Context: According to a recent RTI application, only 329 claims out of 647 claims filed for accident insurance cover under the PMJDY have been settled in the past two financial years.

About PMJDY	
	Information
About	It aims to ensure access to financial services, namely, basic savings & deposit accounts, remittance, credit, insurance, pension in an affordable manner.
Benefits under PMJDY	No requirement to maintain any minimum balance in PMJDY accounts and interest is earned on the deposit in PMJDY accounts; Rupay Debit card is provided to the PMJDY account holder; An overdraft (OD) facility up to Rs. 10,000 to eligible account holders is available.
Insurance Facility under PMJDY	<ul style="list-style-type: none"> <li>• Account holders are eligible for two types of insurance covers –                             <ul style="list-style-type: none"> <li>○ A life insurance cover of Rs. 2 lakhs under the Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)</li> <li>○ An accidental insurance cover of Rs. 2 lakh under the Pradhan Mantri Suraksha Bima Yojana (PMSBY).</li> </ul> </li> <li>• Premium of Rs. 330 per annum and Rs. 12 per annum, respectively.</li> <li>• More than 50% of PMJDY account holders are women</li> <li>• No premium is charged from account holders for the accident insurance cover for death or permanent disability.</li> <li>• To avail the insurance, the beneficiary must have performed at least one successful transaction with their debit card 90 days prior to the date of the accident.</li> </ul>
Challenges to PMJDY	Lack of Awareness, Limited Infrastructure, Limited Resources, Dependence on Cash Transactions
Other Initiatives to Increase Financial Inclusion in India	Digital Identity (Aadhaar), National Centre for Financial Education (NCFE), Centre for Financial Literacy (CFL) Project, Expansion of financial services in Rural and Semi-Urban Areas, Promotion of Digital Payments

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**Key Successes of PMJDY:**

Aspects:	Examples
Achievement	By July 2024, <b>over 52 crore Jan Dhan accounts</b> were opened. Nearly <b>100% of villages have banking outlets</b> within 5 km as per the Jan <b>Dhan Darshak App</b> . The average deposit in PMJDY accounts grew <b>4.12 times</b> from 2015 to 2024, and zero balance accounts decreased to <b>4.26 crores</b> from <b>8.52 crores</b> in March 2015.
Women Empowerment	Increased financial inclusion for women; over 55% of accounts belong to women
Rural & Semi-Urban Focus	Extending banking facilities to underserved regions; 67% of accounts opened in these areas
RuPay Cards	Offering insurance benefits to account holders; About 340 million were issued with ₹2 lakh accident insurance cover
Inclusion	Empowering financially vulnerable sections; Brought marginalized sections into the formal banking system
Financial Benefits	Enabling individuals to save and transfer funds securely; Savings brought into the formal financial system, remittance opportunities, freedom from usurious money lenders
Role in Welfare	Direct Benefit Transfers (DBT) using PMJDY accounts; Used to distribute welfare packages without pilferage, including COVID-19 financial assistance, PM-Kisan, MGNREGA, and insurance covers
Digital Platform	Providing easy access to banking services; the Jan Dhan Darshak app locates banking touchpoints
JAM Architecture	Facilitating direct transfer of government benefits; Part of JAM (Jan-Dhan, Aadhaar, mobile) system for subsidy delivery and benefits transfer
Formalisation of Financial System	It provides an avenue for the poor to bring their savings into the formal financial system, an avenue to remit money to their families in villages besides taking them out of the clutches of the usurious money lenders



**Conclusion:**

Efforts are being made to provide micro-insurance coverage to PMJDY account holders, with eligible individuals being targeted for inclusion in schemes like PMJJBY and PMSBY. To facilitate this, acceptance infrastructure is being established across the country. Moreover, steps are being taken to enhance the access of PMJDY account holders to micro-credit and micro-investment options such as flexi-recurring deposits.

**Insta Links:**

[Pradhan Mantri Jan Dhan Yojana](#)

**Mains Links:**

Pradhan Mantri Jan Dhan Yojana (PMJDY) is necessary for bringing the unbanked to the institutional finance fold. Do you agree with this for the financial inclusion of the poorer section of Indian society? Give arguments to justify your opinion. (UPSC 2016)

**Prelims Links:**

‘Pradhan Mantri Jan-Dhan Yojana’ has been launched for (UPSC 2015)

- (a) providing housing loans to poor people at cheaper interest rates
- (b) promoting women’s Self-Help Groups in backward areas
- (c) promoting financial inclusion in the country
- (d) providing financial help to the marginalized communities

Ans: (c)

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.

## 6. UNION GOVERNMENT ROLLS OUT REVAMPED GRIEVANCE HANDLING GUIDELINES

**Context:**

The Union Government has introduced **Comprehensive Guidelines for Handling Public Grievances** to streamline and improve the redressal process.

### Key features include:

1. **Unified Platform:** CPGRAMS ([www.pgportal.gov.in](http://www.pgportal.gov.in)) for all grievances.
2. **Nodal Officers:** Appointed in each Ministry/Department for efficient grievance management.
3. **Grievance Cells:** Dedicated cells in every Ministry/Department with knowledgeable staff.
4. **Timely Redressal:** Grievances to be resolved within 21 days; interim replies for longer cases.
5. **Escalation Process:** Appellate officers for further review.
6. **Feedback Mechanism:** SMS and email updates, with appeal options for dissatisfied citizens.
7. **AI Analysis:** Feedback is analyzed using AI tools for improvements.
8. **Monthly Index:** Assessment index for ranking Ministries/Departments.
9. **Training:** Capacity building for grievance officers via state Administrative Training Institutes.

### What do you understand by 'Public Grievance'?

'Public Grievance' refers to the **complaints, concerns, or dissatisfaction expressed by citizens regarding the functioning of public services**, government policies, or administrative actions. It represents the grievances and grievances of the general public, highlighting their expectations of efficient and accountable governance.

- **Data:** According to the **Annual Report 2020-21 of the Department of Administrative Reforms and Public Grievances**, the number of public grievances received by the Government of India increased from 2,29,612 in 2015 to 18,31,507 in 2020, indicating the significance of public grievances in a democratic society.

### Why is public grievance significant in a democratic society?

1. **Accountability:** Ensures the government is answerable and transparent.
2. **Citizen Empowerment:** Allows citizens to voice concerns and influence governance.
3. **Service Improvement:** Identifies and corrects flaws in public services.
4. **Trust Building:** Enhances public confidence in government actions.
5. **Participatory Governance:** Encourages citizen involvement in decision-making, e.g., Mahila Samakhya's role in India.

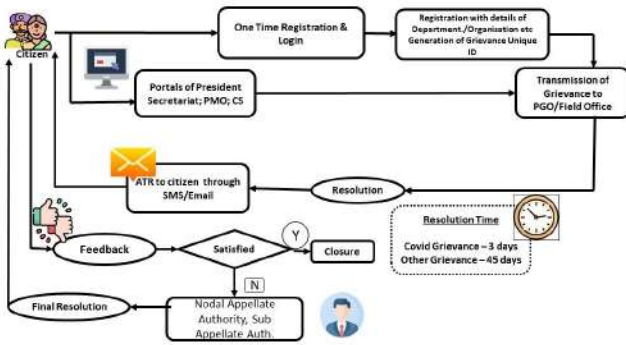
### Different levels of institutional mechanisms available for addressing Public Grievances in India:

Level	Mechanisms	Examples
Central Level	DARPG & DPG	CPGRAMS: 80% resolved in 60 days (2020)
	CPGRAMS	<b>PMO Grievance</b> Redressal System
State Level	State Public Grievance Redressal Com-missions	Odisha OGRS: Streamlined grievance <b>process</b>
	<b>State Grievance</b> Portals	
Constitutional Bodies	<b>National Commission</b> for SCs	
	National Commission for STs	
Statutory Bodies	Lokpal/Lokayukta	Madhya Pradesh Lokayukta: Addressed corruption
	NHRC/SHRCs	NCDRC/SCDRCS: Consumer dispute resolution
Judiciary	High Courts & Supreme Court	

### About CPGRAMS:

Aspect	Details
<b>About CPGRAMS</b>	A platform for registering complaints against Central and State authorities.
<b>Genesis</b>	Launched in 2007 by DARPG.
<b>Achievements</b>	Resolved 60 lakh grievances (2022-2024). Reduced redressal timeline from 30 to 21 days.
<b>Reforms (2022)</b>	Universal CPGRAMS 7.0, automatic flagging, AI/ML use.
<b>Other Initiatives</b>	<b>PRAGATI:</b> ICT-based grievance platform by MeitY.
	<b>INGRAM:</b> Portal for consumer grievances by the Department of Consumer Affairs.
	<b>Sevottam:</b> Model to improve public service quality (2006).

**CPGRAMS PROCESS FLOW**



**Conclusion:**

Public grievance is a critical aspect of a democratic society as it allows citizens to voice their concerns, seek redressal for grievances, and hold the government and other institutions accountable. It promotes transparency, fairness, and inclusivity in governance.

Topics: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.

**7. PM'S VISIT TO UKRAINE**

**Context:**

Prime Minister Narendra Modi's visit to Ukraine on August 23, 2024, was largely seen as a diplomatic balancing act rather than a significant peace effort.

**Key Highlights of the Visit**

1. Cooperation in **agriculture and food industry**.
2. **Humanitarian grant assistance** for community development projects.
3. **Cultural cooperation** and agreement on medicines and drugs.
4. Provided four **BHISHM** (Bharat Health Initiative for Sahyog Hita & Maitri) Cubes containing medicines and equipment for first-line care.

**India-Ukraine Relations:**

Area	Details
Diplomatic Relations	<b>India recognized Ukraine as an independent country in December 1991</b> after the breakup of the Soviet Union. Warm and friendly relations, cooperation in education, legal assistance, and outer space.

Defence Relations	Ukraine has supplied military technology to India since its independence. <b>India uses Ukraine-made R-27 air-to-air missiles</b> for SU-30MKI fighters. India has started supplying weapons to Ukraine to enhance <b>defence cooperation</b> .
Trade	<b>India is Ukraine's largest export destination in the Asia-Pacific region</b> and fifth largest overall. <b>Pharmaceuticals</b> are India's main export to Ukraine.
Culture	<b>Over 30 Ukrainian cultural associations</b> promote Indian dance across Ukraine. Approximately 18,000 Indian students, primarily in medical fields, study in Ukraine. Indian professionals work in pharmaceuticals, IT, engineering, and more.
Agriculture	Pre-war Ukraine was one of the <b>biggest sources of sunflower oil for India</b> .
Post-war Recovery	Both countries are exploring <b>Indian companies' involvement in Ukraine's reconstruction</b> and recovery efforts.
Other	Opportunities in <b>medical education and</b> other sectors.

**India's Stand on the Ukraine-Russia Conflict:**

1. Advocates **peaceful resolution through dialogue and diplomacy**.
2. Asserted that **India is not neutral, choosing the side of peace**.
3. Expressed concern **without openly condemning Russia**.
4. Emphasised the **importance of the UN Charter and territorial sovereignty**.
5. Highlighted the **economic impact of the war on the Global South**.
6. Strongly favours a **return to dialogue and diplomacy**.

**Why is India regarded as the best mediator?**

- Won credibility as **a neutral mediator** despite diplomatic tensions.
- **Prevented attack on Zaporizhzhia nuclear power station** in Ukraine.
- Involved in discussions to intervene with Russia **during Black Sea grain shipment**.
- **Mexico suggested India, Pope Francis, and UN Secretary-General mediate Russia-Ukraine crisis**.
- **Good relations with Moscow and West can pressure Russia to end Ukraine war**.
- **Peace-making** could help India **gain a permanent UN Security Council seat**.

### Challenges ahead for India to be a mediator:

- **Understanding dynamics between Russia and Ukraine, Russia and European players, and Ukraine and European partners.**
- Demonstrating **effective negotiation skills** in bilateral and multilateral formats.
- Considering India's risk-taking abilities in its immediate region, entering a geopolitical crisis of this size is different.
- Despite criticism, India maintains a **close relationship with Russia** due to its strategic ties in nuclear, space, defence, energy, and connectivity sectors.
- Russia does not transfer military technologies to any other country.
- India cannot afford a closer strategic relationship with Russia and China.

### Conclusion:

The Russia-Ukraine crisis has entered a new phase, in which Indian diplomacy could aid in a range of realistic ways to address the stated challenges.

#### Insta Links:

[Globe-changing reverberations of the Ukraine war](#)

#### Mains Link:

Q. The Ukraine conflict seems to have reached a deadlock. How can Indian diplomacy participate and contribute to the peace efforts in the Russia-Ukraine war? Examine. (15M)

## 8. US-INDIA RELATIONS: STEADY TIES IN A SHIFTING POLITICAL LANDSCAPE

### Context:

India's relationship with the **US has thrived under both Republican and Democratic administrations**. As the US faces potential leadership changes with either Donald Trump or Kamala Harris, India's ties with Washington are expected to remain strong due to their well-established foundation.

### Key Points from the article:

- **Consistent Growth:** India's relationship with the US has strengthened over the years, from President Bill Clinton to Joe Biden. Both the Trump and Biden administrations have advanced this partnership, and India's leaders across party lines have supported deepening these ties.
- **Geopolitical Position:** The US is India's most significant global partner, surpassing China and Russia in economic and technological engagement. Despite internal and external challenges, the US-India relationship remains a priority.
- **Policy Continuity:** Both Trump and Harris are likely to continue supporting strong US-India relations. Harris's stances on immigration, trade, technology, and Eurasian security suggest alignment with key Indian interests. Her focus on legal immigration, trade relief, and technology collaboration could benefit India.
- **Strategic Cooperation:** The shared interest in countering Chinese influence and building a multipolar Asia will likely persist. Harris's previous engagement with Asia and commitment to NATO and Ukraine align with India's strategic goals.

