



INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

AFRICAN ELEPHANT

A COMPREHENSIVE STUDY COVERING 52 YEARS HAS REVEALED A DRAMATIC DECLINE IN AFRICAN ELEPHANT POPULATIONS, WITH SAVANNAH ELEPHANTS EXPERIENCING A 70% DECREASE AND FOREST ELEPHANTS SUFFERING A 90% DECLINE.



11 NOV - 16 NOV 2024

WEEKLY CURRENT AFFAIRS

WWW.INSIGHTSONINDIA.COM

INSIDE

GENERAL STUDIES – 1

Topics: Modern Indian history from about the middle of the eighteenth century until the present- significant events, personalities, issues.

1. Guru Nanak 4

Topics: Population and associated issues, poverty and developmental issues.

2. Impacts of Declining Population 5

Topics: Social empowerment, communalism, regionalism & secularism.

3. The Real Hurdle: Jobs, Not Constraints 6

GENERAL STUDIES – 2

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

1. Bulldozer Justice 7

Topics: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.

2. Empowering Tribal Society 8

Topics: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

3. Decline In Out-Of-Pocket Expenditure 9
4. Antimicrobial Resistance 10
5. Diabetes – A Non communicable Disease 11

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. India's Cooperative Movement 13

GENERAL STUDIES – 3

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

1. Formalisation of Economy 14

Topics: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

2. Wind Energy 15

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

3. State of the Climate 2024 Report 16

CONTENT FOR MAINS ENRICHMENT

1. Comics Commandos 19
2. Opting Out of Traditional Masculinity 19
3. Prevalence Of Violence 20
4. Social Engineering 20
5. Adaptive Defence Strategy 21

FACTS FOR PRELIMS

GS-1

History

1. Shahjahanpur & 1857 Rebellion 24
2. Maulana Abul Kalam Azad 25
3. Satyendra Nath Bose 25
4. Birsa Munda 26

Society

- 5. Moran and Mottock Communities 26
- 6. Sami, Forest Finns, and Kvens Tribes 27

GS-2

Governance

- 1. QS World University Rankings: Asia 2025 27
- 2. International Atomic Energy Agency (IAEA) 28
- 3. Student Direct Stream (SDS) Visa Program 28

GS-3

Indian Economy

- 1. Digital Euro 29
- 2. World Intellectual Property Indicators (WIPI) - 2024 29
- 3. Domestic Systemically Important Banks 30

Agriculture

- 4. State of Food and Agriculture 2024 30
- 5. Fingerling 31

Science & Technology

- 6. Partnerships for Accelerated Innovation and Research (PAIR) 31
- 7. Operation Dronagiri 32

Health

- 8. Animal Health Security Strengthening in India for Pandemic Preparedness and Response Initiative 32
- 9. 'PPP plus PPP' Model 33
- 10. 'Know Your Medicine' (KYM) App 33

Environment & Ecology

- 11. 'EV as a Service' Programme 33
- 12. Article 6 – Carbon Credits 34
- 13. Dicliptera polymorpha 34

- 14. Eurasian Otter 35
- 15. India's Achievements in Renewable Energy 35
- 16. Comb jellies 36
- 17. African Elephant 36
- 18. Dual Approval Exemption 37
- 19. Graded Response Action Plan 37

Disaster Management

- 20. Lightning Rods 38

Internal Security

- 21. CISF All Women Battalion 38
- 22. Operation Kawach 39
- 23. Armed Forces Special Powers Act 39

Defence

- 24. Pinaka Multi-Barrel Rocket Launcher 40
- 25. Long-Range Land Attack Cruise Missile 40
- 26. e-Tarang System 41

MAPPING

INTERNATIONAL

- 1. South China Sea 42
- 2. Solomon Islands 43

INDIAN

- 3. Sirpur Ramsar Site 44
- 4. Mattupetty Dam 45
- 5. Hokersar Wetland 46
- 6. Barak River 47

GENERAL STUDIES – 1

Topics: Modern Indian history from about the middle of the eighteenth century until the present- significant events, personalities, issues.

1. GURU NANAK

Context:

Guru Nanak Jayanti or Gurburab is being celebrated with religious fervour across India and the world today. This year marks the 555th birth anniversary of Guru Nanak Dev Ji.



About Guru Nanak Dev:

- **Birth:** Born in Talwandi (now Nankana Sahib, Pakistan) in 1469.
- **Founder of Sikhism:** Initiated a new faith emphasizing equality and devotion to one God.
- **Revolutionary Leader:** Challenged caste discrimination, idol worship, and ritualistic practices.
- **Death:** Passed away in 1539 at Kartarpur, Punjab.
- **Legacy:** His teachings are enshrined in the *Guru Granth Sahib*, the holy scripture of Sikhism.

Teachings of Guru Nanak Dev:

- **Oneness of God and Humanity:**
 - Guru Nanak Dev emphasized the concept of ***Ek Onkar Satnam*** – “There is One Creator, One Truth.”

- He believed that God resides in everyone and that all humans are equal, irrespective of caste, creed, religion, or gender.
- **Equality and Brotherhood:**
 - Guru Nanak advocated for a casteless and egalitarian society. He introduced practices such as:
 - **Langar:** Community kitchen offering free meals, symbolizing equality.
 - **Pangat:** Eating together without distinctions of caste or social status.
 - **Sangat:** Collective worship and decision-making.
- **Honest Living and Hard Work (Kirat Karni):**
 - He urged his followers to earn an honest livelihood through physical or mental labor while upholding moral and ethical principles.
- **Sharing and Community Service (Vand Chakna):**
 - Guru Nanak encouraged his followers to share their earnings and resources with the needy.
 - He institutionalized ***Dasvandh*** (donating one-tenth of one’s income) to support community welfare and uplift the less fortunate.
- **Spirituality with Responsibility (Naam Japna):**
 - He emphasized ***Naam Japna*** – meditating on God’s name – as a way to stay connected to the divine while fulfilling worldly responsibilities.
 - Guru Nanak taught that spirituality and worldly duties go hand in hand and should not be viewed as separate pursuits.
- **Rejecting Ritualism and Blind Faith:**
 - He opposed ritualistic practices, idol worship, and pilgrimages without purpose.
 - He taught that true devotion comes from within through love, selflessness, and ethical living.
- **Gender Equality:**
 - Nanak stressed that men and women are equal before God. He declared, ***“Why call her inferior, who gives birth to kings?”***
 - He uplifted women’s status by encouraging their participation in spiritual and social activities.
- **Social Justice and Environmental Harmony:**
 - Guru Nanak viewed the world as God’s creation and encouraged people to live harmoniously with nature.
 - He criticized exploitation and oppression, advocating for justice and fair treatment of all.

Relevance of Guru Nanak Dev's Teachings

- **Social Equality:** His principles of egalitarianism can inspire the fight against caste and gender discrimination.
- **Justice and Sharing:** Encourages creating a just society through honest work and sharing resources.
- **Environmental Harmony:** His belief in the oneness of creation aligns with modern environmental ethics.
- **Peace and Tolerance:** His teachings on universal brotherhood promote communal harmony in a diverse world.
- **Women's Empowerment:** His respect for women highlights the importance of gender equality in contemporary society.

Conclusion:

Guru Nanak Dev's teachings transcend time, offering lessons on equality, compassion, and responsibility. His vision of a harmonious and inclusive society is a guiding light for addressing modern societal challenges.

Insta Links:

1. Guru Nanak

PYQ:

1. Consider the following Bhakti Saints: (UPSC-2013)
 1. Dadu Dayal
 2. Guru Nanak
 3. Tyagaraja

Who among the above was/were preaching when the Lodi dynasty fell and Babur took over?

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

Answer: b)

Topics: [Population and associated issues, poverty and developmental issues.](#)

2. IMPACTS OF DECLINING POPULATION

Context:

India is witnessing a demographic shift, with falling fertility rates and a rapidly ageing population in several states, especially in the south. Policymakers are grappling with the implications of this transition, including its socio-economic and political impacts.

Present Demographic Status in India

- **Declining Fertility Rates:**
 - National average: 2.0 (below replacement

level of 2.1).

- Southern states (Tamil Nadu, Kerala): 1.4-1.5.
- Bihar and Uttar Pradesh: Above 2.5.
- **Ageing Population:**
 - Senior citizens in India: 10.1% in 2021, projected to rise to 15% by 2036 (UNFPA).
 - Kerala: Elderly population projected to be 22.8% by 2036.
 - States like Tamil Nadu, Andhra Pradesh, and Himachal Pradesh face high old-age dependency ratios.
- **Old-Age Dependency Ratio:**
 - Kerala: 26.1%, Tamil Nadu: 20.5%, compared to 7.7% in Bihar.

Impacts of Declining Population:

- **Positive Impacts**
 - **Reduced Strain on Resources:** Slower population growth reduces pressure on infrastructure, natural resources, and basic services.
 - **Increased per capita resources:** Smaller population size allows for better distribution of resources per individual.
 - **Environmental benefits:** Reduced demand for energy, water, and land leads to lower ecological footprints.
- **Negative impacts**
 - **Economic slowdown:** Lower working-age population reduces productivity and GDP growth. Decline in sectors reliant on youth demand (education, entertainment, sports).
 - **Federal issue:** Uneven population growth is set to shake up the federal structure, with the current freeze on the number of seats in Parliament set to expire in 2026.
 - **Higher healthcare costs:** Increased focus on geriatric care and rising health expenses for ageing populations.
 - **Labour shortage:** Shrinking workforce impacts industries, services, and agriculture.
 - **Social security challenges:** Fewer contributions to pension systems strain financial resources for elderly care.
 - **Geopolitical risks:** Reduced youthfulness may weaken national defense capabilities, increasing susceptibility to threats.

Case studies:

- The **study by James and Kriti** estimated that Uttar Pradesh is likely to gain 12 seats, followed by Bihar (10) and Rajasthan (7), while Tamil Nadu is set to lose nine seats, followed by Kerala (6) and Andhra Pradesh (5), due to their falling share in national population.
- **Japan** faces a housing crisis with over nine

million **vacant homes, or akiya**, due to low birth rates and an ageing population, spreading even to urban centers like Tokyo. This demographic shift threatens economic vibrancy, increases urban decay, and demands urgent global attention.

Way ahead:

- **Pro-natalist policies with caution:** Incentivize childbearing but focus on gender-equitable policies like parental leave, affordable childcare, and workplace flexibility.
- **Leverage migration:** Attract and retain economic migrants to balance population gaps and meet labour demands.
- **Extend working lifespan:** Encourage policies for delayed retirement and retraining older workers to remain economically active.
- **Strengthen social security:** Develop robust pension systems and healthcare frameworks to support the ageing population.
- **Boost Productivity with Technology:** Invest in automation, AI, and robotics to offset labour shortages and enhance efficiency.

Conclusion:

While India transitions to an ageing society, proactive measures are essential to harness opportunities and mitigate challenges. Policies must balance promoting sustainable fertility rates, improving social security, and ensuring economic stability to maintain India's growth trajectory.

Insta Links:

1. Population-control-vs-population-management-in-India

PYQ:

1. Discuss the main objectives of Population Education and point out the measures to achieve them in India in detail. (UPSC-2021)
2. "Empowering women is the key to control the population growth." Discuss. (UPSC-2019)
3. Critically examine whether growing population is the cause of poverty or poverty is the main cause of population increase in India. (UPSC-2015)

Topics: [Social empowerment](#), [communalism](#), [regionalism](#) & [secularism](#).

3. THE REAL HURDLE: JOBS, NOT CONSTRAINTS

Context:

India has witnessed remarkable progress in women's empowerment across education, societal participation, and

personal efficacy. However, access to employment opportunities remains stagnant, limiting women's potential contribution to the economy.

Women empowerment and its types:

- **Economic empowerment:** Equal access to employment, markets, and entrepreneurship opportunities.
- **Political empowerment:** Women's participation in decision-making and leadership roles in politics.
- **Social empowerment:** Ensuring equal rights in health, family decisions, marriage, and societal engagement.

Social constraints are not holding women back:

- **Educational gains:** Gender gap in education has disappeared; 26% of young women now have college degrees (up from 12% in 2011-12).
- **Marriage and Autonomy:** Marriage age is delayed; more women (52%) have a say in choosing their partners.
- **Societal engagement:** Women's mobility and political engagement have increased; Self-Help Group (SHG) participation doubled to 18%.
- **Family support:** 80% of women report family approval for work, indicating social norms are no longer the main barrier.

Lack of employment opportunities holding women back:

- **Stagnation in wage labour:** Women's participation in wage labour declined from 18% in 2012 to 14% in 2022.
- **Mismatch in job availability:** Women are willing to work but lack suitable job opportunities.
- **Role in unpaid work:** Most women contribute to family farms but lack access to formal employment.

Other challenges to women empowerment:

- **Economic challenges:**
 - Persistent pay gaps and overrepresentation in informal sectors.
 - Motherhood penalty and unpaid care work reduce women's economic participation.
- **Political challenges:**
 - Low representation in legislative bodies and lack of intra-party democracy.
- **Social challenges:**
 - Health burdens from limited access to menstrual hygiene and healthcare.
 - Threats to safety, including domestic violence and workplace harassment.

Government schemes for women empowerment:

- **Economic empowerment:**
 - Maternity Benefit Act (2017) for paid

leave.

- Mudra Yojana for financial support to women entrepreneurs.
- **Political empowerment:**
 - Nari Shakti Vandana Adhiniyam (33% reservation in Lok Sabha and Assemblies).
 - 73rd and 74th Amendments provide reservations in local bodies.
- **Social empowerment:**
 - Prohibition of Child Marriage Act (2006) and MTP Amendment Act (2021) ensure reproductive and marital rights.
 - Digital India Land Records Modernisation Programme for securing women's land rights.

Way ahead:

- **Enhance employment opportunities:** Create public and private sector jobs tailored to women's needs and implement skilling initiatives.
- **Ensure workplace safety:** Strict enforcement of the POSH Act (2013) for harassment-free work environments.
- **Improve basic amenities:** Focus on health, hygiene, and education for rural women to enhance workforce participation.
- **Promote women-led development:** Shift the narrative from women's welfare to enabling them as drivers of progress in all sectors.

Insta Links:

1. [Empowering-women-digitally](#)

PYQ:

1. "Empowering women is the key to control population growth". Discuss. (UPSC-2019)
2. Discuss the positive and negative effects of globalization on women in India? (UPSC-2015)

GENERAL STUDIES - 2

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

1. BULLDOZER JUSTICE

Context:

The Supreme Court in **Demolition of Structures v. and Ors case judgement** laid down a series of guidelines to ensure that due process is followed for demolishing the properties of citizens.

What is Bulldozer Justice?

"Bulldozer justice" refers to the practice of

using bulldozers and heavy machinery to demolish properties of individuals accused of crimes, often without due legal process. The term symbolizes instant punitive action by the state, bypassing judicial adjudication and procedural safeguards.

Examples of Bulldozer Justice

- **Madhya Pradesh:** Houses demolished after communal clashes in Khargone.
- **Haryana:** Demolitions in Nuh post-communal violence.
- **Delhi:** Jahangirpuri demolitions in April 2022 following riots.

Concerns Regarding Bulldozer Justice:

- **Violation of Rule of Law:** Actions bypass legal procedures like prior notice and hearings.
- **Breach of Fundamental Rights:** Violates the right to shelter under Article 21 of the Indian Constitution.
- **Presumption of Innocence:** Penalizes individuals before being proven guilty in court.
- **Targeting minorities:** Reports of disproportionate action against Muslims, raising questions of communal bias.
- **Authoritarian Practices:** Undermines democratic governance, consolidating power with the executive.
- **Ethical Concerns:** Punishes entire families, conflates roles of judge, jury, and executioner.

Supreme Court Judgments on Demolitions:

- **Olga Tellis vs. Bombay Municipal Corporation, 1985:** Evictions without notice violate the right to livelihood.
- **Municipal Corporation of Ludhiana vs.INDERJIT SINGH, 2008:** Demolitions require prior notice and hearings.
- **Punjab and Haryana HC (Nuh, 2023):** Stopped demolitions citing lack of due process and ethnic targeting.

Supreme Court's Summary Guidelines:

- **Notice Period:** Minimum 15 days' notice before demolition.
- **Transparency:** Notices and orders to be uploaded in real-time on digital portals.
- **Hearing and Final Order:** Must include reasons why demolition is the only option.
- **Post-Order Period:** 15-day window to allow appeals or voluntary evacuation.
- **Videography and Accountability:** Demolition must be recorded, and officials involved listed.

- **Punitive Measures for Violations:** Personal accountability for restoring properties and paying damages.

Way Ahead:

- **Strengthening Rule of Law:** Ensure strict adherence to due process in demolitions.
- **Judicial Oversight:** Establish specialized tribunals for cases of illegal demolitions.
- **Community Engagement:** Foster dialogue with affected communities to address grievances.
- **Accountability:** Implement robust mechanisms to hold officials accountable for misuse of power.
- **Training and Awareness:** Sensitize authorities about constitutional safeguards and legal procedures.

Insta Links:

1. Bulldozer-justice-must-end-SC-warns-states

PYQ:

1. Effectiveness of the government system at various levels and people’s participation in the governance system are interdependent”. Discuss their relationship in the context of India. (UPSC-2016)

Topics: Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes.

2. EMPOWERING TRIBAL SOCIETY

Context:

India’s tribal communities, 8.6% of the population, are vital to the nation’s diversity and development. The government has launched initiatives to address their socio-economic challenges and promote cultural heritage, healthcare, education, and self-reliance.

Tribes in India:

- **Who They Are:** Tribes in India, also referred to as Adivasis, are Indigenous communities with distinct cultures, languages, and traditions.
- **Types:**
 - **Scheduled Tribes (STs):** Identified under Article 366(25) of the Constitution, defined by distinct characteristics such as geographical isolation, economic backwardness, and cultural uniqueness.
 - **Particularly Vulnerable Tribal Groups (PVTGs):** A subgroup of STs identified by pre-agricultural technology, low literacy, and economic backwardness. There are

75 PVTGs across 17 states and one Union Territory.

- **Data:**
 - **Population:** 104.2 million (8.6% of India’s population).
 - **States/UTs with Major Tribes:**
 - **Jammu & Kashmir:** Sippi, Beda.
 - **Arunachal Pradesh:** Kuki, Mikir.
 - **Madhya Pradesh:** Gond, Kol.
 - **Rajasthan:** Bhil, Dhanka.

Schemes for the Welfare of Tribes:

1. Dharti Aaba Janjatiya Gram Utkarsh Abhiyan;
 - **Launched:** October 2, 2024.
 - **Budget:** ₹79,156 crore.
 - **Focus:** Infrastructure, education, health, and livelihoods in 63,843 tribal villages.
2. **Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM-JANMAN):**
 - **Launched:** November 15, 2023.
 - **Target:** Improve housing, water, education, and connectivity for PVTGs.
3. **Pradhan Mantri Adi Adarsh Gram Yojana (PMAAGY):**
 - **Focus:** Basic infrastructure in 36,428 villages with significant tribal populations.
4. Eklavya Model Residential Schools (**EMRS**):
 - **Aim:** Quality education for tribal students.
 - **Progress:** 728 schools approved; ₹2,800 crore invested in 2024.



Key Government Scholarships for Tribal Empowerment

1. **Pre-Matric and Post-Matric Scholarships:** For ST students from Class IX to post-graduation.
2. **National Overseas Scholarship:** Supports ST students for postgraduate and doctoral studies abroad.

3. **National Fellowship for ST Students:** Digital processing ensures timely assistance for higher education.

Financial Support and Self-Employment Schemes:

1. **National Scheduled Tribes Finance and Development Corporation (NSTFDC):** Offers concessional loans for self-employment projects.
2. **Adivasi Mahila Sashaktikaran Yojana (AMSY):** Loans up to ₹2 lakh per unit for tribal women.
3. **Micro Credit Scheme for SHGs:** Loans up to ₹5 lakh per SHG and ₹50,000 per member.
4. **Adivasi Shiksha Rin Yojana (Education Loan):** Financial aid up to ₹10 lakh for professional education.

Initiatives for Better Health Outcomes:

1. **Sickle Cell Anaemia Elimination Mission:** Focus on screening and affordable care for tribal populations.
2. **Mission Indradhanush:** Ensures immunization for children and pregnant women, including free COVID-19 vaccines.
3. **Nikshay Mitra Initiative:** Aims to improve TB treatment and outcomes for tribal communities.

Research and Cultural Preservation Initiatives:

1. **Support to Tribal Research Institutes (TRIs):** Focus on research in welfare, languages, and traditions.
2. **Development of PVTGs:** Dedicated to addressing socio-economic gaps for 75 PVTGs.
3. **Tribal Research Information, Education, Communication, and Events (TRI-ECE):** Organizes cultural festivals, exhibitions, and awareness campaigns.

Conclusion:

The government’s multidimensional approach aims to empower tribal communities through targeted welfare schemes, education, healthcare, and cultural preservation. These efforts ensure that India’s tribal population is integrated into the broader national development narrative, embodying the vision of **“Sabka Saath, Sabka Vikas.”**

Insta Links:

1. Tribal-groups-in-India

PYQ:

1. How do you explain the statistics that show that the sex ratio in Tribes in India is more favourable to women than the sex ratio among Scheduled Castes? (UPSC-2015)

Topics: Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.

3. DECLINE IN OUT-OF-POCKET EXPENDITURE

Context:

The National Health Accounts (NHA) 2021-22 data highlights a significant decline in Out-of-Pocket Expenditure (OOPE) on healthcare, attributed to increased government investments, enhanced public healthcare infrastructure, and expanded health insurance coverage.

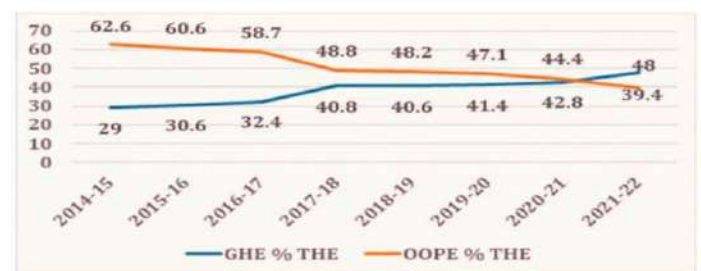
What is Out-of-Pocket Expenditure (OOPE)?

- **Definition:** OOPE refers to direct payments made by individuals for healthcare services such as consultations, medicines, diagnostics, and hospitalizations.
- **Impact:** High OOPE often burdens low-income families, leading to financial hardships, debt, and reduced access to essential healthcare services.

Recent trends in OOPE:

- OOPE as a percentage of Total Health Expenditure (THE) has consistently declined over the years.
- Increased government spending and social security initiatives have helped reduce the financial burden on individuals.
- Per capita health expenditure tripled from ₹1,108 in 2014-15 to ₹3,169 in 2021-22.

Government Health Expenditure (GHE) and Out-Of-Pocket Expenditure (OOPE) as % of Total Health Expenditure (THE)



Reasons for Decline in OOPE:

- **Increased Government Health Expenditure (GHE):** GHE as a percentage of GDP rose from 1.13% in 2014-15 to 1.84% in 2021-22. Greater funding improved public healthcare services and affordability. **E.g.** Investments in rural healthcare centres.
- **Expansion of Social Security Expenditure (SSE):** SSE on health grew from 5.7% to 8.7% of THE between 2014-15 and 2021-22. Shielded vulnerable populations from catastrophic health expenditures. **E.g.** Rashtriya Swasthya Bima Yojana.
- **Government-funded insurance schemes:** Pro-

grams like Ayushman Bharat provided insurance coverage to economically weaker sections. Reduced dependence on personal savings for healthcare.

E.g. Ayushman Bharat PM-JAY covering 50 crore beneficiaries.

- **Focus on Public Health Infrastructure:** Investments in healthcare facilities and workforce training made services more accessible.

E.g. Setting up primary healthcare centres in underserved regions.

- **Covid-19 response:** Pandemic-driven health investments laid the groundwork for affordable long-term healthcare.

E.g. Increased funding for ICU and ventilator facilities.

Implications of Reduced OOPE:

- **Improved Healthcare Accessibility:** Affordable services encourage timely medical interventions, especially in rural areas.

E.g. Free diagnostic services in government hospitals.

- **Stronger public healthcare system:** Reduced OOPE allows public health systems to cater to broader populations.

E.g. Enhanced capacity for vaccination drives.

- **Better health outcomes:** Access to preventive care reduces severity and costs of illnesses.

E.g. Regular screenings for non-communicable diseases.

- **Increased financial stability:** Families can allocate resources toward essentials like education and nutrition.

E.g. Low-income families spending less on emergency healthcare.

- **Foundation for Universal Health Coverage (UHC):** Strengthened public funding aligns with India's goal of achieving UHC.

E.g. Affordable healthcare for marginalized groups.

Way ahead:

- **Expand health insurance coverage:** Ensure broader access to government-funded health insurance programs.

- **Strengthen primary healthcare:** Enhance rural healthcare infrastructure and workforce training.

- **Public awareness campaigns:** Educate citizens about health schemes and preventive care.

- **Digital health solutions:** Leverage technology for accessible and cost-effective healthcare delivery.

- **Focus on Non-Communicable Diseases (NCDs):** Increase investment in NCD prevention and management programs.

Conclusion:

The declining OOPE reflects India's commit-

ment to an inclusive healthcare system. With continued investments in public health infrastructure and insurance schemes, the nation is moving closer to achieving Universal Health Coverage (UHC). This shift ensures financial protection for households, equitable access to quality healthcare, and a healthier population.

Insta Links:

1. OOPE

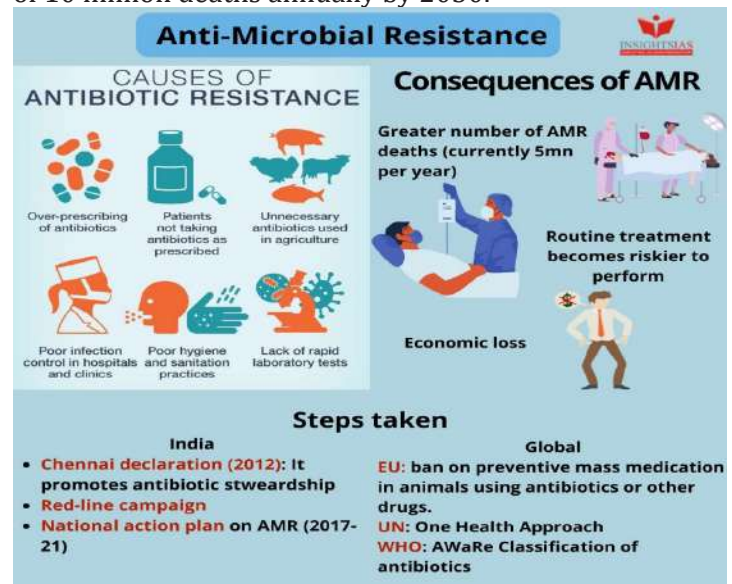
PYQ:

1. "Besides being a moral imperative of a Welfare State, primary health structure is a necessary precondition for sustainable development." Analyse. (UPSC-2021)

4. ANTIMICROBIAL RESISTANCE

Context:

Antimicrobial Resistance (AMR) poses a grave threat to human, animal, and environmental health worldwide, including India. Despite advancements in medical sciences, AMR challenges global health progress, with projections of 10 million deaths annually by 2050.