### Evolution of India-US relations over time:

Era/Period	Key Developments
From Estrangement to Engagement - The Cold War Thaw	<ul style="list-style-type: none"> <li>- <b>Cold War Era:</b> India and the US were on opposite sides; India pursued non-alignment while Pakistan aligned with the US.</li> <li>- <b>1990s Thaw:</b> Relations began to warm with India's economic liberalization and the end of the Cold War.</li> <li>- <b>2000 Visit:</b> President Bill Clinton's visit marked the first presidential visit in over 20 years.</li> <li>- <b>2004 NSSP:</b> The signing of the Next Steps in Strategic Partnership (NSSP) strengthened ties.</li> <li>- <b>Increased Dialogue:</b> Strategic dialogues and economic cooperation began to grow.</li> </ul>

<p><b>Nuclear Breakthrough - A New Era of Trust</b></p>	<ul style="list-style-type: none"> <li>- <b>2008 Civil Nuclear Agreement:</b> Ended India’s nuclear isolation and recognized it as a responsible nuclear power.</li> <li>- <b>Global Integration:</b> Paved the way for India’s integration into the global nuclear order.</li> <li>- <b>Defense and High-Tech Cooperation:</b> Increased cooperation in defence and high-technology sectors.</li> <li>- <b>US Commitment:</b> Demonstrated the US’s commitment to elevating India’s global stature.</li> </ul>
<p><b>Defense Ties - From Buyer to Partner</b></p>	<ul style="list-style-type: none"> <li>- <b>Early 2000s Growth:</b> Defense cooperation grew significantly.</li> <li>- <b>2016 Major Defense Partner:</b> The US designated India as a Major Defense Partner.</li> <li>- <b>2018 STA Tier 1:</b> India received license-free access to a wide range of military and dual-use technologies.</li> <li>- <b>Foundational Agreements:</b> LEMOA (2016), COMCASA (2018), and BECA (2020) enabled deeper military cooperation.</li> <li>- <b>Joint Exercises &amp; 2+2 Dialogue:</b> Strengthened strategic ties through joint exercises like Malabar and the establishment of the 2+2 Ministerial Dialogue.</li> </ul>
<p><b>Economic Synergy - Beyond Trade to Strategic Cooperation</b></p>	<ul style="list-style-type: none"> <li>- <b>2023-24 Trade:</b> Bilateral trade reached USD 118.28 billion; US is India’s largest trading partner and significant source of FDI.</li> <li>- <b>Expanded Cooperation:</b> Beyond trade, areas like clean energy, digital economy, and healthcare are key.</li> <li>- <b>SCEP 2021:</b> US-India Strategic Clean Energy Partnership.</li> <li>- <b>Covid-19 Vaccine Collaboration:</b> Demonstrates evolving economic ties.</li> </ul>
<p><b>Collaborating in the Digital Age</b></p>	<ul style="list-style-type: none"> <li>- <b>Technology Cooperation:</b> Focus on emerging technologies like AI, quantum computing, and 5G.</li> <li>- <b>2009 Endowment Fund:</b> US-India Science and Technology Endowment Fund fostered innovation.</li> <li>- <b>Recent Initiatives:</b> US-India Artificial Intelligence Initiative and Critical and Emerging Technology Initiative (iCET) launched in 2022.</li> </ul>
<p><b>Geopolitical Alignment - Partners in the Indo-Pacific</b></p>	<ul style="list-style-type: none"> <li>- <b>China’s Rise:</b> Brought India and the US closer strategically.</li> <li>- <b>Quad Revival:</b> Quadrilateral Security Dialogue (Quad) with Japan and Australia.</li> <li>- <b>Indo-Pacific Strategy:</b> India’s inclusion in the US Indo-Pacific strategy.</li> <li>- <b>Joint Statements &amp; Initiatives:</b> Emphasis on a “free and open Indo-Pacific” and initiatives like the Supply Chain Resilience Initiative.</li> </ul>

**Other areas of India-US Partnership**

Highlights	Description
<p><b>High-Tech Partnership</b></p>	<p>Semiconductor supply chain agreements; Introduced <b>Indo-U.S. Quantum Coordination Mechanism</b> to facilitate better collaboration among academia and industries;</p>
<p><b>Defence Cooperation</b></p>	<ul style="list-style-type: none"> <li>• <b>Strategic Defence partnership; India – US Defence Acceleration Ecosystem (INDUS-X);</b></li> <li>• MoU between GE and HAL for manufacturing GE-F414 jet engines in India (with 80% technology transfer) to be used in Tejas Mk2</li> <li>• Purchase of 16 armed MQ-9B SeaGuardian UAVs;</li> <li>• Defence acceleration ecosystems;</li> <li>• Ship repair agreements;</li> <li>• Placement of Indian liaison officers at US commands</li> </ul>

<b>Space Cooperation</b>	<ul style="list-style-type: none"> <li>India <b>signing the Artemis Accords for lunar and space exploration</b>;</li> <li>NASA provides <b>advanced training to Indian astronauts</b>;</li> <li>Strategic Framework for <b>human spaceflight cooperation by 2023 end</b></li> <li>NASA and ISRO have agreed to launch a <b>joint mission to the International Space Station in 2024</b></li> </ul>
<b>Trade and Consular Issues</b>	Resolution of WTO disputes and market access; Establishment of new consulates in India (Bengaluru and Ahmedabad) and the US (India's consulate in Seattle); <b>Relaxation in H1B visa norms</b>
<b>Clean Energy</b>	<ul style="list-style-type: none"> <li><b>US-India New and Emerging Renewable Energy Technologies Action Platform</b> to accelerate cooperation in green hydrogen and other <b>emerging technologies</b>.</li> <li><b>The U.S. Agency for International Development</b> is to support <b>Indian Railways to become a "net-zero" carbon emitter by 2030</b>.</li> <li>India joins the Mineral Security <b>Partnership (MSP) to advance critical energy minerals supply chains globally</b>, adhering to environmental and social standards.</li> </ul>
<b>Innovation partnership</b>	Created a <b>new Joint Task Force of the Association of American Universities</b> and leading <b>Indian educational institutions</b> to expand research and university partnerships.

**Insta Links:**

- India-US Economic Relations

**Mains Links:**

Q. What introduces friction into the ties between India and the United States is that Washington is still unable to find India a position in its global strategy, which would satisfy India's National self-esteem and ambitions'. Explain with suitable examples. (UPSC 2019)

**Prelim Links:**

**Q. India Government Bond Yields are influenced by which of the following? (UPSC 2021)**

- Actions of the United States Federal Reserve.
- Actions of the Reserve Bank of India.
- Inflation and short-term interest rates.

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

Answer: D

## GENERAL STUDIES - 3

Topics: Science and Technology- developments and their applications and effects in everyday life Achievements of Indians in science & technology; indigenization of technology and developing new technology.

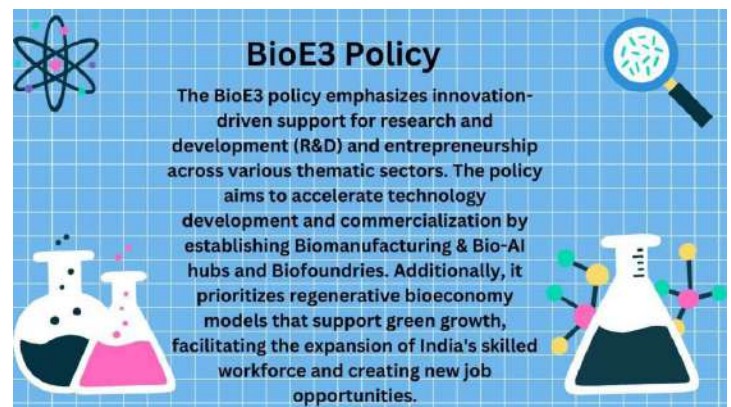
## 9. CABINET GREENLIGHTS GAME-CHANGING BIOTECH MANUFACTURING BOOST

**Context:**

The Union Cabinet approved the **BioE3 Policy (Biotechnology for Economy, Environment, and Employment)** to drive a biotech manufacturing revolution, akin to the IT sector's transformation in the 1990s.

**Aim:**

The **BioE3 Policy aims to revolutionize biotechnology in India** by **boosting sustainable bio-manufacturing across sectors** like healthcare, agriculture, and environmental conservation. It fosters innovation, supports national priorities, and enhances employment through advanced biotechnological processes.



### Features of the BioE3 (Biotechnology for Economy, Environment, and Employment) Policy:

It focuses on **promoting biotechnology-based manufacturing in India**, aiming to catalyze a technological revolution. Here are the important features:

- High-Performance Biomanufacturing:** Focuses on manufacturing products through advanced biotechnological processes, including medicines, materials, and bio-based products for agriculture and industry.

2. **Strategic Thematic Sectors:** The policy covers six thematic areas:
  1. Bio-based chemicals, biopolymers, and enzymes.
  2. Smart proteins and functional foods.
  3. Precision biotherapeutics.
  4. Climate-resilient agriculture.
  5. Carbon capture and utilization.
  6. Marine and space research.
3. **Fostering Innovation:** Encourages the development of bio-based products that can address environmental, agricultural, and industrial challenges.
4. **Capacity Building:** Supports the creation of internships for students in grades 11th and 12th, as well as fellowships for graduate and post-graduate research.
5. **Focus on National Priorities:** Addresses critical areas such as sustainable agriculture, environmental conservation, and biotechnology innovation to meet national needs.
6. **Government Backing:** Merged various schemes into a single initiative called **“Vigyan Dhara.”** which allocates significant resources for science, technology, research, and innovation.

### What is Biotechnology?

It is a technology that utilizes biological systems, living organisms or parts of this to develop or create different products. **Genomic technologies** are defined as technologies used to manipulate and analyze genomic information.

### Examples of Biotechnology

1. Medical Biotechnology
2. Genetic engineering
3. Industrial Biotechnology
4. Environmental Biotechnology

Potential of Biotechnology in **Healthcare and Agriculture:**

Potential of Biotechnology	Details
<b>Gene Therapy</b>	Replaces/modifies defective genes with healthy ones. Cures diseases like Parkinson’s, cystic fibrosis, haemophilia, muscular dystrophy, sickle cell anaemia.
<b>Pharmacogenomics</b>	Studies genetic response to drugs, optimizing therapy with fewer adverse effects. Helps develop better vaccines, powerful medicines.
<b>Stem Cell Therapy</b>	Uses stem cells to repair diseased or injured tissues. Treats cardiovascular and neurodegenerative diseases (Parkinson’s, Alzheimer’s, Huntington’s).

<b>Molecular Diagnostics</b>	Techniques like Recombinant DNA, PCR, and ELISA enable early diagnosis for better treatment.
<b>Edible Vaccines</b>	Uses transgenic plants to produce vaccines. Treats diseases like cholera, hepatitis B, and foot and mouth disease.
<b>GM Crops</b>	Enhances pest resistance, tolerance to abiotic stresses (cold, drought), and nutritional value (golden rice). Increases photosynthesis efficiency.
<b>Increase in Crop Production</b>	Improves crop yield through better disease control and stress tolerance. Reduces losses for farmers.
<b>Biofortification</b>	Enhances micronutrient content in crops through genetic modification or enriched fertilizers.
<b>Tissue Culture</b>	Regenerates disease-free plants in labs, providing high-quality planting materials.
<b>Fresher Produce/Increased Shelf-Life</b>	Extends the shelf life of food, reducing waste and ensuring access to fresher produce.
<b>Aesthetic Flowers</b>	Improves flowers’ smell, size, and ornamental qualities of shrubs and trees.
<b>Breeding of Animals</b>	Uses artificial insemination for enhanced breeding in livestock like sheep and cattle.
<b>Other Applications</b>	Hybrid seeds, biofertilizers, biopesticides, stress-resistant crops, and improved animal production through better growth, nutrition, and health.

### Few challenges associated with Biotechnology

- Biotechnology can threaten the survival of certain species by **interfering with natural ways of breeding**
- As biotechnology allows crops to intake more nutrients from the soil, this will result in **loss of soil fertility**
- Biotechnology can lead to biological weapons that terrorists could use for **destruction(Bio wars)**
- Altering DNA in humans can result in the **commercialization of these techniques thus it can turn human life into a commodity.**
- **Protecting patient privacy** is becoming an increasing concern due to the latest advances in technology that are making it possible to decipher the human genome.
- The development in genomics and techniques for creating artificial genes present serious **threats to humans and the environment in general**
- **Lack of public awareness** of the modern tools of biotechnology

## Conclusion

**Biotechnology has numerous advantages** but it also has some disadvantages. Biotechnology could be utilised in solving future problems like food and water insecurity, hereditary diseases, etc but its ethical, and social issues need to be taken into account while its usage

## Insta Links:

- Applications of Biotechnology in various fields

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

## 10. MICROPLASTICS FOUND IN HUMAN BRAIN TISSUE

### Context:

Studies reveal alarming levels of microplastics in human brain tissue, underscoring the urgent need to address plastic pollution.