Anti-Microbial Resistance

CAUSES OF ANTIBIOTIC RESISTANCE

- Over-prescribing of antibiotics
- Patients not taking antibiotics as prescribed
- Unnecessary antibiotics used in agriculture
- Poor infection control in hospitals and clinics
- Poor hygiene and sanitation practices
- Lack of rapid laboratory tests

Consequences of AMR

- Greater number of AMR deaths (currently 5mn per year)
- Routine treatment becomes riskier to perform
- Economic loss

Steps taken

India	Global
<ul style="list-style-type: none"> Chennai declaration (2012): It promotes antibiotic stewardship Red-line campaign National action plan on AMR (2017-21) 	<ul style="list-style-type: none"> EU: ban on preventive mass medication in animals using antibiotics or other drugs. UN: One Health Approach WHO: AWaRe Classification of antibiotics

What is AMR?

- **Definition:** AMR occurs when microorganisms such as bacteria, viruses, fungi, and parasites evolve to resist antimicrobial drugs, rendering them ineffective.
- **Impact:** AMR complicates treatments, increases healthcare costs, prolongs illnesses, and risks lives globally.

Causes of AMR:

- **Overuse of Antibiotics:** Unregulated sale and over-the-counter availability of antibiotics. Over-prescription for minor or non-bacterial in-

fections.

- **Underuse or Misuse:** Non-adherence to prescribed dosages or courses.
- **Industrial Agriculture Practices:** Antibiotics used as growth promoters in livestock, fisheries, and poultry. Poor waste management from farms increases AMR in the environment.
- **Lack of Diagnostic Infrastructure:** Inadequate facilities for proper disease diagnosis and treatment.
- **Inadequate Training:** Healthcare providers often lack awareness of rational antibiotic use.
- **COVID-19 Pandemic Misuse:** Rampant and indiscriminate use of antibiotics during the pandemic exacerbated AMR.

India's Approach to AMR:

- **National Action Plan (NAP):** Launched in 2017, it focuses on rational antibiotic use and AMR surveillance.
- **AMR Surveillance and Research Network (AMRSN):** Established by ICMR in 2013, monitoring resistance patterns across 30 tertiary hospitals.
- **One Health Approach:** Focus on interconnected health across human, animal, and environmental sectors. Collaborative initiatives like Integrated One Health Surveillance Network.
- **National One Health Mission:** Approved in 2022, it targets AMR, zoonotic diseases, and environmental health.
- **Policy Guidelines:** NCDC developed national guidelines for treatment and infection control.
- **Zoonotic Disease Programmes:** National Programme for Prevention and Control of Zoonoses under One Health.

Challenges yet to be addressed:

- **Lack of behavioural and social science data:** Limited understanding of community-level antibiotic usage patterns.
- **Structural disparities:** Unequal access to healthcare, particularly in rural and underserved regions.
- **Insufficient community engagement:** Poor implementation of awareness campaigns and behavioural change initiatives.
- **Inadequate workforce training:** Outdated curricula and lack of inter-sectoral training for professionals.
- **Surveillance gaps:** Inconsistent data collection from community and tertiary levels.

Way ahead:

- **Strengthen surveillance systems:** Expand monitoring to include community-level data for better health planning.
- **Enhance public awareness:** Implement targeted campaigns on antibiotic stewardship and AMR

risks.

- **Policy implementation:** Enforce stricter regulations on over-the-counter antibiotic sales.
- **Inter-sectoral collaboration:** Strengthen the One Health approach across human, animal, and environmental sectors.
- **Update curricula and training:** Regularly revise professional training to include AMR and integrated health strategies.
- **Focus on resource allocation:** Ensure equitable distribution of resources for implementing AMR strategies effectively.

Conclusion

Addressing AMR is critical for sustaining global health progress and achieving SDG targets. India's initiatives, including the One Health Mission and AMR surveillance, provide a robust foundation. However, success requires bridging regulatory, social, and infrastructural gaps through a collaborative, multi-sectoral approach that ensures equitable healthcare for all.

Insta Links:

1. Antimicrobial-resistance

PYQ:

1. Which of the following are the reasons for the occurrence of multi-drug resistance in microbial pathogens in India? (UPSC-2019)
 1. Genetic predisposition of some people
 2. Taking incorrect doses of antibiotics to cure diseases
 3. Using antibiotics in livestock farming
 4. Multiple chronic diseases in some people

Select the correct answer using the code given below.

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

Answer: b)

5. DIABETES – A NON COMMUNICABLE DISEASE

Context:

World Diabetes Day, observed on November 14 to honour **Sir Frederick Banting**, highlights the global fight against diabetes and its management.

Diabetes Data: Key Points

- **Global Prevalence:**
 - **Total adults with diabetes globally (2022):** 828 million.
 - **India:** 212 million (25% of global cases).

- **Other nations:** China (148M), USA (42M), Pakistan (36M), Indonesia (25M), Brazil (22M)
 - **Risk Factors:**
 - **Global:** Obesity and poor diets.
 - **India:** Dietary habits, lack of exercise, and socio-economic disparities.
 - **Treatment Gap:**
 - **Global untreated cases (2022):** 445 million (59% of diabetics).
 - **India untreated cases (2022):** 133 million (64M men, 69M women).
 - Lack of treatment leads to severe complications like heart disease, kidney failure, and premature death.
- Source:** Lancet Report

About Diabetes:

- **What is Diabetes?**
 - Diabetes is a chronic condition where the body fails to regulate blood glucose levels effectively due to insufficient insulin production or impaired insulin response.
- **Types of Diabetes:**
 - **Diabetes mellitus:**
 - Diabetes mellitus, the **most prevalent form of diabetes**, occurs when the body cannot effectively produce or utilize insulin, leading to unregulated blood sugar levels.
 - It is categorized into two main types:
 - **Type 1 Diabetes (T1D):**
 - Autoimmune condition; pancreas produces little or no insulin.
 - Typically affects children and young adults.
 - **Type 2 Diabetes (T2D):**
 - Caused by insulin resistance and reduced insulin production.
 - Associated with lifestyle factors like obesity and inactivity.
 - **Gestational Diabetes:**
 - Gestational diabetes occurs in pregnant women, leading to elevated blood sugar levels without an obvious cause.
 - Develops during pregnancy and usually resolves after childbirth.
 - **Diabetes Insipidus:**
 - Diabetes insipidus arises when the hypothalamus fails to produce or respond to antidiuretic hormone (ADH), which helps the kidneys regulate body water levels.
 - Without this hormone, the kid-

neys excrete a large volume of diluted and odourless urine.

Symptoms:

- Frequent urination.
- Excessive thirst and hunger.
- Unexplained weight loss.
- Blurred vision.
- Fatigue.
- Slow-healing wounds.

Role of Insulin in Resolving Diabetes:

- **Function:**
 - Insulin is a hormone produced by the pancreas that facilitates glucose absorption into cells for energy production.
- **In Diabetes:**
 - **Type 1 Diabetes:** Insulin injections or pumps are essential for survival.
 - **Type 2 Diabetes:** Insulin or other medications may be needed alongside lifestyle modifications.

Government Initiatives to Counter Diabetes:

- **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS):**
 - Focuses on awareness, early diagnosis, and management.
- **National Health Policy (2017):**
 - Aims to reduce premature deaths from non-communicable diseases by 25% by 2025.
- **Ayushman Bharat - Health and Wellness Centres:**
 - Provides free screenings and consultations for diabetes and other non-communicable diseases.
- **Eat Right Movement:**
 - Promotes healthier dietary habits to combat obesity and diabetes.
- **School Health Programs:**
 - Focuses on inculcating healthy lifestyles among children to prevent early onset of Type 2 Diabetes.

Way Ahead:

- **Awareness and Education:**
 - Increase awareness about diabetes prevention and management.
 - Promote regular screenings for early detection.
- **Policy Interventions:**
 - Strengthen healthcare infrastructure for diabetes care.
 - Subsidize medications and treatments for low-income groups.
- **Lifestyle Modifications:**
 - Encourage healthier diets and physical activity.

- Develop urban planning that facilitates outdoor exercise.
- **Research and Innovation:**
 - Invest in diabetes cure research.
 - Expand access to technologies like continuous glucose monitors.

Insta Links:

1. National-programme-for-prevention-control-of-non-communicable-diseases

PYQ:

1. Aspartame is an artificial sweetener sold in the market. It consists of amino acids and provides calories like other amino acids. Yet, it is used as a low-calorie sweetening agent in food items. What is the basis of this use? (UPSC-2011)
 - a) Aspartame is as sweet as table sugar, but unlike table sugar, it is not readily oxidized in human body due to lack of requisite enzymes
 - b) When aspartame is used in food processing, the sweet taste remains, but it becomes resistant to oxidation
 - c) Aspartame is as sweet as sugar, but after ingestion into the body, it is converted into metabolites that yield no calories
 - d) Aspartame is several times sweeter than table sugar, hence food items made with small quantities of aspartame yield fewer calories on oxidation.

Answer: d)

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. INDIA'S COOPERATIVE MOVEMENT

Context:

India's cooperative movement, rooted in the ethos of *Vasudhaiva Kutumbakam* ("the world is one family"), has played a transformative role in fostering inclusive growth, empowering marginalized communities, and driving rural development.

What are Cooperative Societies?

Cooperative societies are voluntary organizations where individuals with shared interests collaborate to achieve common economic goals. They operate on principles of self-help, mutual assistance, and prioritizing community welfare over profit. Members pool resources, collectively

use them, and derive shared benefits.

Types of Cooperatives in India

1. **Consumers' Cooperative Societies:** Provide goods at reasonable prices, bypassing middlemen.
 - **Examples:** Kendriya Bhandar, Apna Bazar.
2. **Producers' Cooperative Societies:** Support small producers with resources like raw materials.
 - **Examples:** Haryana Handloom, APPCO.
3. **Marketing Cooperative Societies:** Help market products of small producers collectively.
 - **Example:** AMUL.
4. **Credit Cooperative Societies:** Offer financial assistance to members at reasonable interest rates.
 - **Examples:** Urban Cooperative Banks, Village Service Cooperative Societies.
5. **Farming Cooperative Societies:** Facilitate benefits of large-scale farming for small farmers.
 - **Examples:** Lift-irrigation cooperatives.
6. **Housing Cooperative Societies:** Provide affordable housing by pooling resources.
 - **Examples:** Employees' Housing Societies.

The Cooperative Spirit



Definition
A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise.

Cooperative Values
Cooperatives are based on the values of self-help, self-responsibility, democracy, equality, equity, and solidarity. In the tradition of their founders, cooperative members believe in the ethical values of honesty, openness, social responsibility and caring for others.

Cooperative Principles

- ✓ Voluntary and Open Membership
- ✓ Democratic Member Control
- ✓ Member Economic Participation
- ✓ Autonomy and Independence
- ✓ Education, Training, and Information
- ✓ Cooperation among Cooperatives
- ✓ Concern for Community



Evolution of Cooperative Movement in India:

Pre-Independence Era:

- **1904:** Cooperative Credit Societies Act—recognized cooperatives legally but limited to credit societies.
- **1912:** Cooperative Societies Act—expanded scope to include marketing and artisan societies.
- **1914:** Maclagan Committee recommended a three-tier cooperative banking system.
- **1925:** Bombay Cooperative Society Act—first provincial cooperative legislation.
- **1942:** Multi-Unit Cooperative Societies Act—regulated cooperatives across provinces.

Post-Independence Era:

- Cooperatives integrated into Five-Year Plans, emphasizing economic decentralization and social justice.

- **1963:** National Cooperative Development Corporation (NCDC) established to support rural credit.
- **1982:** NABARD founded to aid cooperative financing.
- **2002:** National Policy on Cooperatives introduced to harmonize the legal framework.
- **2023:** MSCS Amendment Act enhanced transparency and governance.

Resurgence of the Cooperative Movement in India:

The Ministry of Cooperation, formed in 2021, has launched initiatives to modernize the sector:

1. **Model Bye-Laws for PACS:** Enable diversified activities, adopted by 32 states.
2. **Computerization of PACS:** ₹2,516 crore project covering 63,000 societies.
3. **Decentralized Grain Storage Plan:** Reduces food grain waste at PACS level.
4. **PACS as Common Service Centers:** Provide over 300 e-services to rural citizens.
5. **PM Bhartiya Jan Aushadhi Kendras:** 2,475 PACS approved to sell generic medicines.

Cooperatives at a Glance

- **Sectors:** Agriculture, credit, banking, housing, and women's welfare.
- **Role:** Promote financial inclusion, provide affordable credit, and reduce socio-economic disparities.
- **Examples:** AMUL (dairy), NCDC (rural credit), Urban Cooperative Banks (finance).

Conclusion:

India's cooperative movement embodies the principles of inclusivity and self-reliance. By leveraging cooperatives as engines of rural development and economic empowerment, the government aims to achieve equitable growth.

Insta Links:

1. Cooperative-sector-and-its-role-in-indian-farming

PYQ:

1. "In the Indian governance system, the role of non-state actors has been only marginal." Critically examine this statement. (UPSC-2016)

"In the villages itself no form of credit organisation will be suitable except the cooperative society." – All India Rural Credit Survey. Discuss this statement in the background of agricultural finance in India. What constraints and challenges do financial institutions supplying agricultural finance face? How can technology be used to better reach and serve rural clients? (UPSC-2014)

GENERAL STUDIES – 3

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

1. FORMALISATION OF ECONOMY

Context:

India's economy is transitioning to formality, improving employment security, social benefits, and economic stability. This shift enhances workers' quality of life through access to social security, regulated conditions, and financial safety nets, with institutions like EPFO driving workforce formalization.

What is Formalization of the Economy?

Formalization is the process of shifting economic activities from the informal sector—characterized by unregistered businesses and daily-wage workers—into the formal sector, where jobs are legally regulated.

Features of a Formal Economy

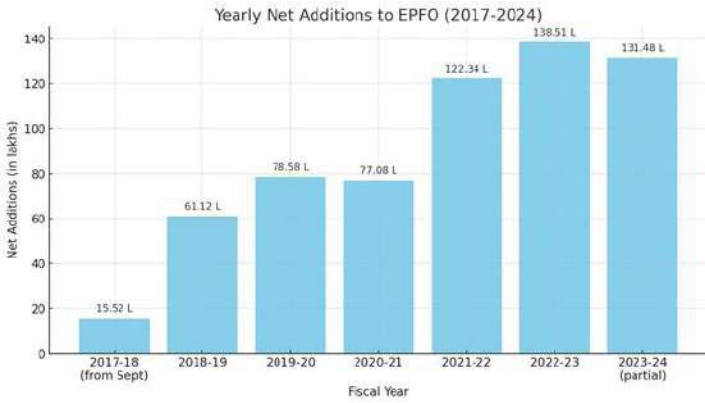
- **Legal Protections:** Workers have contracts ensuring job security and legal rights.
- **Social Security:** Access to benefits such as retirement savings, health insurance, and paid leave.
- **Stable Income:** Workers receive fixed salaries through official channels.
- **Transparency:** Economic activities comply with tax laws and government regulations.
- **Economic Participation:** Greater access to financial services, credit, and government programs.

What is EPFO and How Does it Benefit Workers?

The **Employees' Provident Fund Organisation (EPFO)** is a government body managing long-term savings and social security benefits for salaried workers in India.

Benefits of EPFO:

1. **Retirement Fund:** Ensures financial security for employees' post-retirement.
2. **Insurance:** Life coverage under schemes like Employees' Deposit Linked Insurance (EDLI).
3. **Pension:** Monthly income after retirement through the Employees' Pension Scheme (EPS).
4. **Emergency Support:** Allows partial withdrawals for medical needs, education, or housing.
5. **Job Security:** Formal EPFO registration indicates compliance with labor laws, ensuring employee rights.



How EPFO Registration Reflects Increased Formalization:

EPFO registrations indicate a shift toward formal employment.

Key Data from EPFO (2022-2024):

- **6.91 crore members joined** EPFO from September 2017 to July 2024.
- In **2022-23, 1.38 crore new members registered**.
- **July 2024** saw a record **20 lakh new registrations**, indicating robust labor market growth.
- Rising participation from youth, women, and job-switching employees reflects the increasing formalization of the workforce.

Government Schemes for Formalization:

1. **Pradhan Mantri Rojgar Protsahan Yojana (PM-RPY):** Provides employers' contribution to EPF for three years to encourage job creation and formalize employment.
2. **Aatmanirbhar Bharat Rozgar Yojana (ABRY):** Incentivizes job creation during the COVID-19 recovery phase by reimbursing employers for EPF contributions.
3. **PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi):** Provides affordable loans to street vendors for capital and business expansion, aiming to integrate them into the formal economy.

Challenges in Formalization:

1. **Increased Costs:** Compliance with labor laws raises operational costs, particularly for small businesses.
2. **Credit Access:** MSMEs face difficulty obtaining credit due to a lack of formal documentation.
3. **Bureaucracy:** Lengthy and complicated registration processes deter small enterprises.
4. **Displacement Risks:** Informal workers may lose jobs as employers adjust to formal sector requirements.
5. **Economic Vulnerabilities:** Informal sector workers are disproportionately affected by policies like GST or demonetization without adequate safeguards.

Way Ahead:

1. **Simplify Regulations:** Streamline registration and compliance processes for small businesses.
2. **Expand Credit Access:** Offer collateral-free loans and credit support for MSMEs and informal workers.
3. **Support Informal Workers:** Create self-help groups to address issues like working conditions and social security.
4. **Comprehensive Data Collection:** Build a robust statistical framework to monitor informal sector dynamics and tailor policies.
5. **Invest in Infrastructure:** Provide public amenities like water, waste collection, and workspace for informal workers to enhance productivity and accountability.

Insta Links:

1. Formalization-of-Economy

PYQ:

1. How globalization has led to the reduction of employment in the formal sector of the Indian economy? Is increased informalization detrimental to the development of the country? (UPSC-2016)

Topics: [Infrastructure: Energy, Ports, Roads, Airports, Railways etc.](#)

2. WIND ENERGY

Context:

Tamil Nadu, a pioneer in wind power, is facing challenges regarding outdated wind turbines, repowering policies, and land constraints. The **Tamil Nadu Repowering, Refurbishment and Life Extension Policy - 2024** aims to address these issues but has received opposition from stakeholders citing financial and operational concerns.

India's Wind Energy Capacity and Potential: (Source: National Institute of Wind Energy)

- **Potential:**
 - **At 150m height:** 1,163.86 GW
 - **At 120m height:** 695.51 GW (including 68.75 GW in Tamil Nadu).
 - **Utilized nationally:** ~6.5%; Tamil Nadu: ~15%.
- **Installed Capacity:**
 - **Total:** 44.89 GW (as of 2024).
 - **Tamil Nadu:** 10,603.5 MW, second largest in India.
 - **Leading states:** Gujarat, Tamil Nadu, Karnataka, Maharashtra, Rajasthan, Andhra Pradesh (~93% of total).

Sl. No	State	Wind Potential at 120 m (GW)	Wind Potential at 150 m (GW)
1	Andhra Pradesh	74.90	123.3
2	Gujarat	142.56	180.8
3	Karnataka	124.15	169.3
4	Madhya Pradesh	15.40	55.4
5	Maharashtra	98.21	173.9
6	Rajasthan	127.75	284.2
7	Tamil Nadu	68.75	95.1
8	Telangana	24.83	54.7
	Total @ windy states	676.55	1196.7
9	Others	18.95	27.1
	Total	695.50	1163.9

(Source: MNRE Database – Read image from prelims perspective too, Eg: highest wind potential state at 120m and 150m, order wise potential etc..)

Maintenance of Wind Turbines:

- **Repowering:** Complete replacement of old turbines (<2 MW) with modern ones for higher efficiency.
- **Refurbishing:** Enhancements such as taller towers, new blades, or upgraded gearboxes.
- **Life Extension:** Safety measures to extend the lifespan of existing turbines.
- **Challenges:** Requires investment in land, technology, and evacuation infrastructure.

Repowering and Refurbishing:

- **Advantages:**
 - Increased generation capacity (e.g., replacing a 250kW turbine with a 2.5 MW turbine).
 - Efficient land use at high-potential sites.
- **Challenges:**
 - Land constraints due to habitation.
 - Loss of banking facilities for repowered turbines (Tamil Nadu).
 - Inadequate transmission infrastructure (e.g., Aralvaimozhi site).

Pros and Cons of Wind Energy:

Pros	Cons
Green energy: No emissions; reduces carbon footprint.	Intermittency: Wind is not a constant energy source.
Renewable source: Endless availability.	High upfront costs: Installation and manufacturing.
Low operational costs: Cost-effective post-installation.	Wildlife threat: Risks to birds and bats.
Space-efficient: Generates high output on small land.	Noise and Visual Impact: Aesthetic concerns.
Dual land use: Can coexist with grazing or farming.	Remote locations: Transmission challenges to demand centers.

Falling costs: 80% cost reduction since 1980.	Land use issues: Regulatory and clearance delays.
--	--

Way ahead:

- **Policy refinements:** Address financial and operational challenges to incentivize repowering.
- **Infrastructure development:** Strengthen evacuation and transmission networks at high-potential sites.
- **Sustainability measures:** Ensure balance between environmental concerns and energy needs.
- **Technology adoption:** Leverage modern turbines for higher efficiency and land optimization.

Conclusion:

India’s wind energy sector holds immense potential to drive renewable energy goals. While repowering and refurbishing offer significant benefits, addressing financial, land, and infrastructure challenges is crucial for long-term sustainability and increased contribution to energy needs.

Insta Links:

1. MNRE

PYQ:

1. “Access to affordable, reliable, sustainable and modern energy is the sine qua non to achieve Sustainable Development Goals (SDGs)”. Comment on the progress made in India in this regard. (UPSC-2018)

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

3. STATE OF THE CLIMATE 2024 REPORT

Context:

The WMO State of the Climate 2024 Update once again issues a Red Alert at the sheer pace of climate change in a single generation, turbo-charged by ever-increasing greenhouse gas levels in the atmosphere.

Summary of State of the Climate 2024 Report:

- **Temperature and Greenhouse Gases:**
 - 2024 is on track to be the warmest year, with global temperatures 1.54°C above pre-industrial levels.
 - Greenhouse gas levels (CO₂, CH₄, N₂O) hit record highs in 2023, continuing to rise in 2024.
- **Ocean and Sea Level Rise:**
 - Ocean heat content reached record levels in 2023, absorbing 3.1 million TWh of

- heat.
- Global sea level rise accelerated to 4.77 mm/year (2014-2023), doubling the rate of 1993-2002.
- **Cryosphere (Polar Ice and Glaciers):**
 - Arctic and Antarctic Sea ice extent in 2024 remained below historical averages.
 - Glaciers lost an unprecedented volume of ice equivalent to five times the water in the Dead Sea in 2023.
- **Precipitation and Water Resources:**
 - 2023 was the driest year for global rivers in over 30 years.
 - Extreme precipitation events caused significant flooding, but overall water availability declined globally.
- **Extreme weather events:**
 - Devastating floods, heatwaves, droughts, and wildfires affected millions globally in 2024, with extensive socio-economic impacts.
- **Early Warning Systems and Climate Services:**
 - Progress made in implementing Multi-Hazard Early Warning Systems (MHEWS), with 108 countries adopting them.
 - Significant gaps persist, especially in vulnerable regions like Africa and small island nations.
- **Renewable Energy and Climate Finance:**
 - Renewable energy capacity increased globally, with improvements in wind and solar generation.
 - Climate finance and integrated policies emphasized to meet adaptation and mitigation targets.

Factors Impacting Climate:

Anthropological factors:

Greenhouse Gas Emissions	Rising concentrations of CO ₂ , CH ₄ , and N ₂ O from fossil fuels, agriculture, and industrial activities.
Land Use Changes	Deforestation, urbanization, and agricultural expansion altering natural carbon and water cycles.
Industrial Activities	Energy-intensive processes releasing heat-trapping gases and pollutants.
Transportation	Emissions from vehicles and aviation contributing to CO ₂ and particulate matter levels.
Waste Management	Methane emissions from unmanaged landfills and improper waste handling.

Natural factors:

El Niño and La Niña	Cyclical warming (El Niño) and cooling (La Niña) of ocean waters driving global temperature and weather changes.
Volcanic Activity	Periodic eruptions releasing aerosols that temporarily cool or warm the atmosphere.
Solar Variability	Changes in solar radiation influencing Earth's energy balance.
Ocean Circulation	Variations in currents like the Gulf Stream affecting heat distribution.
Natural Carbon Sinks	Forests, oceans, and soil absorbing less CO ₂ due to degradation or warming-induced changes.

Recommendations from the State of the Climate 2024 Report

- **Mitigation of Climate Change:**
 - Accelerate efforts to limit global warming below 1.5°C through stronger commitments to reducing greenhouse gas emissions.
- **Climate adaptation:**
 - Scale up climate adaptation strategies, including investments in resilient infrastructure and integrated water management.
- **Early warning systems:**
 - Expand **Multi-Hazard Early Warning Systems (MHEWS)** globally, with a focus on vulnerable regions like Africa and small island nations.
- **Renewable energy:**
 - Triple renewable energy capacity and double energy efficiency by 2030 to meet climate mitigation targets.
- **Strengthen climate services:**
 - Enhance National Meteorological and Hydrological Services (NMHS) to improve data collection, modelling, and forecasting for effective decision-making.
- **Cryosphere protection:**
 - Implement policies to mitigate glacial loss and ensure sustainable management of polar and high-altitude ecosystems.

About State of the Global Climate Report:

- **Purpose:** Provides an **annual summary** of key climate indicators and updates.
- **History:** Published annually by the **WMO since 1993** to complement IPCC's less frequent Assessment Reports.
- **Updates for COP:** Since 2016, the report includes preliminary findings presented before the UNFCCC COP each year.

About World Meteorological Organization (WMO):

- **Overview:** An intergovernmental organization with 192 member states and territories.
- **Origin:** Evolved from the International Meteorological Organization (IMO), established in 1873.
- **Establishment:** Officially formed on 23rd March 1950 through the WMO Convention.
- **Role and Affiliation:** A specialized United Nations agency focusing on meteorology, climate, operational hydrology, and geophysical sciences.
- **Headquarters:** Based in Geneva, Switzerland.
- **India's Membership:** India is an active member of WMO.
- **Purpose:** Promotes international cooperation, data exchange, and research in weather, climate, and water sciences.

Insta Links:

1. [State-of-climate-2024-update-COP29](#)

PYQ:

1. In the context of India's preparation for Climate-Smart Agriculture, consider the following statements: (UPSC-2021)
 1. The 'Climate-Smart Village' approach in India is a part of a project led by the Climate Change, Agriculture and Food Security (CCAFS), an international research programme.
 2. The project of CCAFS is carried out under Consultative Group on International Agricultural Research (CGIAR) headquartered in France.
 3. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India is one of the CGIAR's research centres.

Which of the statements given above are correct?