### About Microplastics:

- **Microplastics** are defined as synthetic solid particles sized ranging from 1 micrometre to 5 millimetres (mm), which are insoluble in water.
- They are particularly harmful to the oceans as they don't readily break down into harmless molecules and adversely affect the health of marine organisms, which mistake plastic for food.

### Key findings:

1. **Microplastics in Brain Tissue:** Detected in brain samples at higher concentrations than other organs.
2. **Health Risks:** Linked to oxidative stress, cardiovascular issues, and potential cognitive impairments.
3. **Environmental Ubiquity:** Found in various human organs including lungs, placentas, and reproductive organs.
4. **Regulatory Gaps:** No current standards for microplastics in food or water in the US.
5. **Rising Levels:** The concentration of microplastics in the brain has increased over time.
6. **Animal Studies:** Show links to fertility issues, cancer, and endocrine disruption.
7. The concentration of plastic particles including microplastics in the ocean has **skyrocketed in the oceans since the mid-2000s**, and it continues to increase.

8. **If the world fails to take any drastic action** about the issue, there will be a **2.6-fold increase in plastic flowing** into aquatic environments by 2040.

### Microplastics Impact

- On Humans: Cancer, endocrine and immune system disruption, brain cell damage, impaired learning, negative maternal and fetal health effects.
- On Aquatic Ecosystems: Bioaccumulation, immune and digestive system compromise, altered gene expression, growth inhibition.
- On Benthic Organisms: Disrupts trophic energy transfer and nutrient remineralization.
- On Environment: Enters food chains, and accelerates soil water evaporation.

### Mechanisms:

- Mechanical: Lacerations and blockages in organisms.
- Chemical: Leaching of absorbed chemicals like DDT and PCBs; disruption of the ocean carbon cycle.

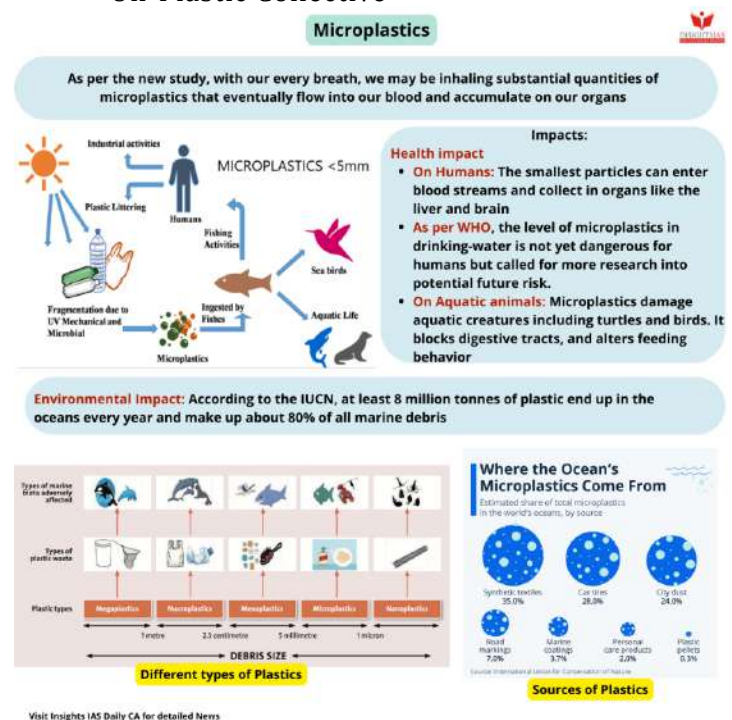
### Initiatives Taken to tackle microplastics:

#### Global Initiatives:

- [Global Partnership on Marine Litter \(GPML\)](#)
- [GloLitter Partnerships Project](#)
- [London Convention, 1972](#)

#### India-Specific Initiatives:

- [Elimination of single-use plastic](#)
- [Plastic Waste Management Rules, 2016](#)
- [Un-Plastic Collective](#)



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### Insta Links:

- Scientists detect 'microplastics' in the human heart for the first time: Report

- Microplastics in Ganga

## 11. VOLUNTARY VEHICLE MODERNIZATION PROGRAM

### Context:

The Ministry of Road Transport and Highways has launched **the Voluntary Vehicle Modernization Program, also known as the Vehicle Scrapping Policy**.

### Aim:

The policy aims to **voluntarily scrap unfit commercial and passenger vehicles** based on fitness, not age. It phases out polluting vehicles through **Registered Vehicle Scrapping Facilities (RVSFs) and Automated Testing Stations (ATSs)**. Manufacturers will offer discounts for up to two years against a **Scrappage Certificate**.

### Other major points:

1. **Incentives for Scrapping:** Discounts will be offered to encourage the scrapping of End-of-Life Vehicles, promoting safer, cleaner, and more efficient vehicles on the roads.
2. **Commercial Vehicles:** Discounts of up to 3% of the ex-showroom price for vehicles over **3.5 tonnes GVW**, and **1.5%** for vehicles under **3.5 tonnes GVW**.
3. **Passenger Vehicles:** Discounts of **1.5%** of the ex-showroom price or Rs 20,000, whichever is less, for vehicles scrapped in the last six months.
4. **Additional Government Incentives:** These discounts are in addition to scrap value, Motor Vehicle tax concessions, fee waivers for registration certificates, and other incentives linked to the Scrappage Certificate.

### What is the vehicle scrapping policy?

The Vehicle Scrapping Policy is a **government-funded programme to scrap old and unfit vehicles** and replace them with modern and new vehicles on Indian roads. The primary goal of the policy is to create an ecosystem for **phasing out unfit and polluting vehicles** to achieve a **lower carbon footprint** in the country.

**THE ECONOMICS**

- Scrap yield between ₹15,000 & ₹20,000 for four-wheelers (after scrapping cost and margin)
- ₹1 to ₹1.5 lakh for trucks
- ₹10 to ₹15,000 for two-wheelers

**ORGANIZED SCRAPPING**

- MRFPs procure obsolete vehicles and white goods from individuals, government-facilitated auctions and insurance firms, among others
- In the next step, the items not fit for recycling are disassembled and the remaining metal scrap is shredded
- Heavy-duty magnets are utilized to sort the ferrous metal, such as iron, from the non-ferrous metal, such as aluminium and copper
- The ferrous/non-ferrous and other remaining parts are sold through e-commerce portal

**UNORGANIZED SCRAPPING**

- A huge market but vehicles are simply disassembled and are typically not recycled at source but are sold to scrap dealers
- Some of them are sent to dump yards

**MAJOR INPUTS IN CARS**

- Steel | About **65%**
- Aluminium | About **7%**
- Copper | About **1%**
- Lead and other material | About **13%**
- Rubber and Plastics | About **15%**

**ABANDONED VEHICLES**

- No dedicated policy to scrap abandoned vehicles yet
- Once confiscated, such vehicles find place at police stations or open grounds

**Voluntary Vehicle-Fleet Modernization Program (V-VMP)**

- Private vehicles **older than 20 years** will be deregistered from June 1, 2024, if they fail the fitness test or their registration certificate is not renewed
- Heavy commercial vehicles **older than 15 years** will be deregistered from April 1, 2023.
- Setting up of **Registered Vehicle Scrapping Facility**
- Formalize vehicle scrapping industry and bring in more investment
- While treating a vehicle as scrap, the policy considers age of the vehicle, its quality of brakes, engine performance etc.

V-VMP came into effect from April 1, 2022

**Implementation process of V-VMP Scheme**

1. Submission of vehicle docs
2. Electronic document validation
3. Collection of vehicle and V-VMP certificate issuance
4. Incentive amount transfer from govt. to OEM and from OEM to dealer
5. Replacement vehicle purchase
6. Recycling and shredding of old vehicle

**About Vehicle Scrapping**

**Benefits of Vehicle Scrapping**

- 20-30% cut in vehicle air pollution
- Better fuel efficiency
- Safety features like air bags, ABS
- Boost to manufacturing hardware sector

**Implementation process of V-VMP Scheme**

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### Significance of Vehicle Scrapping:

1. **Eco-friendly Development:** Promotes the phasing out of unfit vehicles, supporting a sustainable circular economy.
2. **Economic Impact:** Expected to attract Rs 10,000 crore in investments and create 35,000 jobs.
3. **Pollution Reduction:** Can lower vehicular emissions by 15-20%; old vehicles emit significantly more pollutants.
4. **Improved Fuel Efficiency:** Reduces maintenance costs.
5. **Industry Benefits:** Provides low-cost raw materials and formalizes the scrapping ecosystem.

### Challenges:

1. **Inadequate Scrapping Facilities:** Only 60+ RVSFs and 75+ ATSs are operational across the country.
2. **Hazardous Waste Disposal:** Informal sector involvement without modern equipment poses environmental and health risks.

### Other initiatives to curb vehicular pollution:

Initiative	Description
<b>Go Electric Campaign</b>	Promotes the adoption of electric vehicles (EVs) and encourages the use of electric cooking and other appliances.
<b>FAME India Scheme Phase II</b>	Provides financial incentives for the adoption of electric vehicles, focusing on public transportation and charging infrastructure.

<u>Electric Vehicles (EV) Policy 2020</u>	Delhi's policy aims to accelerate the adoption of EVs by providing subsidies, creating charging infrastructure, and promoting battery recycling.
<u>Hydrogen Fuel Cell-Based Bus and Car Project</u>	Develops and deploys hydrogen-powered vehicles to reduce emissions and promote clean energy in transportation.
<u>National Electric Mobility Mission 2020</u>	Aims to achieve national fuel security by promoting hybrid and electric vehicles and establishing manufacturing hubs.

**Insta Links:**

1. Vehicle scrappage policy

## 12. RAJASTHAN'S ALARMING GROUNDWATER CRISIS: FLUORINE CONTAMINATION HITS RECORD HIGH

**Context:**

A study by the **National Remote Sensing Centre (NRSC)** has found that fluoride contamination in groundwater **is highest during dry**, pre-monsoon months, particularly in Rajasthan, with Jaisalmer being the most affected area in India.

Excess fluoride **can lead to skeletal fluorosis, dental decay**, and other health issues, especially in children. The permissible fluoride limit is **1.50 mg/litre**; however, contamination in Rajasthan reached **1.41 mg/litre pre-monsoon and 1.44 mg/litre post-monsoon**, are notably high in dry, western Indian regions, with significant risks of health hazards.

### Other heavy metals leading to groundwater contamination and their impact:

Heavy Metal	Impacts
Arsenic	Skin lesions, cancer, developmental effects, cardiovascular disease, <b>diabetes</b> .
Lead	Brain development issues in children, learning disabilities, behavioural problems, anaemia, kidney damage, <b>hypertension</b> .
Cadmium	Kidney damage, bone disease, respiratory issues, cardiovascular diseases, <b>carcinogenic</b> .

Mercury	Nervous system damage, tremors, memory loss, cognitive impairments, kidney damage, developmental issues in <b>children</b> .
<b>C h r o m i u m (Hexavalent)</b>	Respiratory problems, skin irritation, lung cancer, kidney damage, carcinogenic.
Nickel	Allergic reactions, lung and nasal cancers, dermatitis, respiratory and cardiovascular issues.
Copper	Gastrointestinal issues, liver damage, kidney problems, anaemia, neurological damage.
Zinc	Gastrointestinal disturbances, anemia, impaired immune function, lower cholesterol levels, pancreatic impact.

### Key Status about Groundwater (GW):

1. India is the largest user of Groundwater (GW) (accounting for 1/4th of total withdrawal)
2. **87% of GW** is used for Irrigation
3. **Currently, 67% of GW units** are safe (extraction < 70% of recharge), 14% Overexploited and 4% at the Critical
4. **Extraction is very high in Haryana, Punjab** (78% of wells are overexploited), Rajasthan
5. Climate Concerns: In southwest India, increasing temperatures might hinder groundwater replenishment.

### Groundwater Contamination Causes:

- Natural Sources: Substances like arsenic in rocks and soils can contaminate groundwater (e.g., Ganges Plain arsenic contamination).
- Septic Systems: Poorly managed septic tanks release harmful bacteria, nitrates, and chemicals.
- Pesticides and Fertilizers: Runoff from agricultural chemicals pollutes groundwater (e.g., Yamuna's floodplains contamination).
- Landfills: Leachate from landfills pollutes groundwater (e.g., Delhi's landfill site contamination).
- Sewage: Leaking sewers and sewage sludge can cross-contaminate water supplies (e.g., high pharmaceutical residues in Germany).
- Other Sources: Over-pumping, chemical spills, illegal dumping, and atmospheric contaminants.

### Improving Groundwater Quality:

1. Community Measures: Promote tree planting, rainwater harvesting, and community-based watershed management.
2. Policy Measures: Regulate bore wells, construct water tanks, raise awareness, and enforce pollu-

tion control.

3. Legal Measures: Clean and maintain urban water bodies, install decentralized treatment plants, and prevent pollution.
4. Technological Measures: Implement artificial groundwater recharge, use stormwater for new water bodies, and build water harvesting structures.

**Legal and regulatory frameworks for groundwater:**

Framework	Description
Article 21	Recognizes the fundamental right to clean water under the right to life.
Central Ground Water Authority	Established by the Environment (Protection) Act, 1986, responsible for framing groundwater policies and programs.
Supreme Court	Upholds the ‘public trust doctrine,’ (2004) treating groundwater as a public resource, not private ownership.
Government Schemes	Initiatives like Atal Bhujal Yojana, Jal Shakti Abhiyan, and Aquifer Mapping and Management Programme for groundwater management.
Indian Easement Act, 1882	Historically determined groundwater rights are often linked to land ownership.
Central Ground Water Board	Established in 1970, it develops groundwater policies and programs.
Model Groundwater Bills	Revised multiple times, empowers state boards to create laws and manage water resources.
National Green Tribunal	Directs the Central Ground Water Authority to regulate extraction and mandates permission for extraction.
Polluter Pays Principle	Addresses groundwater contamination case-by-case, with polluters bearing

Conclusion: Groundwater demand will rise despite its shrinking availability, necessitating increased attention and compensatory recharge efforts.