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

Answer: d)

2. Describe the major outcomes of the 26th session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the commitments made by India in this conference? (UPSC-2021)

CONTENT FOR MAINS ENRICHMENT

Topic in News	Usage in Answers
<p>1. COMICS COMMANDOS</p>	<p>Context: In Assam’s Goalpara district, a unique initiative called “Comics Commandos” has been launched to combat child labour and child marriage.</p> <p>About Comics Commandos</p> <ul style="list-style-type: none"> • Purpose: To campaign against social evils like child labour and child marriage using grassroots comics. • Execution: Thirty local youths trained to create comic strips with minimum text and humour for better public engagement. • Approach: Visual storytelling resonates more effectively with the community, focusing on local issues like child abuse and economic hardships. <p>Relevance in UPSC Syllabus</p> <ul style="list-style-type: none"> • Social Issues: Use of innovative tools in combating child labour, child marriage, and dropout rates (GS-I). • Governance: Role of grassroots initiatives in empowering local communities and addressing rights violations (GS-II). • Ethics and Society: Promoting ethical awareness through creative methods (GS-IV). • Essay Writing: Demonstrates creative approaches to tackling social challenges. • Case Studies: Example of community-driven solutions for ethical dilemmas like child rights and education.
<p>2. OPTING OUT OF TRADITIONAL MASCULINITY</p>	<p>Anecdote: Lalita Iyer’s journey of raising her son exemplifies the shift from enforcing traditional masculinity to nurturing good human beings. As a single mother, she created an ecosystem where her son could thrive beyond the constraints of gender roles. From rejecting the pink-and-blue binary to teaching him life skills like cooking, managing finances, and fostering empathy, she reshaped the narrative of masculinity. Her son, in turn, became an advocate of feminism, rejecting toxic masculinity and embracing values of equality and inclusivity. This story emphasizes that breaking societal norms starts at home, challenging patriarchy one step at a time.</p> <p>Relevance to UPSC Exam Syllabus:</p> <ul style="list-style-type: none"> • Ethics and Integrity (GS-IV): <ul style="list-style-type: none"> ○ Topics on gender sensitivity, breaking stereotypes, and fostering inclusivity in personal and societal spheres. ○ Use in case studies related to parenting and societal change. • Society (GS-I): Questions on gender roles, patriarchy, and redefining masculinity in Indian society. • Essay Paper: Themes like gender equality, toxic masculinity, and raising empathetic individuals. • Interview: Discussions around personal views on gender norms, patriarchy, and role of parenting in societal reform.

3. PREVALENCE OF VIOLENCE

Context: A study published in *BMC Public Health* highlights the high prevalence of violence, particularly sexual violence, against gay and bisexual men across six Indian cities.

Key Data Insights: (Source: *BMC Public Health Study*)

- **Prevalence of Violence:**
 - **Sexual violence:** Highest in Delhi (44% of men sampled).
 - **Any violence (verbal, physical, or sexual):**
 1. **Kolkata:** 80%
 2. **Delhi:** 72%
 3. **Mumbai:** 58%
 - **Specific groups affected:**
 1. **Gay men:** 78.7% faced some form of violence.
 2. **Bisexual men:** 44% faced some form of violence.
- **Demographics:**
 - **Age group 18-24:** Most affected by violence.
 - **Openly expressing sexuality:** 5x more likely to face violence.
 - **Muslims:** 2.6x more likely to face sexual violence than Hindus.
 - **Caste-based prevalence:**
 1. **General:** 48.8%
 2. **OBC:** 84.1%
 3. **SC/ST:** 71.6%
- **Legal Provisions:**
 - The BNS, replacing the IPC, lacks provisions for addressing rape against men or transgender persons.
 - Men can only complain under Sections dealing with grievous hurt, which do not directly address rape.

NOTE: Selectively memorise some data which can be used in mains answers.

4. SOCIAL ENGINEERING

Anecdote: a cyber scam at Bengaluru airport highlighted the misuse of **social engineering** and **malicious APKs (Android Package files)** to defraud unsuspecting users.

About Social Engineering:

- **Definition:** Manipulating individuals into revealing confidential information or granting access to systems by exploiting trust.
- **Techniques used:**
 - **Fake websites:** Creating replicas of trusted platforms (e.g., Loungepass.in in this case).
 - **Pretexting:** Posing as customer service representatives to gain credibility.
 - **Phishing links:** Sending links to malicious APKs via communication platforms like WhatsApp.
 - **Call forwarding manipulation:** Using network codes to intercept OTPs.
- **Impact:**
 - Financial theft through unauthorized transactions.
 - Access to personal information like messages, photos, and sensitive data.
 - Loss of control over phone calls and outgoing communication.

Relevance to UPSC Syllabus

- **General Studies Paper II (Governance):**
 - Digital literacy and cybercrime regulation in India.
 - Policies for safe use of technology.
- **General Studies Paper III (Security):**
 - Challenges in cybersecurity.
 - Techniques of cybercrimes and preventive measures.
- **Ethics Paper IV:**
 - Ethical challenges in technology use.
 - Personal responsibility in digital safety.

5. ADAPTIVE DEFENCE STRATEGY

Context: Defence Minister Rajnath Singh has emphasized the government's commitment to developing an 'Adaptive Defence' strategy to address the complex and evolving security challenges faced by India.

About Adaptive Defence:

- **What it is:**
 - Adaptive Defence refers to a strategic approach where military and defence systems evolve continuously to counter dynamic and emerging threats proactively.
- **Need for Adaptive Defence:**
 - **Changing nature of threats:** Shift from traditional warfare to hybrid and grey-zone threats like cyber-attacks, terrorism, and information warfare.
 - **Technological evolution:** Rapid advances in AI, drones, swarm technologies, and quantum computing demand agile responses.
 - **Geopolitical uncertainty:** Increased cross-border tensions and global interdependence require a responsive and collaborative defence strategy.
- **Key features:**
 - **Proactive and anticipatory:** Focus on predicting future threats and preparing in advance.
 - **Integration of emerging technologies:** Use of AI, drones, quantum technologies, and cybersecurity tools.
 - **Strategic flexibility:** Adaptation at tactical and operational levels for changing scenarios.
 - **Collaboration and jointness:** Integration among the armed forces and collaboration with global defence systems.
 - **Focus on self-reliance:** Promoting indigenous defence manufacturing under initiatives like 'Make in India' and 'Aatmanirbhar Bharat.'

Relevance in UPSC Syllabus

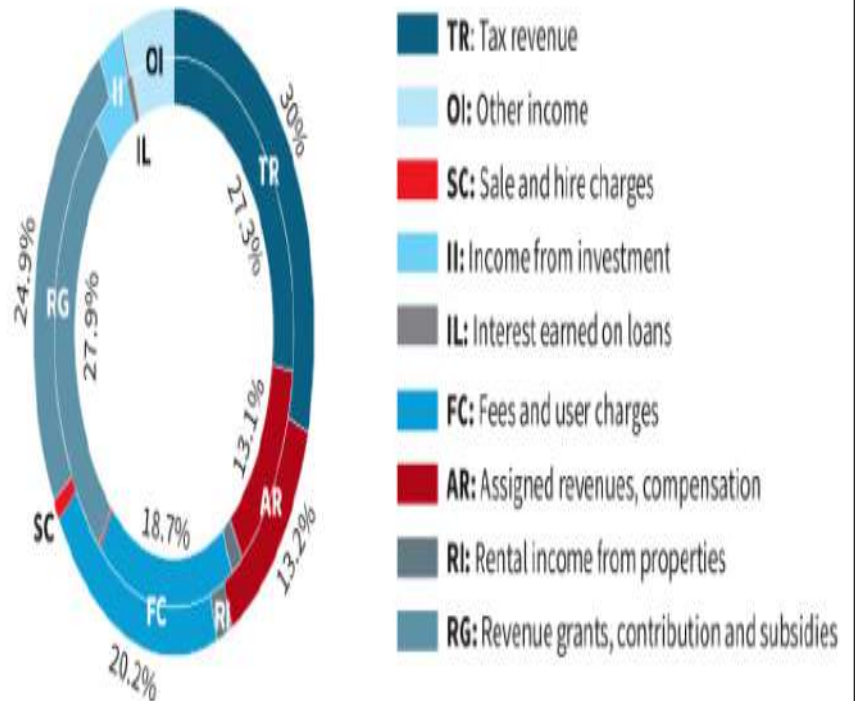
- **General Studies Paper II (Governance and International Relations)**
 - Role of technology in governance and defence diplomacy.
 - India's collaborations and partnerships in defence production.
- **General Studies Paper III (Security)**
 - Challenges to internal and external security, including hybrid and grey-zone warfare.
 - Defence modernization and indigenous manufacturing.
 - Role of AI and cybersecurity in national security.
- **Essay**
 - Topics on national security, technology in warfare, and self-reliance in defence.
- **Ethics Paper IV**
 - Ethical dimensions of advanced military technologies like AI in warfare.

Report on Municipal Finances

Context: The Report on Municipal Finances shows significant improvement since the first edition released two years ago. The latest report examines the fiscal position of 232 municipal corporations from 2019-20 to 2023-24.

Chart 1:

Components of revenue receipts of all municipal corporations. The inner circle corresponds to figures for 2019-20 while the outer circle corresponds to 2023-24 (BE)



About Financial Status of Municipal Corporations: (Source: RBI Report on Municipal Finances)

- **Revenue Composition (FY24 Estimates):**
 - **Own sources** (taxes, fees, user charges): 50%.
 - **Revenue grants** (Central/State governments): 25%.
 - **Other sources** (rental, compensations, investments): Remaining 25%.
- **Short-term Trends (FY20 vs. FY24):**
 - **Share of own taxes** rose from 27.3% to 30%.
 - **Share of fees and user charges** increased from 18.7% to 20.2%.
 - **Revenue grants** share dropped from 27.9% to 24.9%.
- **State Performance (FY24):**
 - **Highest own tax revenue:**
 - Karnataka (53.8%), Telangana (50.3%), Tamil Nadu (44.3%), Jharkhand (44.0%).
 - **Lowest own tax revenue:** Rajasthan, Odisha, and Uttarakhand.
- **Expenditure Trends:**
 - **Capital expenditure** increased from 56.1% (2019-20) to 61.5% (FY24).
 - **Revenue expenditure** decreased from 43.9% (2019-20) to 38.5% (FY24).

<p><u>Solar Fence Project</u></p>	<p><u>Context:</u> In Odisha, frequent crop losses from elephants intruding into paddy fields prompted the Forest Department to launch the Solar Fence Project—a sustainable, humane solution aimed at protecting crops and fostering peaceful coexistence with wildlife.</p> <p><u>About Solar Fence Project:</u></p> <ul style="list-style-type: none"> • <u>Objective:</u> <ul style="list-style-type: none"> ○ To resolve human-elephant conflicts and safeguard crops through sustainable and humane methods. • <u>Technology:</u> <ul style="list-style-type: none"> ○ Solar-powered fence emits a <u>mild electric pulse to deter animals</u> without causing harm. ○ Powered by solar panels, charging a battery that supplies a low-voltage shock. • <u>Implementation:</u> <ul style="list-style-type: none"> ○ Farmers contribute 10% of project cost; orchard owners share 50%. ○ Proposals submitted through gram sabhas or panchayats. • <u>Impact:</u> <ul style="list-style-type: none"> ○ Reduced elephant incursions into farmlands. ○ Improved farmer incomes and minimized human-wildlife conflicts. <p><u>Relevance in UPSC syllabus:</u></p> <ul style="list-style-type: none"> • <u>General Studies Paper II:</u> <ul style="list-style-type: none"> ○ <u>Governance:</u> Role of gram sabhas and panchayats in local initiatives. ○ <u>Policies and Interventions:</u> Wildlife and agricultural policy implementation. • <u>General Studies Paper III:</u> <ul style="list-style-type: none"> ○ <u>Environment and Ecology:</u> Sustainable solutions to human-wildlife conflicts. ○ <u>Science and Technology:</u> Renewable energy applications in conservation. ○ <u>Disaster Management:</u> Mitigating risks from wildlife intrusions. • <u>Essay and Ethics:</u> <ul style="list-style-type: none"> ○ <u>Essay:</u> Sustainable development and human-animal coexistence. ○ <u>Ethics:</u> Humane methods in wildlife conflict resolution.
<p><u>IPS officer Archana Tyagi</u></p>	<p><u>Context:</u> IPS officer <u>Archana Tyagi</u>, faces allegations of misusing her position. A viral video purportedly shows her utilizing a fire brigade to fill the water tank at her Dehradun residence.</p> <p><u>Ethical issues involved:</u></p> <ul style="list-style-type: none"> • <u>Misuse of Public Resources:</u> <ul style="list-style-type: none"> ○ The fire brigade, meant for emergencies, was allegedly diverted for personal use, undermining its intended purpose. • <u>Breach of Public Trust:</u> <ul style="list-style-type: none"> ○ As a public servant, her actions may erode trust in law enforcement officials entrusted with ethical responsibilities. • <u>Accountability and Transparency:</u> <ul style="list-style-type: none"> ○ The act, if verified, highlights a lack of accountability and misuse of discretionary power. • <u>Inequity and Privilege:</u> <ul style="list-style-type: none"> ○ The alleged act exemplifies inequitable access to public resources, which should be equally available to all citizens. • <u>Conflict of Interest:</u> <ul style="list-style-type: none"> ○ Leveraging a public position for personal gain contradicts the principles of impartiality and service ethics.

CAG Report on Urban Local Bodies

Context: The Comptroller and Auditor General (CAG) of India highlighted critical gaps in the functioning of Urban Local Bodies (ULBs) across 18 states, 31 years after the 74th Constitutional Amendment was introduced to empower these self-governing institutions.

Data on Urban Local Bodies (Source: CAG Report, 2024)

- **Resource-Expenditure Gap:**
 - ULBs face a 42% gap between their resources and expenditures.
- **Funding Sources:**
 - Only 32% of revenue comes from own resources; 68% is dependent on Union and state government transfers.
- **Property Tax Collection:**
 - ULBs realize only 56% of property tax demands.
- **Expenditure Allocation:**
 - Only 29% of ULB expenditure is spent on programmatic and developmental work.
- **Staffing:**
 - Average vacancy rate: 37% of sanctioned strength.
 - Urban bodies in 16 states have limited or no autonomy over recruitment.
- **Devolution of Functions:**
 - On average, 17 out of 18 functions (as per the 74th Amendment) are devolved.
 - Nine states (e.g., Chhattisgarh, Maharashtra) devolved all 18 functions.
 - Urban planning and fire services remain the least devolved functions.
- **Autonomy:**
 - Only 4 out of the devolved functions have complete autonomy.
- **Population Impact:**
 - The report covers 393 ULBs catering to 241 million people across 18 states.