**Insta Links**

[Growing water crisis and One water Approach \(OWA\)](#)

**Mains Links**

**Bring out the problems associated with groundwater irrigation in India. Critically analyse the role of Participatory Irrigation Management (PIM) in improving agricultural production on a sustainable basis. (15M)**

**13. TRAGEDY IN KUNO: CHEETAH’S DEATH LINKED TO SUSPECTED DROWNING**

**Context:**

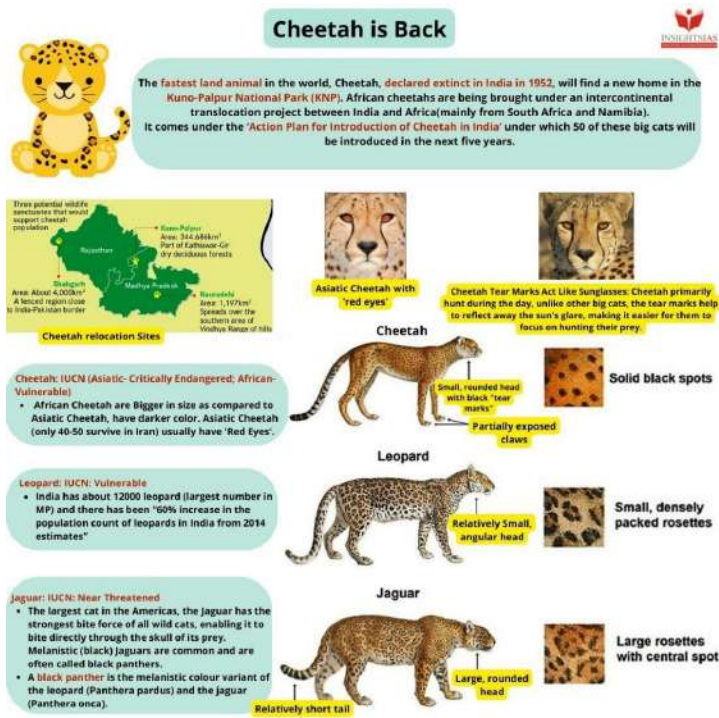
Pavan, a cheetah from South Africa and Namibia, has died, marking the eighth fatality among the 20 cheetahs brought to India.

**About Cheetah:**

1. ‘Cheetah’ (*Acinonyx Jubatus Venaticus*) originates from Sanskrit and means ‘the spotted one’.
2. The Cheetah is the fastest land animal in the world.
3. Its historical range includes the majority of Sub-Saharan Africa and extends eastward to India.
4. It is the only large carnivore that went ‘Extinct’ in India due to overhunting and habitat loss.
5. The last cheetah died in the Koriya district of present-day Chhattisgarh in 1947 and the species was declared extinct in 1952
6. According to the Wildlife Institute of India’s (WII) “Action Plan for Reintroduction of Cheetah in India,” 50 wild cheetahs that are ideal for starting a new cheetah population would be imported as a founder stock over five years initially.

**Cheetah is Back**

The fastest land animal in the world, Cheetah, declared extinct in India in 1952, will find a new home in the Kuno-Palpur National Park (KNP). African cheetahs are being brought under an intercontinental translocation project between India and Africa (mainly from South Africa and Namibia). It comes under the 'Action Plan for Introduction of Cheetah in India' under which 50 of these big cats will be introduced in the next five years.



**Asiatic Cheetah with 'red eyes'**  
Cheetah Tear Marks Act Like Sunglasses: Cheetah primarily hunt during the day, unlike other big cats, the tear marks help to reflect away the sun's glare, making it easier for them to focus on hunting their prey.

**Cheetah**  
Small, rounded head with black 'tear marks'  
Partially exposed claws  
Solid black spots

**Leopard**  
Relatively Small, angular head  
Small, densely packed rosettes

**Jaguar**  
Large, rounded head  
Large rosettes with central spot  
Relatively short tail

**Cheetah relocation Sites**  
Three potential wildlife sanctuaries that would support cheetah population:  
Kuno-Palpur Area: 344 sq.km\* Part of Kuno-Palpur Corridor (Madhya Pradesh)  
Dudhpani Area: 4000km\* A fenced region close to Indo-Pak border  
Nainitali Area: 1,197km\* Spreads over the southern range of hills

**Cheetah: IUCN (Asiatic- Critically Endangered; African- Vulnerable)**  
African Cheetah are bigger in size as compared to Asiatic Cheetah, have darker color. Asiatic Cheetah (only 40-50 survive in Iran) usually have 'Red Eyes'.

**Leopard: IUCN- Vulnerable**  
India has about 12000 leopard (largest number in MP) and there has been '60% increase in the population count of leopards in India from 2014 estimates'

**Jaguar: IUCN: Near Threatened**  
The largest cat in the Americas, the Jaguar has the strongest bite force of all wild cats, enabling it to bite directly through the skull of its prey. Melanistic (black) jaguars are common and are often called black panthers.  
A black panther is the melanistic colour variant of the leopard (Panthera pardus) and the jaguar (Panthera onca).

## Evaluation of the Cheetah Reintroduction Program in India

### Successes:

#### 1. Reintroduction Milestone:

- The program marked the historic reintroduction of cheetahs into India after they were declared extinct in the country in 1952.
- The initial release and adaptation of cheetahs in Kuno National Park signified a significant step in wildlife conservation.

#### 2. Local Economic Impact:

- The project contributed positively to local communities by generating jobs and boosting land values around Kuno.
- No incidents of human-cheetah conflict were reported, suggesting successful co-existence.

#### 3. Initial Breeding Success:

- The birth of four cheetah cubs in India, despite challenges, highlighted the potential for future breeding success.

### Challenges:

#### 1. High Mortality Rate:

- This was the **only free-ranging cheetah** to have survived in Kuno. With this death, KNP is left with 24 cheetahs, including 12 adults and as many cubs, indicating serious setbacks.
- The low survival rates of cubs** further emphasize the challenges of adapting to the new environment.

#### 2. Inadequate Home Range Establishment:

- The inability of cheetahs to establish per-

manent home ranges in Kuno, with most confined to enclosures, raises concerns about their long-term adaptation and survival in the wild.

#### 3. Integrity and Ethical Issues:

- The use of captive-raised cheetahs and ethical concerns about India's international wildlife commitments (e.g., the CITES vote) have affected the program's credibility.

#### 4. Ecological and Environmental Challenges:

- Kuno's lower-than-expected prey density and carrying capacity pose significant challenges to sustaining a large, genetically viable cheetah population.
- The impact of circadian rhythm differences, leading to issues like thick coats during Indian summers, highlights the challenges of translocating cheetahs from different hemispheres.

#### 5. Need for a Meta-Population Approach:

- The realization that Kuno alone cannot support a self-sustaining cheetah population necessitates a shift towards managing a meta-population across central and western India, which is complex and resource-intensive.

### Conclusion:

The **Cheetah Reintroduction Program in India has achieved some notable successes**, such as initial reintroduction efforts and positive economic impacts. However, significant challenges remain, including high mortality rates, environmental and ethical concerns, and the need for a broader, more sustainable approach to cheetah conservation. The program's **future success will depend on addressing these challenges** and adapting strategies to ensure the long-term viability of cheetahs in India.

### Insta Links:

### Prelims Link:

#### Q. Consider the following: (UPSC 2012)

- Black-necked crane
- Cheetah
- Flying squirrel
- Snow leopard

Which of the above are naturally found in India?

- 1, 2 and 3 only
- 1, 3 and 4 only
- 2 and 4 only
- 1, 2, 3 and 4

Ans: (b)

## GENERAL STUDIES - 4

### 14. HEMA COMMITTEE REPORT: UNVEILING ETHICAL DILEMMAS IN MALAYALAM CINEMA INDUSTRY

**Context:**

The Justice K Hema Committee report reveals that a small, influential group of 10-15 men controls the Malayalam film industry, often issuing bans and ignoring women’s harassment complaints.

**To know about the Hema Committee Report:** [Click Here](#)

**Several ethical issues within the Malayalam film industry:**

1. Sexual Harassment and Abuse: The report reveals widespread incidents of sexual harassment and abuse, including unwanted physical advances, rape threats, and coercive casting practices.
2. Power Imbalance: A small group of influential men controls the industry, using their power to issue bans, suppress dissent, and ignore complaints from women.
3. Ineffective Internal Complaints Mechanisms: The report criticizes the Internal Complaints Committees (ICCs) as ineffective due to their control by the same power structures that perpetuate harassment.
4. Gender Discrimination: Systemic gender bias is prevalent, with women facing discrimination in hiring, working conditions, and opportunities within the industry.
5. Unlawful Bans and Blacklisting: Actors and crew members can be banned without due process, often based on personal prejudices or complaints of harassment.
6. Inadequate Support and Facilities for Women: Female workers face a lack of basic facilities, safety on sets, and proper protection against harassment.
7. Cultural Hegemony and Subjugation: The report highlights the creation of a culture where the dominance of a few is imposed on others, marginalizing less powerful individuals and groups.
8. Fear of Retribution: Women fear stigma and retaliation for reporting harassment, which deters them from coming forward and seeking justice.
9. Lack of Transparency: The process of banning individuals is opaque, with no public records or formal notices, leading to informal and unofficial blacklisting.

**Examples from India and Global:**

**India**

1. Pay Disparity: Female actors like Deepika Padukone earn less than male co-stars.
2. Casting Couch: Actresses like Kangana Ranaut have reported coercion for roles.
3. Fewer Female Directors: Limited opportunities for women directors in Bollywood.
4. Stereotyping: Women are often portrayed in stereotypical roles.
5. Sexual Harassment: #MeToo movement exposed cases like Vikas Bahl.

**Global**

1. Pay Gap: Jennifer Lawrence highlighted lower pay compared to male co-stars.
2. Underrepresentation: Women directed only 10% of the top 250 films in 2019.
3. Harvey Weinstein Scandal: Revealed widespread sexual misconduct.
4. Objectification: Women are often reduced to physical appearance in films.
5. Career Barriers: Female directors face challenges in major projects, despite successes like Kathryn Bigelow.

**Potential solutions to the ethical issues highlighted in the Malayalam film industry:**

Ethical Issue	Potential Solutions
Sexual Harassment and Abuse	<ul style="list-style-type: none"> <li>- Establish robust anti-harassment policies and protocols.</li> <li>- Implement mandatory training for all industry members on sexual harassment and consent.</li> <li>- Create confidential reporting mechanisms and support systems for survivors.</li> </ul>

Power Imbalance	<ul style="list-style-type: none"> <li>- Promote transparency in decision-making processes.</li> <li>- Implement checks and balances to prevent power concentration.</li> <li>- Encourage diversity and representation in leadership roles.</li> </ul>
<b>Ineffective Internal Complaints Mechanisms</b>	<ul style="list-style-type: none"> <li>- Form independent tribunals with external oversight to handle complaints.</li> <li>- Ensure ICCs are composed of impartial members with no conflicts of interest.</li> <li>- Regularly review and audit the effectiveness of ICCs.</li> </ul>
<b>Gender Discrimination</b>	<ul style="list-style-type: none"> <li>- Enforce equal opportunity policies in hiring and promotions.</li> <li>- Conduct gender sensitivity training.</li> <li>- Ensure equitable pay and working conditions for all genders.</li> </ul>
<b>Unlawful Bans and Blacklisting</b>	<ul style="list-style-type: none"> <li>- Establish clear, formal procedures for issuing bans with documented reasons.</li> <li>- Create an appeals process for banned individuals.</li> <li>- Publicly disclose the criteria and procedures for bans.</li> </ul>
<b>Inadequate Support and Facilities for Women</b>	<ul style="list-style-type: none"> <li>- Improve basic facilities such as restrooms and safety measures on set.</li> <li>- Implement policies to ensure a safe working environment for all genders.</li> <li>- Provide support services like counselling and legal assistance.</li> </ul>
<b>Cultural Hegemony and Subjugation</b>	<ul style="list-style-type: none"> <li>- Foster an inclusive and equitable workplace culture.</li> <li>- Promote dialogue and awareness about cultural and systemic biases.</li> <li>- Support initiatives and organizations advocating for marginalized groups.</li> </ul>
<b>Fear of Retribution</b>	<ul style="list-style-type: none"> <li>- Protect whistleblowers and ensure confidentiality.</li> <li>- Create safe spaces for individuals to report without fear of retaliation.</li> <li>- Implement legal protections for those who report misconduct.</li> </ul>
<b>Lack of Transparency</b>	<ul style="list-style-type: none"> <li>- Increase transparency in industry practices and decisions.</li> <li>- Publicly report on the outcomes of investigations and actions taken.</li> <li>- Ensure accessible and clear communication channels for all stakeholders.</li> </ul>

#### Thinkers Views:

1. Satyajit Ray: Advocated for transparency and integrity in all professional practices.
2. Swami Vivekananda: Emphasized the need for self-awareness and ethical leadership, advocating for equality and justice.
3. Rabindranath Tagore: Criticized social hierarchies and championed democratic and egalitarian values.
4. Sarojini Naidu: Promoted women's rights and the need for proper support and conditions for women.
5. Martha Nussbaum: Emphasized capabilities and equality, advocating for gender justice and women's rights.

## 15. PAVEL DUROV'S ARREST: UNPACKING THE ETHICAL STORM SURROUNDING TELEGRAM'S CEO

#### Context:

The article highlights the **tension between free speech and responsibility** on platforms like Telegram, focusing on the recent arrest of its **CEO, Pavel Durov, in France**.

**Durov's strong stance on** absolute free speech has attracted both dissidents and harmful content like **extremism and child pornography**, sparking debates on whether his approach threatens public safety. Telegram's moderation practices are criticized for not using full end-to-end encryption and failing to curb illegal activities. The arrest has ignited global discussions on free speech, with figures like **Elon Musk and Edward Snowden defending Durov**.

#### Ethical issues concerned in the case:

1. **Balancing Free Speech and Harm**: The tension between upholding free speech and preventing the spread of harmful content like extremism and child pornography.
2. **Platform Responsibility**: The ethical responsibility of Telegram to moderate and prevent illegal activities on its platform.
3. **Privacy vs. Law Enforcement**: The dilemma between protecting user privacy and complying with law enforcement requests to access content for public safety.
4. **Impact of Absolute Free Speech**: The potential consequences of prioritizing absolute free speech, which can

enable criminal activities.

5. Government Oversight: The ethical implications of government intervention and the potential for censorship in regulating online content.
6. Accountability of Tech Leaders: The responsibility of tech leaders like Durov in managing the misuse of their platforms.

**Other such examples:**

**India:**

1. WhatsApp: **Misinformation leading to mob violence**; introduced message limits.
2. TikTok Ban: **Concerns over data privacy and harmful content; banned by the government.**
3. **Twitter: Clashes with the government over content removal during farmers' protests.**

**World:**

1. **Facebook (Cambridge Analytica): Data privacy breach influencing elections.**
2. **Twitter (Trump Suspension): Account banned after Capitol riot; raised censorship concerns.**
3. **China: Government controls internet access, blocking major platforms.**
4. **Myanmar: Facebook criticized for spreading hate speech leading to violence against Rohingya.**

**Solutions:**

1. **Stronger Regulation:** Implement clear guidelines for content moderation while respecting free speech.
2. **Transparent Policies:** Platforms should adopt transparent content policies and communicate them clearly to users.
3. **Improved Moderation:** Use advanced AI and human moderators to detect and remove harmful content promptly.
4. **Collaboration with Authorities:** Cooperate with law enforcement to prevent illegal activities while protecting user privacy.
5. **Public Awareness:** Educate users on the responsible use of social media and the dangers of misinformation.
6. **International Standards:** Develop global standards for content moderation to ensure consistency across platforms.

**Insta Links:**

- Article 19: Right to freedom

**CONTENT FOR MAINS ENRICHMENT**

Topic in News	Usage in Answers
<p>Australia Grants Workers 'Right to Disconnect'</p>	<p>Context: Recently, <b>Australia has granted millions of workers the legal right to disconnect</b> from their jobs <b>outside work hours, unless deemed unreasonable</b>. This law, similar to those in <b>Europe and Latin America</b>, allows workers to ignore after-hours contact from employers, promoting work-life balance.</p> <p><b>Advantages of the 'Right to Disconnect':</b></p> <ol style="list-style-type: none"> <li>1. Promotes <b>work-life balance</b>.</li> <li>2. <b>Reduces</b> employee <b>burnout and stress</b>.</li> <li>3. Enhances <b>mental well-being</b>.</li> <li>4. <b>Increases productivity</b> during work hours.</li> <li>5. Fosters <b>fairness</b> and respect for personal time.</li> </ol> <p><b>Issues concerning the 'Right to Disconnect':</b></p> <ol style="list-style-type: none"> <li>1. Confusion over what constitutes "<b>reasonable</b>" contact.</li> <li>2. <b>Challenges for industries</b> needing urgent out-of-hours communication.</li> <li>3. <b>Uncertainty in employer-employee interactions</b> outside work hours.</li> <li>4. <b>Difficulties in enforcing and regulating the policy</b> across varied job roles.</li> <li>5. <b>Free Market Concerns:</b> Belief that work demands should be self-regulated by market forces without government intervention.</li> <li>6. <b>Challenges for Startups:</b> Startups often require flexible, long working hours, and such laws could limit growth by restricting this flexibility.</li> </ol>

## FACTS FOR PRELIMS

### GS-1

#### Geography

## 1. MASS WASTING

#### Context:

Frequent **mass wasting in Tibet's Sedongpu Gully**, upstream of the Brahmaputra, has become a concern for India, especially the Northeast.

Since 2017, **warming and seismic activity have triggered landslides**, adding millions of cubic meters of debris to the **Yarlung Tsangpo River**, posing a risk of river choking and flash floods downstream in Assam and Bangladesh. Increasing sedimentation could exacerbate flood hazards, affect navigation, and threaten livelihoods.

#### What is Mass Wasting?

Mass wasting, **also known as mass movement**, is the downhill movement of soil, rock, and debris under the influence of gravity. It occurs when the **force of gravity exceeds the strength of the materials on a slope**, causing them to shift downward. This process can be triggered by factors such as weathering, water saturation, earthquakes, volcanic activity, and human actions like deforestation or mining. Types of mass wasting include **landslides, rockfalls, avalanches, and soil creep, varying in speed and volume**.

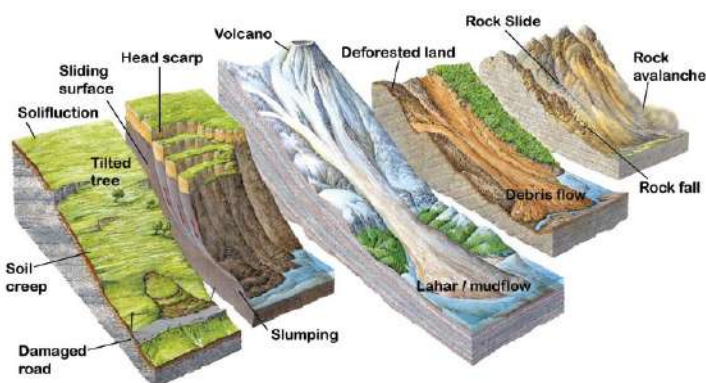


Figure 4.5 Mass movement

## 2. CREATION OF FIVE NEW DISTRICTS IN LADAKH

#### Context:

The Union Home Minister announced the creation of **five** new districts **in Ladakh—Zaskar, Drass, Sham, Nubra,**

**and Changthang**—to improve governance. Currently, Ladakh has only two districts: **Leh and Kargil**.

**A committee will be formed to assess details such as boundaries and structures** for the new districts. The decision follows demands for **Statehood and Sixth Schedule protection** by local groups, though some continue to push for greater autonomy and protection for Ladakh's culture, land, and jobs.

#### Significance of Creating New Districts

1. **Ladakh, being sparsely populated and geographically challenging**, faces administrative difficulties in reaching remote areas.
2. **New districts aim to enhance public welfare** outreach and promote overall development in Ladakh.

#### Procedure for Creating New Districts in India

1. **State Power: State governments have the authority to create, alter, or abolish districts** through either executive orders or laws passed in the State Assembly.
2. **Centre's Role: The Centre is involved** only when renaming districts or railway stations. The process requires clearance from various departments after the state submits a proposal.

### GS-2

#### Functioning of Parliament and State Legislatures

## 3. ANTICIPATORY BAIL UNDER SC/ST ACT

#### Context:

The Supreme Court ruled that **insults or intimidation of SC/ST members** are offences under the **SC/ST Act (under Section 18 of the SC and ST (Prevention of Atrocities) Act, 1989) only if based on caste**. It emphasized that **not every intentional insult results in caste-based humiliation**.

The court also noted that courts can **conduct preliminary inquiries** to determine if complaints disclose caste-related offences under the Act.

#### Background:

This ruling came **while granting anticipatory bail to Shajan Skaria, a YouTube editor**, accused of **derogatory remarks against an MLA**. The court clarified that anticipatory bail can be granted if prima facie evidence of a caste-based offence is lacking.

**About Anticipatory bail:**

It is a **court order directing release on bail for someone fearing arrest** for a **non-bailable** offence. It is governed by **Section 438 of CrPC**, now reformed under **Section 482 of Bhartiya Nagarik Suraksha Sanhita (2023)**.

**About SC/ST (Prevention of Atrocities) Act, 1989:**

It aims to **prevent crimes against SC/ST members**, establishes Special Courts, and provides victim relief. Key features include punishing offences like manual scavenging, devadasi dedication, and denial of public access, as well as penalizing public servants neglecting their duties under the Act.

**4. CENTRAL FINANCIAL ASSISTANCE (CFA)**

**Context: The Indian Union Cabinet** has approved **central financial assistance (CFA) for north-eastern state governments** to support their **equity participation in Hydro Electric Projects (HEPs)**.

- This initiative, managed through **joint ventures between state entities and central public sector undertakings (CPSUs)**, aims to **boost hydro-electric capacity in the North Eastern Region (NER) by approximately 15,000 MW**.
- The CFA will cover up **to 24% of the state government's equity, capped at ₹750 crore per project, and applies only to viable hydro projects**.

**Judiciary Social justice**

**Literacy and Full Literacy Defined by MoE**

**Context: The Ministry of Education (MoE) has redefined 'literacy' and 'full literacy'** in light of the **New India Literacy Programme (NILP)**, which **aims for full literacy by 2030**.

**Definitions:**

Term	Definition
Literacy	The <b>ability to read, write, and compute with comprehension</b> , along with critical skills like digital and financial literacy.
Full Literacy	<b>Achieving 95% literacy</b> in a State/UT, is considered equivalent to 100% literacy.

**About New India Literacy Programme (NILP):**

**Also known as ULLAS, NILP is a five-year**, centrally sponsored scheme (2022-27) aiming to **educate non-literate individuals aged 15 and above**, focusing especially on females and backward states. It targets **5 crore learners using online systems and volunteer teachers**, aligning with NEP 2020 goals

**Governance**

**5. PRADHAN MANTRI JANJATI ADIVASI NYAYA MAHA ABHIYAN (PM-JANMAN)**

**Context:**

The Union Ministry of Tribal Affairs launched an **IEC campaign**, targeting the **Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM-JANMAN)**. The campaign aims to ensure **100% saturation of government schemes in Particularly Vulnerable Tribal Group (PVTG) areas**, covering over **44 lakh individuals in 194 districts** across the country.

**Key activities include** the distribution of entitlements, health camps, and awareness campaigns in tribal languages, reaching villages, Gram Panchayats, and Talukas. Officers will supervise the campaign to ensure the effective implementation of schemes.

**Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN)**

Key Points	Details
Initiative Name	Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan
Objectives	Address socio-economic challenges faced by Particularly Vulnerable Tribal Groups (PVTGs) in India.
Ministries Involved	9 Ministries, including the Ministry of Tribal Affairs.
Focus Areas	<b>11 critical interventions</b> , encompassing various sectors such as housing, infrastructure, healthcare, education, and connectivity.
Key Components	Provision of pucca houses – Connecting roads – Water supply projects – Mobile medical units – Hostels – Vocational education – Anganwadi Centers – Multipurpose centres – Electrification – Solar off-grid systems – Solar lighting – Setting up Village Development Knowledge Centers (VDVKs) – Installation of mobile towers
Target Duration	The mission will operate over <b>the next three years</b> .
Beneficiary Scope	<b>75 Particularly Vulnerable Tribal Groups (PVTG) communities</b> in 18 states and the Union Territory of Andaman and Nicobar Islands.

<b>Overall Goal</b>	Improve the <b>overall well-being of PVTG households</b> by targeting basic facilities, including housing, water, sanitation, education, health, connectivity, and livelihood opportunities.
<b>Contribution of Other Ministries</b>	<b>Ayush and Skill Development ministries</b> will establish wellness centres. Ayush facilities will be provided through mobile medical units. Skill and vocational training will be offered in <b>PVTG habitations</b> .

## 6. NATIONAL MEDICAL REGISTER PORTAL

### Context:

The Union Minister for Health, launched the **National Medical Register (NMR) Portal, a comprehensive digital database for all registered allopathic (MBBS) doctors in India.**

- The **National Medical Register (NMR)** is mandated under **Section 31 of the National Medical Commission (NMC) Act, 2019.**
- It requires the **Ethics & Medical Registration Board (EMRB) of NMC** to maintain an **electronic registry of licensed medical practitioners**, including **their names, addresses, and qualifications.**
- The NMR will be **linked with doctors' Aadhaar IDs** to verify authenticity and facilitate the verification process among State Medical Councils (SMCs).
- Its significance includes **strengthening the digital healthcare ecosystem, ensuring transparent access to quality medical professionals, and consolidating public trust in healthcare.**

## 7. RETIRED SPORTSPERSON EMPOWERMENT TRAINING (RESET) PROGRAMME

### Context:

The Union Minister launched the **Retired Sportsperson Empowerment Training (RESET) Programme on National Sports Day (29<sup>th</sup> August).** The initiative **aims to empower retired athletes** by providing them with **career development skills** and making them more employable.

The **RESET Programme will bridge generational gaps** by leveraging the experience of **retired sportspersons**

**to nurture future talent.** Eligible athletes, **aged 20-50**, who have achieved significant national or international success, can apply through a dedicated portal. The programme, led by **Lakshmbai National Institute of Physical Education (LNPIE)**, will offer courses in hybrid mode and include internships and placement assistance.