FACTS FOR PRELIMS

GS-1

History

1. SHAHJAHANPUR & 1857 REBELLION

Context:

In Shahjahanpur, Uttar Pradesh, a remarkable cache of weapons believed to be from the 1857 Indian Rebellion was unearthed by a farmer.

Shahjahanpur in the 1857 Rebellion:

- **Formation and Context:** Shahjahanpur district, formed in 1813-14 under British administration, became a key site of the 1857 uprising due to local grievances and revolutionary fervour.
- **Role of Sepoys:** The 28th Indian Infantry, stationed in Shahjahanpur, was central to the rebellion, angered by rumours of greased cartridges and adulterated flour.
- **Initial Uprising:** On **May 31, 1857**, sepoys attacked the European gathering at the Roman Catholic Church, seized the treasury, and released prisoners from the jail.
- **Governance by Revolutionaries:** Revolutionary leaders **Qadir Ali Khan** and **Ghulam Husain Khan** were appointed joint governors, declaring British rule overthrown in the district.
- **Resistance Against British Recapture:** Freedom fighters confined British troops in a fortified jail for 10 days during the British counterattack in 1858. Betrayal by locals and reinforcements eventually allowed the British to regain control.
- **Violent Repression:** After recapturing Shahjahanpur, the British brutally suppressed the self-rule movement,

quelling the revolutionary fervor in the region.

- **Significance:**
 - Shahjahanpur played a key role in the 1857 Rebellion, housing revolutionaries like Maulvi Ahmadullah Shah **and Nana Sahib**.
 - It showcased widespread discontent and the symbolic destruction of British authority.

Insta links:

1. 1857 Rebellion

2. MAULANA ABUL KALAM AZAD

Context:

Prime Minister Narendra Modi paid tribute to Maulana Abul Kalam Azad on his birth anniversary, recognizing his contributions to India's freedom movement and his legacy as a beacon of knowledge and education reform.

About Maulana Abul Kalam Azad:

- **Birth and early life:**
 - Born in 1888 in Mecca, Saudi Arabia; original name: Muhiyuddin Ahmad.
 - Known as "Abul Kalam" for his eloquence and debating skills.
- **Role in Journalism and Nationalism:**
 - Founded Urdu weekly **Al-Hilal** (1912) and **Al-Balagh** (1914) to promote Indian nationalism and Hindu-Muslim unity.
 - Both journals were banned by the British for their revolutionary content.
- **Political contributions:**
 - Strong advocate for Hindu-Muslim unity and opposed Partition.
 - Joined the Indian National Congress in 1920 and became its **youngest President** in 1923.
- **Imprisonment:**
 - Arrested in 1930 during Gandhiji's Salt Satyagraha and detained in Meerut jail for 1.5 years.
- **Educationist and Reformer:**
 - First Education Minister of Independent India (1947-58); emphasized universal and liberal education.
 - Played a major role in founding IITs, IISc, and UGC.
- **Cultural and Academic Contributions:**
 - Helped establish **Jamia Millia Islamia University**.
 - Founded **Sahitya Akademi**, **Sangeet Natak Akademi**, and **Lalit Kala Akademi**.
 - Initiated the **Indian Council for Cultural Relations** (ICCR).
- **Literary works:**

- Authored **India Wins Freedom**, **Basic Concept of Quran**, and **Ghubar-e-Khatir**.

- **Recognition:**

- Posthumously awarded **Bharat Ratna** in 1992.

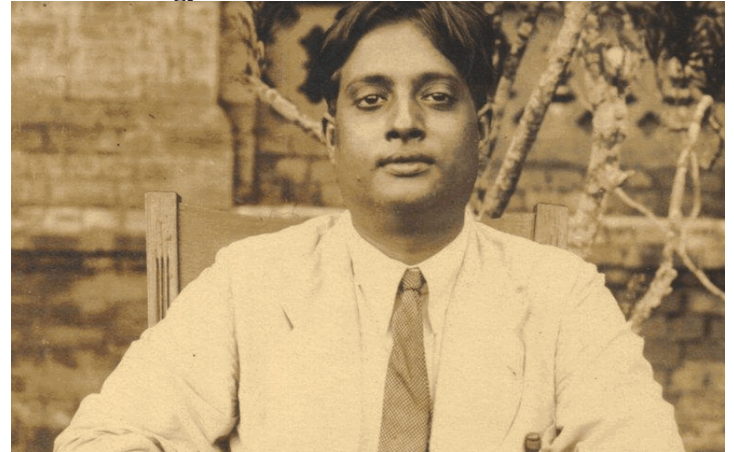
Insta links:

1. Freedom fighters

3. SATYENDRA NATH BOSE

Context:

India celebrates the centenary of Bose-Einstein Statistics, a groundbreaking contribution by physicist Satyendra Nath Bose, which revolutionized quantum mechanics and paved the way for significant advancements in physics and technology.



About Satyendra Nath Bose:

Background:

- **Born:** January 1, 1894, in Calcutta, India.
- Inspired by teachers like Jagadish Chandra Bose and Prafulla Chandra Roy.
- **Career:** Began as a physics lecturer at Calcutta University (1916), later joined Dhaka University (1921).
- Known for his groundbreaking work in quantum mechanics and statistical physics.

His Work:

- **Planck's Law and Photon Gas:**
 - Derived **Planck's law** using a novel statistical method treating light as a photon gas.
 - Developed new techniques for counting photon states, forming the basis of **Bose-Einstein statistics**.
- **Collaboration with Einstein:**
 - Sent his paper on radiation to **Albert Einstein**, who translated it into German and published it.
 - Einstein extended Bose's work to atoms, leading to the theory of **Bose-Einstein condensates** and the ideal quantum gas.
- **Bosons:**
 - Bose-Einstein statistics apply to particles

with integer spins, named **bosons** (by **Paul Dirac**) in his honor.

- Bosons do not obey the **Pauli Exclusion Principle**.
- **Bose-Einstein Condensates (BECs):**
 - Predicted a **new state of matter** where bosons condense into the lowest quantum state at near absolute zero temperatures.
 - Experimentally confirmed in 1995 using rubidium and sodium atoms, earning a Nobel Prize for **Eric Cornell, Carl Wieman, and Wolfgang Ketterle in 2001**.

Awards and Recognition:

- Despite his pivotal contributions, **Bose was never awarded a Nobel Prize**.
- Worked with notable scientists, including Marie Curie and Albert Einstein, during his two-year tenure in European laboratories.

Significance:

- **Foundational Work:** Bose-Einstein statistics and condensates are foundational in modern quantum mechanics and statistical physics.
- **Technological Impact:** Integral to the understanding of lasers, superconductivity, and quantum mechanics.
- **Future Implications:** BECs hold potential for unraveling mysteries like dark energy and advancing research in quantum computing.

Insta links:

1. Fifth-state-of-matter

4. BIRSA MUNDA

Context:

To honor the **150th birth anniversary of tribal leader Birsa Munda**, Prime Minister will interact with beneficiaries of the Pradhan Mantri Janjati Adivasi Nyay Maha Abhiyan and launch the ‘Dharti Aaba Janjatiya Gram Utkarsh Abhiyan’ to uplift tribal communities across India.

About Janjatiya Gaurav Divas:

- **Launched In:** 2021
- **Aim:** To honor the contributions of tribal leader Birsa Munda and celebrate the cultural heritage and history of tribal communities.



About Dharti Aaba Janjatiya Gram Utkarsh Abhiyan:

- **Objective:** To enhance the socio-economic well-being of tribal communities through targeted development programs.
- **Scope:** National campaign focusing on education, healthcare, employment, and preservation of tribal traditions.
- **Significance:** Encourages inclusive development and empowerment of tribal regions.

About Birsa Munda:

- **Tribal Leader:** Folk hero and freedom fighter from the Munda tribe in the Chotanagpur Plateau.
- **Contributions:**
 - Led the **Munda Rebellion (Ulgulan)** against British land policies and taxes.
 - Advocated for tribal rights, self-rule, and ownership of land.
 - Instrumental in the **Chotanagpur Tenancy Act (1908)** that restricted tribal land transfer to non-tribals.
- **Religious Role:**
 - Founded the **Birsait faith**, emphasizing monotheism and tribal traditions.
 - Revered as ‘**Dharti Aaba**’ (**Father of the Earth**) among tribal followers.
- **Legacy:**
 - Passed away at age 25 in 1900.
 - His birth anniversary, November 15, is celebrated as **Janjatiya Gaurav Divas**.
 - The state of Jharkhand was created on his birth anniversary in 2000 in his honor.

Insta Links:

1. Tribal-movements - Munda-rebellion

Society

5. MORAN AND MOTTOCK COMMUNITIES

Context:

The Moran and Mottock **communities in Assam** staged a large-scale protest in Tinsukia, demanding Scheduled Tribe (ST) status.



About the Moran Community:

- **Ethnic Background:**
 - Indigenous group from Assam and Arunachal Pradesh.
 - Of Tibeto-Burman origin, part of the Kachari family.
- **Language and Culture:**
 - Historically spoke Moran language, closely related to Dimasa, but now predominantly speak Assamese.
 - Former customs are now interwoven with **Vaishnavism** after conversion.
- **Current Demand:**
 - Seeking ST status for better educational, employment, and social welfare opportunities.

Other Communities in News:

- **Mottock:** Indigenous group sharing similar demands for ST status.
- **Tai Ahoms:** A prominent community in Assam with historical ties to the Ahom kingdom, demanding ST status.
- **Koch Rajbongshis:** Indigenous to Assam and Bengal, seeking recognition for their cultural and social identity.
- **Chutias:** Historically significant community, also fighting for ST categorization.
- **Adivasis:** Indigenous tribes, largely comprising tea garden workers, aiming for similar inclusion under ST status.

Insta Links:

1. A-tribe-out-of-time

6. SAMI, FOREST FINNS, AND KVENS TRIBES

Context:

The Norwegian Parliament issued a formal apology to the Sami, Forest Finns, and Kvens for the historical injustices caused by its **“Norwegianisation” policy**.

- This forced assimilation, practiced from the 18th century until the 1980s, led to cultural erasure, loss of languages, and forced relocations.



About Tribes in News:

1. Sami People:

- Indigenous to Norway, Sweden, Finland, and Russia.
- Traditionally reindeer herders and fishers.
- Suffered loss of language, culture, and land under assimilation policies.
- Advocacy for their land and rights continues today.

2. Kvens:

- Ethnic minority of Finnish descent in northern Norway.
- Historically subjected to forced assimilation and loss of language.
- Continue to seek reparations and cultural revival.

3. Forest Finns:

- Minority group originally from Finland who settled in Norway and Sweden.
- Practiced slash-and-burn agriculture, later marginalized by assimilation policies.
- Struggle to preserve their cultural identity and heritage.

Insta Links:

1. Tribes-in-news

GS-2

Governance

1. QS WORLD UNIVERSITY RANKINGS: ASIA 2025

Context:

The QS World University Rankings: Asia 2025 celebrates India’s significant progress in higher education, with **seven institutions in the top 100 and two in the top 50**.

- Indian universities excelled in metrics like **“Papers per Faculty”** and **“Staff with PhD,”** highlighting the nation’s focus on academic and research excellence.

Key Points from QS World University Rankings: Asia 2025:

- **Coverage:** Assessed 984 institutions across 25 Asian countries.
- **Top Rankings for India:**
 - **IIT Delhi:** Ranked 44th, India’s highest, with a 99% employer reputation score.
 - **IIT Bombay:** Ranked 48th, achieving 99.5% in employer reputation.
 - **University of Delhi:** Moved up to 81st with a 96.4% score in International Research Network.

- **Top 100 Institutions:** Seven Indian institutions made the cut, including IIT Madras (56), IIT Kharagpur (60), IISc Bangalore (62), and IIT Kanpur (67).
- **Emerging Leaders:** University of Petroleum and Energy Studies (UPES) climbed 70 spots to 148th.
- **Research Excellence:**
 - **Anna University:** Achieved a perfect score of 100 in “Papers Per Faculty.”
 - 15 universities scored above 99% in “Staff with PhD.”
 - **North Eastern Hill University and University of Agricultural Sciences,** Bangalore scored 100 in the “Faculty-Student” indicator.
- **Decade of Growth:** India now has 46 institutions in the rankings, up from 11 in 2015, marking a 318% increase.

About QS World University Rankings:

- **Organization:** Published annually by Quacquarelli Symonds (QS), a global higher education analytics firm based in London.
- **Focus Areas: Evaluates universities on four core dimensions:**
 - Research
 - Teaching
 - Employability
 - International Outlook
- **Performance Indicators: Uses six weighted metrics for assessment:**
 - **Academic Reputation (40%):** Reflects opinions of academic experts on teaching and research quality.
 - **Faculty/Student Ratio (20%):** Assesses teaching capacity based on student-to-teacher ratio.
 - **Citations Per Faculty (20%):** Measures research impact via citations over a five-year span.
 - **Employer Reputation (10%):** Surveys employers to gauge the perceived employability of graduates.
 - **International Faculty (5%):** Tracks the diversity of teaching staff.
 - **International Students (5%):** Indicates an institution’s global appeal to students.

Insta links:

1. QS Ranking

2. INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA)

Context: Rafael Mariano Grossi, the Director-General of the International Atomic Energy Agency (IAEA), has

warned about diminishing opportunities for negotiation regarding Iran’s nuclear program.