### About National Sports Day:

It is celebrated on **August 29, and honours hockey legend Major Dhyan Chand's birth anniversary.** Established in 2012, the day promotes physical fitness and a healthy lifestyle while fostering a strong sports culture in India.

**Major Dhyan Chand, known as the 'magician of hockey'** was a standout field hockey player from 1926 to 1949, earning **three Olympic gold medals (1928, 1932, 1936).** He and his brother Roop Singh, known as the **'hockey twins'**, greatly contributed to India's hockey success. Dhyan Chand retired as a Major in 1956 and was awarded the Padma Bhushan.

### Prelims Link:

**Q. Consider the following pairs with regard to sports awards: (UPSC 2023)**

1. Major Dhyan Chand Khel Ratna Award	For the most spectacular and outstanding performance by a sportsperson over period of last four years
2. Arjuna Award	For the lifetime achievement by sportsperson
3. Dronacharya Award	To honour eminent coaches who have successfully trained sportspersons or teams
4. Rashtriya Khel Protsahan Puraskar	To recognize the contribution made by sportspersons even after their retirement

**How many of the above pairs are correctly matched?**

- Only one
- Only two
- Only three
- All four

**Ans: (b)**

[International relations](#)

## 8. PACIFIC POLICING INITIATIVE

### Context:

The establishment of a **\$270 million Pacific Policing**

### **Initiative (PPI) agreed upon at the Pacific Islands Forum (PIF) took place recently.**

- The initiative **has three main components: a central police development hub in Brisbane, Australia; four regional police training centres; and a multinational Pacific Police Support Group** to respond to emergencies like **natural disasters and transnational crime.**
- The initiative, **driven by Pacific Island countries with significant funding from Australia, reflects the strength of Pacific regionalism.**
- It emphasizes the **importance of balancing Australia's resources with the local knowledge and priorities of Pacific Island nations.**
- The **PPI represents a shift towards a Pacific-led approach to security, contrasting with past initiatives that did not fully align with regional priorities.**

The agreement underscores the **commitment of PIF members to collaborate while respecting national sovereignty,** highlighting the **practical success of regionalism in enhancing collective security capabilities.**

## GS-3

### Indian Economy

## 9. ALL INDIA INITIATIVE ON CREATIVE ECONOMY (AIICE)

### **Context:**

The **Indian Chamber of Commerce (ICC)** launched the **All India Initiative on Creative Economy (AIICE)** to harness the **potential of** India's \$30 billion creative economy, as reported in the 2023 Global Innovation Report.

- The initiative aims to **support local artisans, handloom workers, and MSMEs.**
- **With 8% of India's workforce employed in creative occupations,** the initiative seeks to elevate **crafts-workers from poverty and promote policy changes for their benefit.**

The Creative Economy refers to the **sector of the economy that involves the creation, production, and distribution of goods and services that are rooted in creativity, culture, and the arts.** This includes industries such as **film, music, design, fashion, and other creative sectors.**

## 10. PERPETUAL BOND

### **Context:**

**Canara Bank issued India's first** Additional Tier I perpetual bonds since recent rule changes, **attracting strong investor interest with a lower-than-expected coupon of 8.27%.**

- This marks a **revival in demand for these bonds, which had declined due to regulatory challenges.**
- **The Securities and Exchange Board of India's (SEBI) recent valuation tweak,** allowing mutual funds to value these bonds based on the **call option, has made them more attractive.**

A perpetual bond is a type of **debt security that does not have a fixed maturity date.** Unlike traditional bonds that have a **set date when the principal amount is repaid, perpetual bonds continue to pay interest indefinitely.**

## 11. UNIFIED LENDING INTERFACE

### **Context:**

RBI Governor announced that the **Unified Lending Interface (ULI),** designed for **seamless and quick credit access, particularly for MSMEs and farmers, is currently in the pilot stage.**

- The platform integrates **diverse data sources to reduce loan appraisal times and simplify processes.**
- It is expected to be launched nationwide soon, with the **potential to transform the lending space, similar to how UPI revolutionized payments.**

The Unified Lending Interface (ULI) is a proposed system **aimed at standardizing and simplifying the lending process for both lenders and borrowers.**

**Technology:** The implementation of ULI involves advanced technologies **such as APIs (Application Programming Interfaces), data integration tools, and secure digital platforms.**

## 12. WGC RAISES INDIA'S GOLD CONSUMPTION FORECAST TO 850 TONNES

### Context:

The World Gold Council (WGC) has **increased India's gold consumption projection for 2024 to 850 tonnes from 750 tonnes.** This revision is due to **favourable monsoon conditions and a reduction in gold import duty.** The rise in demand, mainly driven by jewellery purchases, is expected to continue through **Diwali-Dhanteras.** Additionally, interest in gold ETFs is growing

### About Gold:

**It is a significant global commodity. In 2022, Switzerland, the United States, and the United Arab Emirates** were the leading exporters of gold. Major importers included Switzerland, China, the United Arab Emirates, the United Kingdom, and India. The top producers of gold are **China, Australia, and Russia.** In India, the **largest resources of gold ore** (primary) are located in **Bihar (44%), followed by Rajasthan (25%) and Karnataka (21%).** India is the world's **second-largest consumer of gold, after China,** reflecting its substantial demand for this precious metal.

### About WGC:

**The World Gold Council (HQ: London; est. 1987) is an international trade association** for the gold industry. It has offices in **India, China, Singapore, the UAE and the United States.** The organization's members are **gold mining companies.**

### Prelims Link:

**Q. Consider the following statements regarding Gold Ore Reserves**

1. The largest reserves of gold ores in India is located in Bihar
2. Globally the largest reserves of gold ores are located in South Africa

**Which of the above statements is/are correct?**

- [A] 1 only  
[B] 2 only  
[C] Both 1 and 2  
[D] Neither 1 nor 2

**Answer: A (1 only)**

## 13. PAYMENT PASSKEY SERVICE

### Context:

Mastercard has debuted its **Payment Passkey Service in India,** offering a secure, non-OTP-based solution for on-line transactions.

### What is Payment Passkey Service?

The Payment Passkey Service is a **secure, non-OTP-based method** for managing online transactions. Here's how it works:

1. **Authentication Method:** Instead of using traditional passwords or one-time passwords (OTPs), this service relies on biometric authentication (fingerprints, facial scans) or PINs available on the user's device.
2. **Tokenization:** The service uses tokenization to replace sensitive financial information with secure, encrypted tokens. This means your actual financial data is not shared during transactions, enhancing security.
3. **Transaction Process:**
  - When making a purchase, the consumer selects their Mastercard at checkout.
  - For payment confirmation, the service utilizes the biometric authentication features on the user's device.
  - Upon successful authentication, the transaction is completed instantly.

### Benefits:

- **Simplified Transactions:** Users avoid the hassle of remembering or sharing passwords and OTPs.
- **Enhanced Security:** By not exposing financial data and using secure tokens, the service reduces the risk of fraud.
- **Faster Checkout:** Streamlines the payment process, making online shopping quicker and more efficient.

### Agriculture

## 14. AGRICULTURAL INFRASTRUCTURE FUND

### Context:

The Union Cabinet has **expanded the scope of the Agricultural Infrastructure Fund (AIF), a ₹1 lakh crore scheme,** to include financial support for **Farmers' Producers Organisations (FPOs).**

- This **redesign aims to enhance the financial security and creditworthiness of FPOs,** making the scheme more **attractive, impactful, and inclusive.**
- The expansion is **expected to foster a stronger**

**agricultural infrastructure ecosystem.**

- The expanded scheme is **anticipated to further drive agricultural growth, improve productivity, and boost farm incomes.**

The Agricultural Infrastructure Fund (AIF) is a financial initiative launched by the Government of India in July 2020 as part of the **broader Atmanirbhar Bharat (Self-reliant India) campaign.**

The fund aims to **provide financial support for the creation and enhancement of agricultural infrastructure,** which is crucial for **improving farm productivity, reducing post-harvest losses, and increasing farmers' income.**

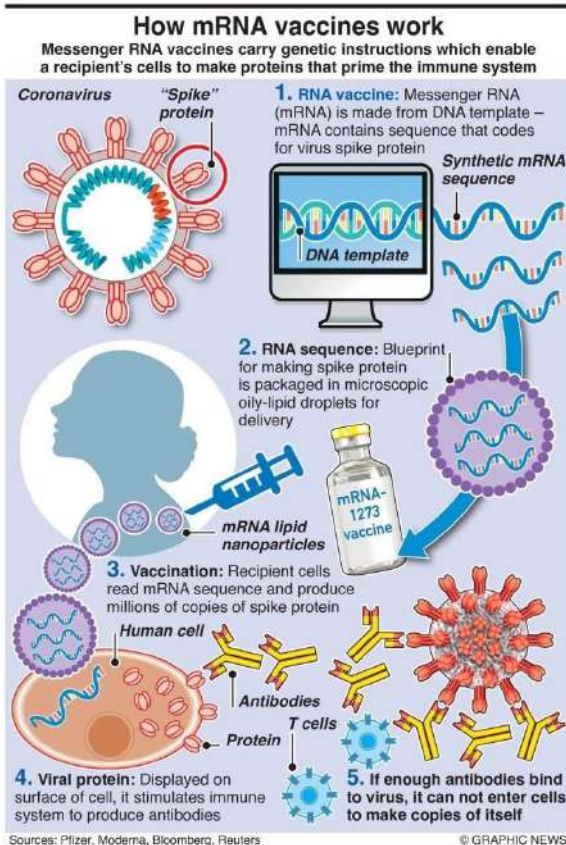
Science & Technology

## 15. LUNG CANCER VACCINE

**Context:**

The **world's first mRNA lung cancer vaccine, BNT116,** has begun clinical trials **across seven countries, including the UK, the US, Germany, Hungary, Poland, Spain, and Turkey.**

- This vaccine targets **non-small cell lung cancer (NSCLC),** the most common form of the disease, by **instructing the body to attack cancer cells and prevent their recurrence.**
- The vaccine uses **messenger RNA technology, similar to COVID-19 vaccines, to prompt the immune system to recognize and fight NSCLC cells.**



## 16. INDIA CELEBRATES ITS FIRST-EVER NATIONAL SPACE DAY

**Context:**

National Space Day, **celebrated on August 23, was officially designated by the Indian government to honor the success of the Chandrayaan-3 mission,** which achieved a historic landing on the Moon's surface.

- The theme for 2024, **"Touching Lives while Touching the Moon: India's Space Saga,"** emphasizes the **broader societal impact of space exploration.**
- The **Chandrayaan-3 mission made India the fourth country to land on the Moon and the first to do so in the southern polar region.**

## 17. RHUMI-1

**Context:**

India's **first reusable hybrid rocket, RHUMI-1,** was successfully **launched by the Tamil Nadu-based start-up Space Zone India.**

- The rocket **is designed to advance research on climate change and atmospheric conditions.**
- It carried **three CUBE satellites and 50 Pico satellites** to **collect data on cosmic radiation, UV radiation, air quality, and other environmental factors.**
- The rocket, which reached an altitude of about 35 kilometres, **features a hybrid motor and an electrically triggered parachute deployer.**
- This initiative aims to **make space missions more sustainable and cost-effective, reflecting India's growing role in space innovation.**

## 18. TANAGER-1

**Context:**

**NASA,** in collaboration with various organizations, **has launched the Tanager-1 satellite** aboard a SpaceX Falcon 9 rocket.

- **Tanager-1 is designed to track methane and carbon dioxide emissions** using **imaging spectrometer technology developed by NASA's Jet Propulsion Laboratory.**
- This technology can **identify and quantify greenhouse gases** by measuring the **unique spectral "fingerprints" left by different compounds in the Earth's atmosphere.**

**Methane, a potent greenhouse gas contributing significantly to global warming,** is particularly targeted due to its role in **forming ground-level ozone,** which poses health risks and is linked to premature deaths. Reducing methane emissions is critical, **especially since fossil fuel operations are responsible for a large share of human-caused methane emissions.**

## 19. LEPTOSPIROSIS

### Context:


After the Nipah threat subsided in Kerala, a **deadly** Leptospirosis outbreak emerged, causing 121 confirmed deaths and over 1,170 cases under treatment.

### About Leptospirosis, or “rat fever”:

**Leptospirosis** is a zoonotic disease caused by **leptospire bacteria**, transmitted from animals to humans, usually through skin cuts. It’s common in **tropical, high-rainfall areas**, with **human-to-human transmission** being rare. The Ministry of Health and Family Welfare runs a program for its prevention and control.

It spreads through bacteria in contaminated water, particularly during monsoons. The surge in cases is attributed to **heavy rainfall and poor waste management**, increasing rat populations. Experts stress the need for early detection, personal hygiene, protective gear, and doxycycline distribution. Additionally, Kerala faces outbreaks of **hepatitis A and dengue**, underscoring the need for better water quality and public health strategies.

### KEEP RATS AT BAY

<p><b>Cause of infection</b>   When one comes into contact with urine of infected rats or cattle or the water contaminated by it</p> <p><b>Who are more susceptible</b> People who work in muddy or marshy land where rats are abundant</p> <p><b>Symptoms</b>   Fever, severe pain on calf muscles, redness of eyes</p> <p>➤ If there is delay in getting medical attention, it will affect the functioning of kidney and will eventually lead to the death of the patient</p> <p><b>Precautions</b>   Fill the holes in walls to prevent rats from making it home</p>	 <p>➤ Keep tubers, rice, coconut and other items out of reach of rats</p> <p>➤ Dispose of waste properly</p> <p>➤ Take doxycycline tablets as per doctor’s instruction. This prevents the growth and spread of the bacteria causing the infection</p>
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## 20. SOLAR PARABOLOID TECHNOLOGY

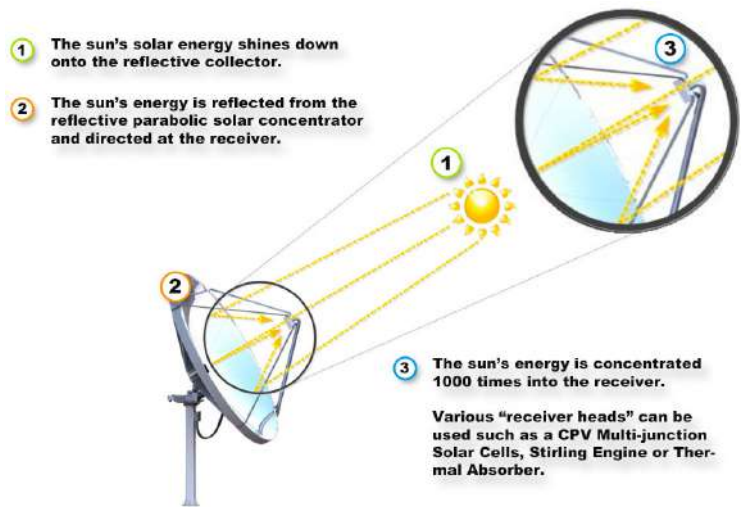
### Context:

**Solar paraboloid technology**, a form of **concentrating solar power (CSP)**, is emerging as a **promising renewable energy solution**.

- It uses **parabolic mirrors to focus sunlight onto a receiver**, generating **high temperatures (up to 300°C)** for **electricity or industrial heat**.

- This **technology offers higher efficiency than traditional photovoltaic systems**, potentially lowering electricity costs.

However, challenges such as **high upfront costs and technical complexity remain**.



## 21. COMBINATION DRUGS

### Context:

The **Indian government has banned 156 fixed-dose combination (FDC) drugs**, citing them as **“irrational” with no therapeutic benefit**.

- FDCs are **combinations of two or more drugs in a single dose**, often used to **simplify treatment regimens**.
- However, **these combinations can lead to unnecessary drug use, contributing to issues like antibiotic resistance**.

FIXED-DOSE COMBINATION	
<ul style="list-style-type: none"> <li>Levocetirizine + Phenylephrine + Paracetamol + Ambroxol – Relieves cold</li> <li>Ofloxacin + Ornidazole – Used for infections</li> <li>Glimepiride + Metformin + Pioglitazone – A combination diabetes medicine that helps control blood</li> </ul>	<ul style="list-style-type: none"> <li>sugar levels</li> <li>Terbinafine + Clotrimazole + Ofloxacillin + Omidazole – Used to treat skin infections</li> <li>Aceclofenac + Paracetamol + Rabeprazole – A combination of three drugs used to relieve pain and inflammation</li> </ul>

## 22. ORAL CHOLERA VACCINE

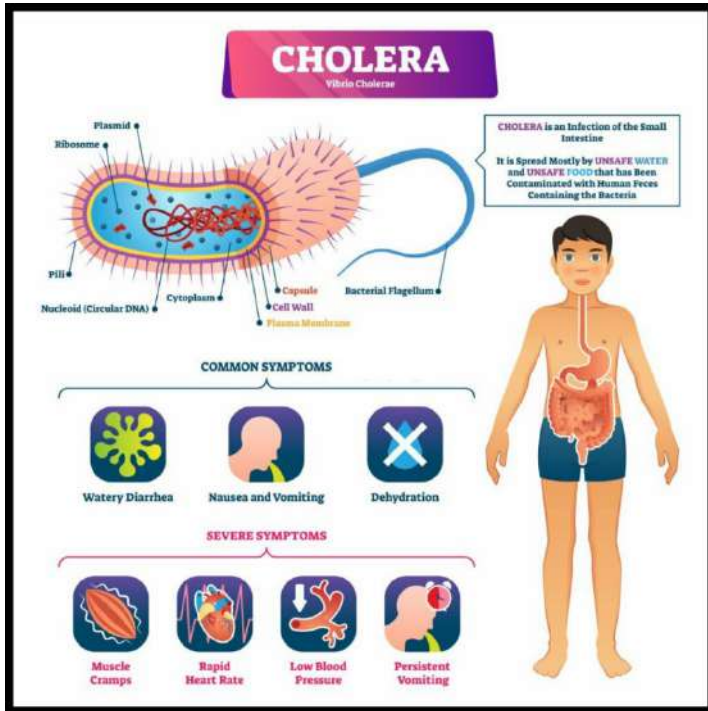
### Context:

**Bharat Biotech launched Hillchol (BBV131)**, an **oral cholera vaccine** developed in partnership **with Hilleman Labs**.

- This vaccine addresses the **global shortage of Oral Cholera Vaccines (OCVs)**, with **demand exceeding 100 million doses annually**.
- The vaccine is a two-dose oral treatment, **aiming**

**to combat cholera globally. Phase I and II trials were conducted in Bangladesh, and Phase III in India.**

Cholera is an acute, diarrheal disease caused by the bacterium *Vibrio cholerae*. It is characterized by severe diarrhea and dehydration, which can lead to rapid and life-threatening fluid loss if not treated promptly.



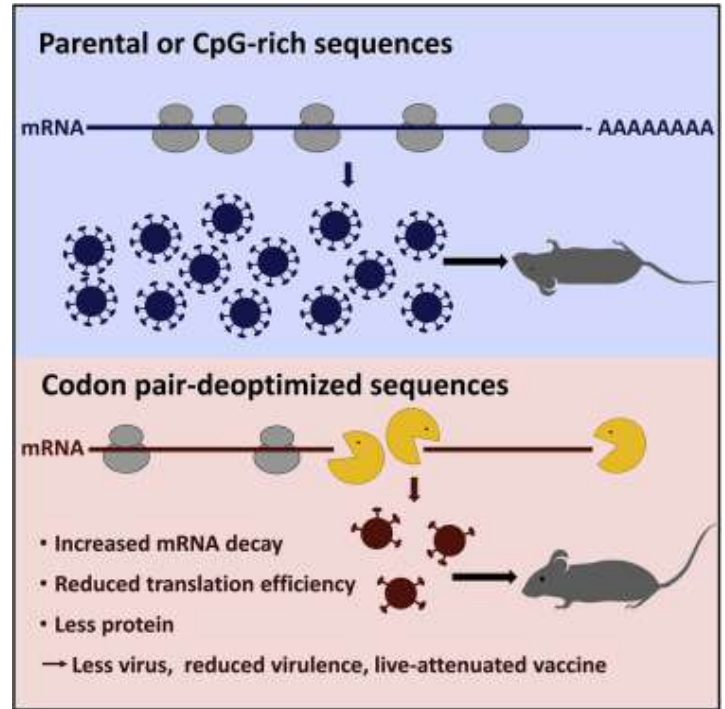
## 23. CODON DEOPTIMIZATION TECHNOLOGY

**Context:**

**Indian Immunologicals Ltd (IIL)**, in collaboration with Griffith University, Australia, has developed a **needle-free intranasal COVID-19 booster vaccine using codon de-optimization technology.**

- This **live-attenuated vaccine, which modulates viral attenuation by adjusting genetic codons, is designed to be safe and quick to produce.**

Codon-pair deoptimization **involves increasing the frequency of underrepresented codon pairs without changing codon usage or amino acid sequences.** It is a highly **efficient virus attenuation** strategy that utilizes **suboptimal codon pairs to achieve attenuation of re-coded viruses.**



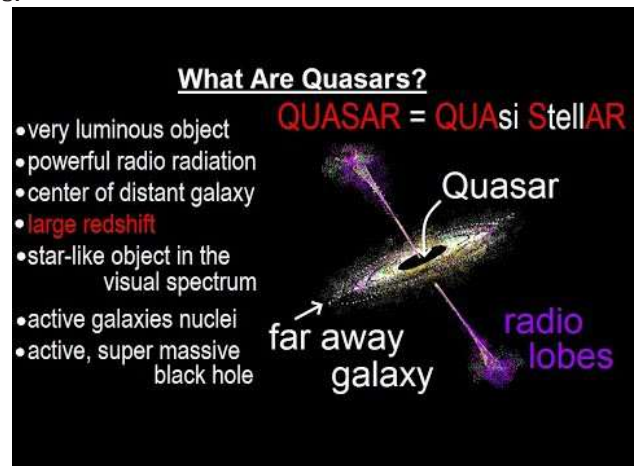
## 24. QUASARS

**Context:**

**Astronomers have discovered the brightest object ever observed in the universe, a quasar named J0529-4351, using the European Southern Observatory's Very Large Telescope (VLT).**

- This quasar, which has been visible since 1980 but only recently identified as such, **is over 500 trillion times brighter than the Sun and grows by consuming the equivalent of one sun per day.**
- The quasar, **located over 12 billion light-years from Earth,** is powered by a **supermassive black hole with a mass of 17 billion suns.**
- Its **massive accretion disc, measuring seven light-years in diameter, is the largest known in the universe.**

Quasars (short for “quasi-stellar objects”) are among the **brightest and most energetic objects in the universe.** They are the **extremely luminous cores of distant galaxies,** powered by supermassive black holes at their centres.



## 25. CHANDIPURA VIRUS

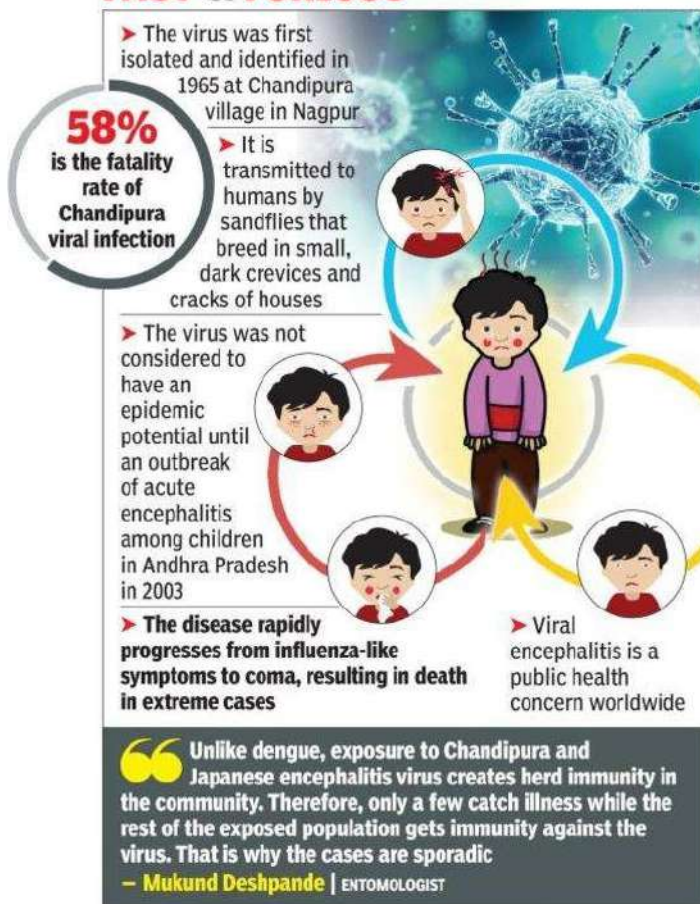
### Context:

The **current Chandipura virus (CHPV) outbreak** in India is the **largest in 20 years**, with 245 cases of **acute encephalitis syndrome (AES)**.

- **Most cases have occurred in Gujarat, with a few in Rajasthan.** WHO advises **enhancing surveillance in high-risk areas but has not recommended travel or trade restrictions.**
- There is **no specific treatment or vaccine for CHPV**, but **early and intensive care can improve survival.**

The Chandipura virus (CHPV) is a member of the **Rhabdoviridae family** and is known to cause outbreaks **of acute encephalitis syndrome (AES), particularly in India.**

**FAST & FURIOUS**



► The virus was first isolated and identified in 1965 at Chandipura village in Nagpur

► It is transmitted to humans by sandflies that breed in small, dark crevices and cracks of houses

► The virus was not considered to have an epidemic potential until an outbreak of acute encephalitis among children in Andhra Pradesh in 2003

► The disease rapidly progresses from influenza-like symptoms to coma, resulting in death in extreme cases

► Viral encephalitis is a public health concern worldwide

**58% is the fatality rate of Chandipura viral infection**

Unlike dengue, exposure to Chandipura and Japanese encephalitis virus creates herd immunity in the community. Therefore, only a few catch illness while the rest of the exposed population gets immunity against the virus. That is why the cases are sporadic

— Mukund Deshpande | ENTOMOLOGIST

### Environment & Ecology

## 26. BLUEBERRIES

### Context:

**India** has implemented strict measures for **importing pest-free blueberries from Poland, reflecting the growing demand for the fruit among health-conscious consumers.**

- The Indian government now **requires blueber-**

**ries to be sourced from Polish orchards registered with the National Plant Protection Organization (NPPO) and accompanied by phytosanitary certificates confirming they are free from specific pests and diseases.**

### About Blueberries:

Blueberries are **small, round, and typically blue or purple fruits** that are known for their **sweet taste and nutritional benefits.** They belong to the **Vaccinium genus** and are often classified as a **superfood due to their high antioxidant content.**

<b>Nutritional Value</b>	<ul style="list-style-type: none"> <li>- Rich in vitamins C and K.</li> <li>- Good source of dietary fibre.</li> <li>- High in antioxidants, especially anthocyanins, which can help protect cells from oxidative stress.</li> </ul>
<b>Health Benefits</b>	<ul style="list-style-type: none"> <li>- May improve heart health by reducing blood pressure and cholesterol levels.</li> <li>- Can support brain health and cognitive function.</li> <li>- Potential to lower the risk of certain cancers and diabetes.</li> <li>- Aid in digestion due to high fibre content.</li> </ul>
<b>Growing</b>	<ul style="list-style-type: none"> <li>- Blueberries are typically grown in temperate climates.</li> <li>- They prefer acidic, well-drained soil and need regular watering.</li> </ul>

## 27. GREAT NICOBAR PROJECT

### Context:

The **₹72,000-crore Nicobar project**, including a port and airport, will not displace indigenous Shompen tribes, said Environment Minister Bhupendra Yadav.