About International Atomic Energy Agency (IAEA):

- **Established:** 1957 as an autonomous body under the UN system.
- **Headquarters:** Vienna, Austria.
- **Purpose:** Promote peaceful nuclear energy use and prevent nuclear weapons development.
- **Mandate:**
 - Encourage peaceful nuclear energy applications.
 - Ensure nuclear materials are not misused for military purposes.
 - Promote nuclear safety, security, and radiation protection standards.
 - Provide technical support, training, and research in nuclear technology globally.
- **Missions:**
 - **Peaceful Uses:** Support peaceful nuclear energy development.
 - **Safeguards:** Monitor and verify nuclear programs to prevent military use.
 - **Safety:** Promote nuclear safety and radiation protection.
- **Role in Non-Proliferation:**
 - Oversees compliance with the Treaty on the Non-Proliferation of nuclear weapons (NPT).
 - Conducts inspections and monitors nuclear facilities.
- **Global Impact:** Works extensively with developing nations to enhance nuclear technology for energy, medicine, and agriculture.

Insta Links:

1. First-ever-nuclear-energy-summit

3. STUDENT DIRECT STREAM (SDS) VISA PROGRAM

Context:

The Canadian government recently announced the discontinuation of the Student Direct Stream (SDS) visa program, impacting a significant number of Indian students who seek higher education in Canada.

About SDS Visa:

- **Country:** Canada
- **Launched:** 2018
- **What is SDS Visa:** A fast-track study permit application program for students from select countries, including India, offering expedited visa processing.
- **Features:**
 - Faster processing time for eligible stu-

- dents (reduced from months to weeks).
- Lower application fees compared to regular student visas.
- Simplified documentation requirements (proof of funds, English proficiency, admission to a Designated Learning Institution).

Insta Links:

1. India-Canada

- **Significance:**

- Mitigates risks of cryptocurrencies by providing a regulated digital alternative.
- Simplifies cross-border payments and enhances transaction efficiency.
- Boosts financial inclusion by enabling digital transactions for the unbanked.

Insta Links:

1. CBDC
2. Project-GAIA

GS-3

Indian Economy

1. DIGITAL EURO

Context:

The European Central Bank (ECB) has introduced the digital euro as a central bank digital currency (CBDC) aimed at revolutionizing payment systems.

About Digital Euro:

- **What it is:** A CBDC issued directly by the ECB, enabling digital transactions without intermediaries like banks or payment gateways.
- **Launch:** The preparation phase began in November 2023, with a focus on replacing cashless payment systems and reducing dependency on non-EU financial service providers.
- **Features:**
 - Facilitates direct payments via digital wallets.
 - Allows both online and offline transactions, ensuring anonymity for offline payments.
 - Offers cost-effective micropayments by bypassing conventional service providers.
 - Emphasizes European sovereignty in digital payments by reducing reliance on foreign financial entities.

About India's Digital Currency:

- India launched its Central Bank Digital Currency (CBDC), **₹ (Digital Rupee)**, under the Reserve Bank of India **in 2022**.
- **Features:**
 - Legal tender backed by the RBI, exchangeable 1:1 with physical currency.
 - Operates through blockchain-based wallets for seamless transactions.
 - Reduces costs associated with handling, transporting, and phasing out physical currency.

2. WORLD INTELLECTUAL PROPERTY INDICATORS (WIPI) - 2024

Context:

The World Intellectual Property Organization (WIPO) published the **World Intellectual Property Indicators (WIPI) 2024**, highlighting significant growth in intellectual property filings worldwide.

World Intellectual Property Indicators (WIPI) 2024: Key Highlights

- **India's patent growth:**
 - **15.7% growth** in patent applications in 2023, the fastest among the top 20 origins globally.
 - India ranked **6th in patent filings** with 64,480 applications, over **55% from residents**.
 - Patent-to-GDP ratio increased from 144 to 381 in a decade.
- **Industrial design applications:**
 - India recorded **36.4% growth**, driven by sectors like textiles, tools, machines, and health.
- **Trademark filings:**
 - India ranked **4th globally**, with a **6.1% rise** in trademark filings in 2023.
 - **Key sectors:** Health (21.9%), Agriculture (15.3%), and Clothing (12.8%).
 - Over **3.2 million active registrations**, the **2nd largest globally**.
- **Global trends:**
 - A record **3.55 million patent applications** were filed globally in 2023, marking a 2.7% increase.
 - Asia led IP filings, with India, China, South Korea, Japan, and the U.S. driving the growth.

About World Intellectual Property Organization (WIPO):

- A specialized UN agency headquartered in Geneva, Switzerland, established in 1967.
- **Objective:** Ensures that the IP framework evolves with global needs, fostering innovation and eco-

conomic growth.

- **Membership:** Comprises **193 member states**, making it a nearly universal body.
- **Role and Functions:**
 - Serves as a global forum for discussions on intellectual property issues.
 - Facilitates cooperation between governments, industries, and civil society on IP matters.
- **Policy Development:** Hosts standing committees and working groups for members to negotiate changes and draft new IP rules.

Insta links:

1. [International-intellectual-property-index](#)
2. [Global-innovation-index](#)

3. DOMESTIC SYSTEMICALLY IMPORTANT BANKS

Context:

The Reserve Bank of India (RBI) on Wednesday retained the State Bank of India, HDFC Bank and ICICI Bank as Domestic Systemically Important Banks (D-SIBs).

About Domestic Systemically Important Banks (D-SIBs):

- The RBI had first announced the framework dealing with **D-SIBs in 2014**.
- **What is D-SIBs?**
 - Banks classified as **“Too Big To Fail (TBTf)”** due to their size, interconnectedness, and critical role in the economy.
 - Their failure could disrupt the financial system and economic activity.
- **Which Banks are D-SIBs?**
 - State Bank of India (SBI) (2015)
 - ICICI Bank (2016)
 - HDFC Bank (2017)
- **Need for D-SIBs**
 - Prevent systemic risk and ensure the uninterrupted availability of essential banking services.
 - Reduce moral hazard by imposing additional capital requirements and regulatory oversight.
- **Different Buckets under D-SIBs**
 - **Banks are placed in buckets based on systemic importance:**
 1. **SBI:** Bucket 4
 2. **HDFC Bank:** Bucket 3
 3. **ICICI Bank:** Bucket 1
- **Capital Requirements**
 - **Additional Common Equity Tier 1 (CET1) requirements based on bucket:**
 1. **SBI:** 0.80% of Risk Weighted Assets (RWAs).

2. **HDFC Bank:** 0.40% of RWAs.
 3. **ICICI Bank:** 0.20% of RWAs.
- Higher surcharges applicable from April 1, 2025.

- **Selection Criteria**

- Banks with **size >2% of GDP** are assessed.
- A composite score is calculated based on size, cross-jurisdictional activity, complexity, substitutability, and interconnectedness.
- Banks above a threshold score are classified as D-SIBs.

- **Global Systemically Important Banks (G-SIBs)**

- Identified by the Financial Stability Board (FSB) in consultation with the Basel Committee on Banking Supervision (BCBS).
- 2023 G-SIB list **includes JP Morgan Chase, HSBC, Bank of China, BNP Paribas, etc.**

Insta Links:

2. [Basel-3-capital-framework](#)

Agriculture

4. STATE OF FOOD AND AGRICULTURE 2024

Context:

The State of Food and Agriculture 2024 report by the FAO highlights the hidden costs of agrifood systems globally, particularly in India, where dietary risks contribute to a \$1.3 trillion burden annually, largely due to non-communicable diseases linked to unhealthy diets.

State of Food and Agriculture 2024: Key Highlights

- **Hidden Costs in Agrifood Systems:**
 - **India:** \$1.3 trillion annually (third highest globally, after China and the USA).
 - 73% of costs stem from unhealthy dietary patterns, including over-consumption of processed foods and insufficient intake of plant-based foods.
 - **Global Estimate:** \$12 trillion annually, with \$8.1 trillion arising from dietary risks.
- **Health Impacts:**
 - Non-communicable diseases (heart disease, diabetes) dominate the hidden costs in India.
 - High processed food consumption (\$128 billion cost) and low plant-based food intake (\$846 billion cost).
- **Environmental and Social Costs:**
 - Greenhouse gas emissions and nitrogen

runoff from food production significantly contribute to environmental degradation.

- **Recommendations:**
 - **Sustainable Practices:** Provide financial incentives to promote eco-friendly food supply chain practices.
 - **Healthier Diets:** Enact policies making nutritious food affordable and accessible.
 - **Environmental Action:** Encourage reductions in emissions and harmful land use through certifications and industry-wide initiatives.
 - **Consumer Awareness:** Empower consumers with transparent information about the environmental and social impacts of food choices.

About Food and Agriculture Organization (FAO):

- **Mandate:** Improve global nutrition, agricultural productivity, rural living standards, and economic growth.
- **Functions:**
 - Conducts research, provides technical assistance, and coordinates global agricultural efforts.
 - Maintains data on production, trade, and agricultural consumption.
 - Publishes major reports, including *The State of the World's Forests*, *State of World Fisheries and Aquaculture* and *State of Agricultural Commodity Markets*.
- **Established:** October 1945.
- **Headquarters:** Rome, Italy.
- **Members:** 194 countries and the European Union.
- **Funding:** 100% funded by member contributions.

Insta Links:

1. FAOs-committee-on-fisheries

5. FINGERLING

Context:

As part of the **artificial reef project** under the Pradhan Mantri Matsya Sampada Yojana (PMMSY), the State Fisheries Department in Kerala launched a sea ranching initiative by releasing 20,000 pompano fingerlings off the Vizhinjam coast.

About Fingerlings:

- **Scientific name:**
 - **Pompano:** *Trachinotus blochii*
 - **Cobia:** *Rachycentron canadum*
- **Ministry involved:**
 - Ministry of Fisheries, Animal Husbandry, and Dairying in collaboration with the National Fisheries Development Board

(NFDB).

- **Scheme:**
 - Implemented under the Pradhan Mantri Matsya Sampada Yojana (PMMSY).
- **Budget:**
 - ₹3 crore allocated for the current phase in Thiruvananthapuram.
 - **Proposed extensions:** ₹29.76 crore for Kollam, Alappuzha, Ernakulam, and Thiruvananthapuram districts; ₹25.82 crore for northern districts.
- **Aim:**
 - Replenish marine fishery resources.
 - Promote sustainable fishing practices by enhancing biodiversity.
- **Features of Fingerlings:**
 - Pompano and cobia fingerlings stocked and reared at Ayiramthengu fish farm.
 - Fingerlings weigh between **8 to 10 grams**.
 - 10 lakh fingerlings planned for release across 10 artificial reef locations off the Thiruvananthapuram coast.

About Mission Fingerling:

- **Launch year:** 2017
- **Ministry:** Union Ministry of Agriculture and Farmers' Welfare
- **Aim:**
 - Achieve the **Blue Revolution** by promoting the holistic development and management of fisheries.
 - Increase fisheries production from **10.79 MMT (2014-15) to 15 MMT by 2020-21**.

Insta links:

2. Mission-fingerling

Science & Technology

6. PARTNERSHIPS FOR ACCELERATED INNOVATION AND RESEARCH (PAIR)

Context:

The Government of India has launched the **Partnerships for Accelerated Innovation and Research (PAIR)** program to strengthen the research and innovation capabilities of universities.

About Partnerships for Accelerated Innovation and Research (PAIR):

- **Launched In:** November 2024
- **Ministry/department:** Department of Science and Technology (DST)
- **Aim:** Boost research capabilities and innovation in universities with limited research infrastruc-

ture through mentorship by established institutions.

- PAIR **aligns with the** Anusandhan National Research Foundation (ANRF), established under the ANRF Act 2023, to foster a research culture nationwide.
- **Funds:**
 - Maximum of ₹100 crore per PAIR network.
 - Budget distribution: **30% for Hub, 70% for Spokes.**
 - Private institutions as hubs must share **25% of their allocated budget.**
- **Criteria:**
 - **Hub Institutions:**
 - NIRF top 25 institutions or Institutions of National Importance ranked 26-50 in NIRF.
 - **Spoke institutions:**
 - Central and State Public Universities ranked within:
 - Top 200 (NIRF Overall)
 - Top 100 (NIRF University or State Public University Ranking).
 - At least one spoke must be outside the hub's state.
 - Inclusion of one promising but non-eligible university from **Category III** is allowed.

Insta Links:

1. ANRF

7. OPERATION DRONAGIRI

Context:

The Operation Dronagiri, launched under the National Geospatial Policy 2022 by the Department of Science and Technology (DST), aims to integrate geospatial technologies into key sectors like agriculture, livelihoods, and logistics.

About Operation Dronagiri:

- **Launched by:** Department of Science and Technology (DST).
- **Date:** November 13, 2024.
- **Objective:** Demonstrate the applications of geospatial technologies to improve citizens' quality of life and ease of doing business.
- **First Phase States:** Uttar Pradesh, Haryana, Assam, Andhra Pradesh, Maharashtra.
- **Focus Sectors:** Agriculture, livelihoods, logistics, and transport.
- **Implementation Model:** Public-Private Partnership (PPP) with involvement of startups, private companies, and government agencies.
- **Key Features:**

- Pilot projects in designated sectors to showcase practical use cases.
- Support from Integrated Geospatial Data Sharing Interface (GDI) for seamless data sharing and decision-making.

- **Operational Partners:**

- **Oversight:** IIT Tirupati Navavishkar I-Hub Foundation (IITTNiF).
- **Geospatial Innovation Accelerators (GIAs):** IIT Kanpur, IIT Bombay, IIM Calcutta, and IIT Ropar.
- **Implementation Driver:** Geospatial Innovation Cell, DST.