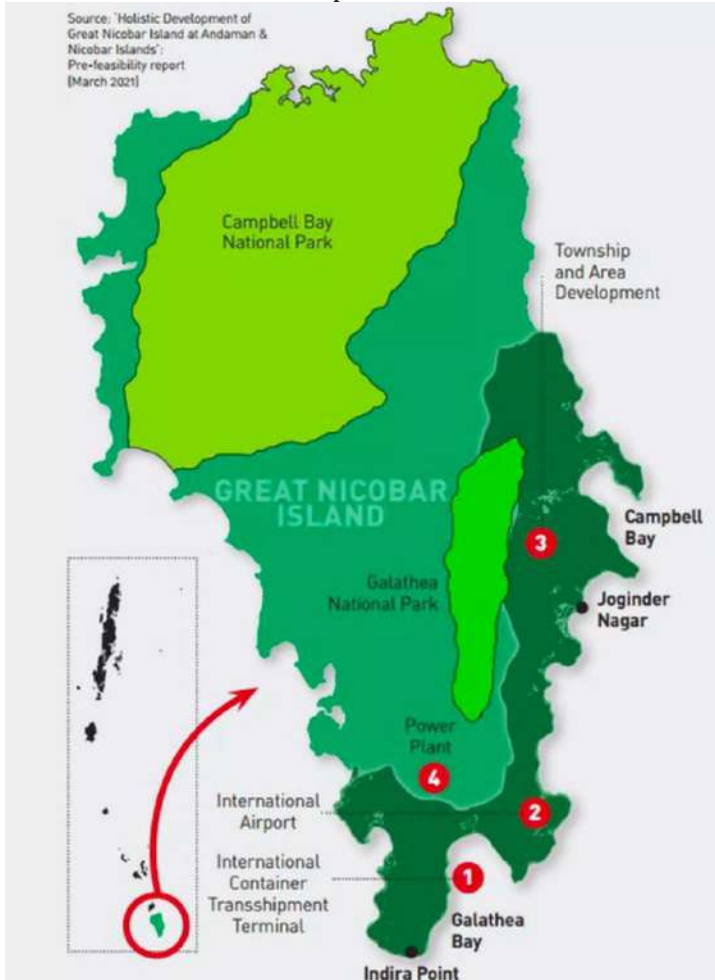
The **project aims to counter Chinese expansion and Myanmar poaching.** Despite concerns regarding forest land diversion, tribal consent, and earthquake risks, the government assured that the **development follows legal protocols and adheres to safety standards.** The project, of **national strategic importance**, will be developed over 30 years, with fewer trees expected to be felled than previously estimated.

### The GNI Project:

- It is a ₹72,000-crore mega project piloted by NITI Aayog for the “holistic development” of the Great Nicobar Island (GNI), situated at the southern end of the A&N group of Islands in the Bay of Bengal.
- It is being implemented by the Andaman and Nicobar Islands Integrated Development Cor-

poration (ANIIDCO).

- The plan has four components –
  - A ₹35,000 crore transshipment port at Galathea Bay,
  - A dual-use military-civil international airport,
  - A power plant, and
  - A township



**Concerns:**

- The project intends to use about 114 sq. km of tribal reserve forest land, where the Shompen (a PVTG) and the Nicobarese reside.
- The northern end of the project falls in the biosphere reserve.

**28. SONOLUMINESCENCE**

**Context:**

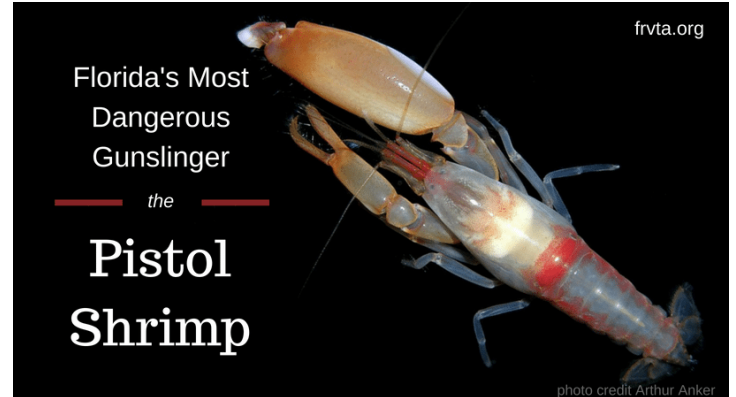
Pistol shrimp (family Alpheidae) exhibit Sonoluminescence by rapidly snapping their claws.

**What is Sonoluminescence?**

It is the phenomenon **where a small bubble in a liquid**, hit by powerful sound waves, emits a flash of light. This happens because the **sound waves cause the bubble to expand and collapse rapidly**, heating it to thousands of

kelvin and releasing light energy.

While the exact process remains unclear, **this effect is not limited to labs. Pistol shrimp** use a similar mechanism, snapping their claws to create a collapsing bubble that generates a loud sound, heat, and sometimes a flash of light.



**29. NORTHERN BALD IBIS**

**Context:**

The **northern bald ibis, once extinct in Europe due to hunting**, has **been revived through breeding and re-wilding efforts.**

**Geographical Range:** Historically found in the **European Alps, Northern Africa, and the Middle East.**

**Conservation Status:** **Endangered according** to the IUCN.



**30. DHAINCHA AND GREEN MANURING**

**Context:** The Tamil Nadu government has recently distributed Dhaincha (green manure) under the **Chief Minister's Mannuyir Kaathu Mannuyir Kaappom (MKMK)**

**Scheme.** Farmers receive **20 kg of green manure per acre at a 50%** subsidy to improve soil health.

**About** Dhaincha and Green Manuring

1. **Dhaincha:** A tall herb grown in wet areas, used for livestock feed and soil improvement.
2. **Green Manuring:** Involves growing and incorporating leguminous plants into the soil. Benefits include improved soil structure, increased water retention, reduced erosion, weed control, and enhanced soil microorganism activity.

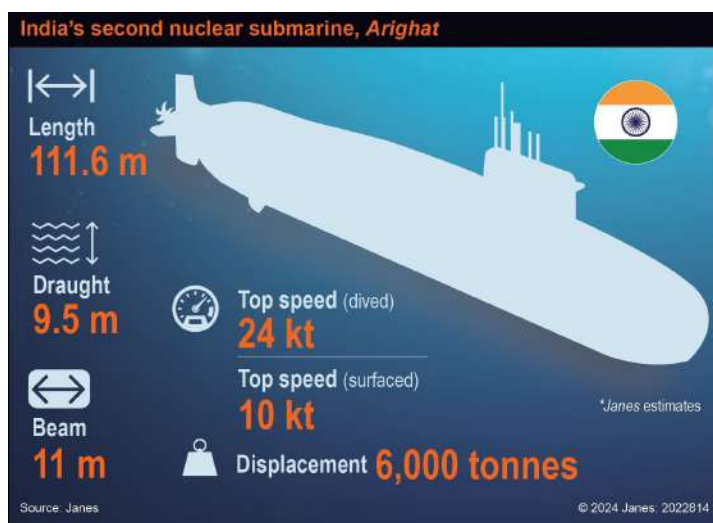
Defence

## 31. INDIA COMMISSIONS INS ARIGHAAT

**Context:**


India has commissioned its **second** nuclear-powered missile submarine, **INS Arighaat at Visakhapatnam**

With the addition of **INS Arighaat, India's navy now has two SSBNs (INS Arihant and INS Arighaat)**. Both submarines are part of the indigenously developed **Arihant-class under the Advanced Technology Vessel (ATV) Project**. INS Arihant, commissioned in 2016, has successfully launched a **Submarine-Launched Ballistic Missile (SLBM)** that can carry either **four K-4 SLBMs or twelve K-15 SLBMs**. India also leased a **Russian Akula-class submarine in 2019**. These submarines bolster India's nuclear deterrence and strategic stability in South Asia, but face challenges from China's advanced submarine capabilities and other technological and investment issues.



**MAPPING**

INTERNATIONAL

Place	Why in News?
<p><b>1. BOTSWANA</b></p>	<p><b>Context:</b> A <b>massive 2,492-carat diamond</b>, the <b>second-largest ever found</b>, has been <b>unearthed at the Karowe mine in Botswana</b>.</p> <ul style="list-style-type: none"> <li>This <b>find is second only to the 3,106-carat Cullinan diamond discovered in South Africa in 1905</b>.</li> </ul> <p><b>About Botswana:</b> It is a <b>landlocked country in Southern Africa</b>, predominantly inhabited by the <b>Tswana ethnic group</b>. It <b>borders South Africa, Namibia, and Zimbabwe, and is connected to Zambia via the Kazungula Bridge</b>.</p> <p>Its landscape is defined by <b>the Kalahari Desert and the Okavango Delta</b>, which becomes a lush animal habitat during the seasonal floods. The massive Central Kalahari Game Reserve, with its fossilized river valleys and undulating grasslands, is home to numerous animals including <b>giraffes, cheetahs, hyenas and wild dogs</b>.</p> 

## 2. CHILE'S ATACAMA SALT FLAT

**Context:** A study by the University of Chile, published in IEEE, reveals that lithium mining is causing the Atacama salt flat to sink by 1-2 cm annually.

This is due to brine extraction outpacing aquifer recharge. The mining also exacerbates water scarcity in the desert, contaminates ecosystems, and threatens biodiversity, including flamingo populations. Lithium extraction, vital for electric vehicle batteries, poses serious environmental risks, especially in the fragile Atacama Desert, which already suffers from extreme dryness and limited freshwater.

### About Atacama Desert:

It is located in northern Chile along the Pacific coast, and is the driest desert on Earth, with some areas receiving less than 1 mm of rainfall annually. Its high-altitude ranges from 2,400 to over 4,500 meters. The desert is also home to the Salar de Atacama, one of the largest salt flats and a key source of lithium.



## INDIAN

Place	Why in News?
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### 3. HOL-LONGAPAR GIBBON WILDLIFE SANCTUARY

**Context:** Assam’s wildlife department has recommended **forest clearance for Vedanta’s oil and gas exploration project in the eco-sensitive zone** of the **Hollongapar Gibbon Wildlife Sanctuary**, citing national interest.

The project, in the habitat of **endangered Hoolock Gibbons and wild elephants**, involves diverting over 4 hectares of forest land. Conditions include preventing pollution and managing risks like oil leaks and gas explosions. The proposal is pending with the Union Environment Ministry’s Forest Advisory Committee.

**Key Facts about Hoolock Gibbon:**

Facts	Description
About	Gibbons, the <b>smallest and fastest of all apes</b> , inhabit tropical and subtropical forests in Southeast Asia. They have high intelligence, distinct personalities, and strong family bonds. They are one of the 20 gibbon species found worldwide.
Population and Habitat	The current population of hoolock gibbons is around 12,000. They are found in <b>Northeast India, Bangladesh, Myanmar, and Southern China</b> .
Gibbon Species in India	Two distinct species in India’s northeast: the <b>eastern hoolock gibbon (Hoolock leuconedys)</b> and the <b>western hoolock gibbon</b> (Hoolock hoolock).
Threats	<b>All 20 gibbon species</b> , including hoolock gibbons, are at high risk of extinction due to conservation challenges. Significant population and habitat decline due to deforestation for infrastructure projects in India.
Conservation Status	International Union for Conservation of Nature’s Red List: Western Hoolock Gibbon: <b>Endangered</b> ; Eastern Hoolock Gibbon: <b>Vulnerable</b> . Both species are listed on Schedule 1 of the <b>Indian (Wildlife) Protection Act 1972</b> .
	The <b>Global Gibbon Network (GGN)</b> recently convened its inaugural meeting in Haikou, China’s Hainan province, to address its critical situation. The GGN was initiated at the <b>International Gibbon Day 2020 event</b> , with representatives from 20 gibbon conservation organizations.
About Hollongapar Gibbon Sanctuary	The Hollongapar Gibbon Sanctuary, formerly known as the Gibbon Wildlife Sanctuary or <b>Hollongapar Reserved Forest, is an isolated evergreen forest in Assam</b> , India. Established in 1997, the sanctuary was initially set aside in 1881, with its forests once extending to the Patkai mountain foothills. It is home to India’s only ape and gibbon species, the hoolock gibbons, and the Bengal slow loris, Northeastern India’s only nocturnal primate. The forest’s upper canopy is dominated by <b>hollong trees, the middle by nahar trees, and the lower by evergreen shrubs and herbs</b> .