Insta Links:

1. National-geospatial-policy-2022

Health

8. ANIMAL HEALTH SECURITY STRENGTHENING IN INDIA FOR PANDEMIC PREPAREDNESS AND RESPONSE INITIATIVE

Context:

The Government of India has launched the "Animal Health Security Strengthening in India for Pandemic Preparedness and Response" initiative to bolster animal health security as a preventive measure against future pandemics **About the 'Animal Health Security Strengthening in India for Pandemic Preparedness and Response' Initiative:**

- **Launched in:** October 25, 2024
 - The project was approved by the Pandemic Fund, **created by G20 countries under Indonesian presidency in 2022.**
- **Ministry:** Ministry of Fisheries, Animal Husbandry and Dairying
- **Aim:**
 - Enhance capacity to prevent, detect, and respond to animal health threats.
 - Reduce risks of zoonotic disease transmission to humans.
- **Implementing agencies:** Asian Development Bank (ADB), World Bank, and Food and Agriculture Organisation (FAO)
- **Timeline:** Expected completion by August 2026
- **Funds:** \$25 million from the Pandemic Fund under the G20 initiative
- **Features:**
 - Strengthen disease surveillance and early warning systems.
 - Upgrade laboratory networks and vaccine manufacturing facilities.
 - Improve interoperable data systems and

analytics.

- Build human resources capacity and address institutional gaps.
- Foster regional cooperation for cross-border disease management.

Insta Links:

1. Pandemic-Fund

9. 'PPP PLUS PPP' MODEL

Context:

On World Diabetes Day, Union Minister for Science and Technology Jitendra Singh introduced the **innovative 'PPP plus PPP' model**, aimed at addressing **India's diabetes epidemic** through collaborative efforts between domestic and international stakeholders.

About 'PPP plus PPP' model:

- **Definition:** A dual-layered collaboration model combining Public-Private Partnerships (PPP) within India with international PPP collaborations.
- **Objective:** To enhance healthcare infrastructure, promote innovation, and make diabetes care accessible and affordable.
- **Domestic Partnerships:** Strengthens India's healthcare system by uniting public and private sectors to develop cost-effective and scalable solutions.
- **International Collaborations:** Engages global expertise to bring advanced technologies and AI-driven solutions for diabetes monitoring and management.
- **Focus Areas:** Develop affordable non-invasive devices, increase awareness, ensure treatment adherence, and close healthcare accessibility gaps.

Insta links:

1. Diabetes-a-non-communicable-disease

10. 'KNOW YOUR MEDICINE' (KYM) APP

Context:

Union Minister for Youth Affairs and Sports, Dr. Mansukh Mandaviya, launched the **'Know Your Medicine' (KYM) app** developed by NADA India to combat doping in sports.



About Know Your Medicine (KYM) App:

- **Developer:** National Anti-Doping Agency (NADA), India.
- **Purpose:** To prevent inadvertent doping by allowing athletes to check if a medicine contains substances prohibited by WADA.
- **Key Features:**
 - Verifies medicine or ingredients for prohibited substances.
 - Includes image and audio search for ease of access.
 - Customizable search options based on sport categories for specific information.
- **Impact:** Supports clean sports by fostering a fair and ethical sporting culture.
- **Target Users:** Athletes, coaches, and sports professionals.

Insta links:

1. Doping-in-sports
2. Play-true-campaign

Environment & Ecology

11. 'EV AS A SERVICE' PROGRAMME

Context:

The Government of India, through CESL, launched the 'EV as a Service' programme to accelerate electric vehicle (EV) adoption in government offices, contributing to the nation's sustainability goals and commitment to achieving net zero emissions by 2070.

About 'EV as a Service' Programme:

- **Launched by:** Convergence Energy Services Limited (CESL), under Energy Efficiency Services

Limited (EESL).

- **Ministry:** Ministry of Power and Housing & Urban Affairs.
- **Aim:** To deploy 5,000 E-Cars in Central and State Government ministries/departments over the next two years to promote e-mobility and reduce emissions.
- **Implementation:** Flexible procurement model, allowing government departments to choose from a variety of E-Car makes/models suitable for their operational needs.
- **Features:**
 - Supports government sustainability and net-zero targets by 2070.
 - Focuses on reducing carbon emissions and reliance on fossil fuels.
 - CESL has already deployed 2,000 E-Cars and facilitated 17,000 E-Buses across India.
 - Includes an EV rally featuring a range of electric vehicles to showcase e-mobility diversity.

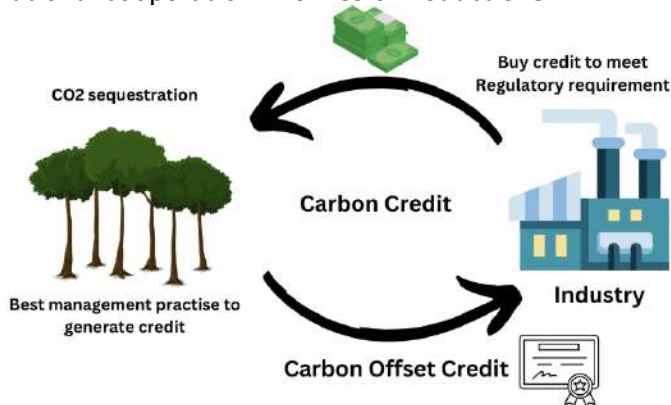
Insta links:

1. EV report

12. ARTICLE 6 – CARBON CREDITS

Context:

At the COP29 climate summit in Azerbaijan, countries aim to finalize rules for a global carbon offset trading system under Article 6 of the Paris Agreement, enhancing international cooperation in emission reductions.



About Carbon Offsets:

- **Definition:** Mechanisms enabling governments or companies to offset their greenhouse gas emissions by funding emission reduction projects elsewhere.
- **Examples:** Solar installations, electric vehicle adoption, mangrove restoration.
- **Purpose:** Support emission reduction goals and facilitate global climate finance.

About Article 6 of the Paris Agreement:

- **Purpose:** Framework for international carbon

trading to meet climate goals.

- **Mechanisms:**
 - **Article 6.2:** Bilateral agreements for trading carbon credits.
 - **Article 6.4:** UN-managed centralized trading system.
- **Significance:** Drives climate finance to developing countries and ensures compliance with NDCs.

Decisions so far:

- **COP26 (Glasgow):** Established a broad framework for carbon credit trading.
- **COP28 (Dubai):** Failed to operationalize the central trading system or clarify bilateral trading rules.
- **Current Progress:**
 - 91 bilateral agreements across 56 countries.
 - Concerns remain about double-counting and the robustness of credit verification.

Insta Links:

1. Important-outcomes-of-cop28

13. DICLIPTERA POLYMORPHA

Context:

A unique plant species, **Dicliptera polymorpha**, has been discovered in the **Western Ghats**, showcasing remarkable adaptations to fire-prone grassland ecosystems.



About Dicliptera polymorpha:

- **Scientific name:** *Dicliptera polymorpha*
- **Found in:** Grasslands of the northern Western Ghats, particularly **Talegaon-Dabhade** (Maharashtra).
- **Features of the Plant:**
 - **Fire-resilient** and pyrophytic.
 - Exhibits **dual-blooming** patterns.
 - **Unique spicate inflorescence structure**, a rarity among Indian species.
 - Morphological diversity reflected in its naming.

- **Characteristics:**
 - **Blooming Cycles:**
 1. **Post-monsoon:** November to April.
 2. **Post-fire:** May and June.
 - Survives extreme climatic conditions like summer droughts and frequent fires.
 - Rootstocks produce dwarf flowering shoots during the fire-triggered cycle.
- **Significance:**
 - Demonstrates rare fire-adaptive traits.
 - Highlights the importance of conserving grassland ecosystems in the Western Ghats.
 - Informs fire management practices to support biodiversity.

Insta links:

1. Water-hyacinth-plant-into-eco-friendly-hand-icraft

14. EURASIAN OTTER

Context:

A rescue operation conducted by the Pune Forest Department and RESQ Charitable Trust has revealed a rare Eurasian Otter in Indapur, Pune District, a species previously unrecorded in this area.



About Eurasian Otter:

- **Scientific name:** *Lutra lutra*
- **Habitat:** Found in streams, rivers, lakes, freshwater and peat swamps, ocean shores, and rice fields; prefers areas near waterways.
- **Distribution:**
 - **Global:** From Ireland to China, across Europe, North Africa, and Asia.
 - **India:** Present in northern, northeastern, and southern regions, especially cold hills and mountain streams.
- **Physical features:**
 - Long body, thick tail, short legs.
 - Brown upper body, cream-colored underside.
 - Sensitive whiskers and two layers of fur (outer waterproof layer and inner warm

layer).

- **Diet:** Predominantly fish, crustaceans, and amphibians; occasionally reptiles, birds, eggs, insects, and worms.
- **Behavior:** Solitary, but occasionally seen in family groups (mother and offspring).
- **Conservation Status:**
 - **IUCN:** Near Threatened
 - **Wildlife Protection Act (India):** Schedule II
 - **CITES:** Appendix I

Insta Links:

1. Eurasian-otter

15. INDIA'S ACHIEVEMENTS IN RENEWABLE ENERGY

Context:

India's renewable energy sector saw notable growth from October 2023 to October 2024, with significant additions in solar, wind, hydro, and nuclear capacities.



India's Achievements in Renewable Energy: Key Points

- **Total Renewable Energy Capacity:**
 - Increased by **24.2 GW** (13.5%) in a year, reaching **203.18 GW** in October 2024, up from **178.98 GW** in October 2023.
- **Non-Fossil Fuel Capacity:**
 - Total capacity, including nuclear energy, rose to **211.36 GW** in 2024 from **186.46 GW** in 2023.
- **Solar Power:**
 - Added **20.1 GW** (27.9%) to reach **92.12 GW** in October 2024, up from **72.02 GW** in October 2023.
 - Total solar capacity, including projects under implementation and tendered, stands at **250.57 GW**, up from **166.49 GW** last year.

- **Wind Power:**
 - Installed capacity grew by 7.8%, reaching **47.72 GW** in 2024, up from **44.29 GW** in 2023.
 - Total capacity in the pipeline for wind energy reached **72.35 GW**.
- **Capacity Additions (April-October 2024):**
 - Added **12.6 GW** of renewable capacity, with **1.72 GW** installed in October 2024 alone.
 - Projects under implementation expanded to **143.94 GW**, with 89.69 GW tendered, compared to 99.08 GW and 55.13 GW, respectively, in 2023.
- **Hydro and Nuclear Energy:**
 - Large hydro projects contribute **46.93 GW**, and nuclear power adds **8.18 GW** to the renewable energy mix as of October 2024.

Insta links:

1. Challenges-posed-by-renewable-energy-projects-in-India

16. COMB JELLIES

Context:

A groundbreaking discovery reveals that the **comb jelly *Mnemiopsis leidyi*** has the unique ability to reverse its aging process by regressing from an adult stage back to a larval form under stress.



About Comb jellies:

- **Classification:** Marine invertebrates belonging to the phylum **Ctenophora**, distinct from jellyfish.
- **Physical traits:**
 - Characterized by rows of cilia (“combs”) for swimming and often exhibit **bioluminescence**.
 - Use sticky cells called **colloblasts** to capture prey, unlike jellyfish that use stinging cells.
- **Unique abilities:**
 - *Mnemiopsis leidyi* **can reverse aging**, regressing from adulthood to a larval stage

when under extreme stress.

- **Evolutionary significance:**
 - Among Earth’s oldest animals, existing for approximately **700 million years**.
 - Shares age-reversal traits with species like the immortal jellyfish (*Turritopsis dohrnii*), forming a rare group of “time-traveling” organisms.
- **Scientific implications:**
 - Offers insights into aging, rejuvenation, and developmental biology.
 - Promises to advance research on molecular mechanisms of reverse development and their potential application in human longevity studies.

Insta Links:

1. Species in News

17. AFRICAN ELEPHANT

Context:

A comprehensive study covering 52 years has revealed a **dramatic decline in African elephant populations**, with savannah elephants experiencing a 70% decrease and forest elephants suffering a 90% decline.



About African Elephants:

- **Classification:**
 - Largest land animals, native to **Sub-Saharan Africa**.
 - **Two subspecies:** African Bush Elephant (*Loxodonta africana*) and African Forest Elephant (*Loxodonta cyclotis*).
- **Habitat:**
 - Found in **savannas, forests, grasslands, arid regions, rainforests**, and woodlands like **mopane** and **miombo**.
- **Physical features:**
 - Distinct **two-finger-like processes** at the trunk’s tip.
 - Both males and females have **tusks**, with the forest elephant’s tusks being smaller

and darker.

- **Behavior and Reproduction:**
 - Live in **family units** led by adult females, with strong social bonds.
 - Have the **lowest sleep time** among animals (~2 hours per day).
 - Long gestation period of **up to two years**; calves are nurtured by mothers and **allo-mothers**.
- **Conservation status:**
 - **African Bush Elephant:** Endangered (IUCN).
 - **African Forest Elephant:** Critically Endangered (IUCN).
 - Listed under **CITES Appendix I**.

Insta Links:

1. Botswana - Elephant

18. DUAL APPROVAL EXEMPTION

Context:

The **Ministry of Environment, Forest, and Climate Change (MoEFCC)** has issued a notification addressing a long-standing industry demand by removing the requirement for dual compliance of Environmental Clearance (EC) and Consent to Establish (CTE).

Exempts Industries from Dual Approvals: Key Points

- **What is Dual Approval?**
 - Dual approval refers to the mandatory requirement for industries to obtain both Environmental Clearance (**EC**) and **Consent to Establish (CTE)** from State Pollution Control Boards (SPCBs) under the **Air Act, 1981** and **Water Act, 1974** before starting operations.
- **Relevant laws governing approvals:**
 - The **Air (Prevention and Control of Pollution) Act, 1981** and **Water (Prevention and Control of Pollution) Act, 1974** mandate dual approvals to prevent pollution from industrial operations.
- **Exemption given:**
 - **Non-polluting** 'white category' **industries** are exempted from obtaining CTE and Consent to Operate (CTO).
 - Industries with **Environmental Clearance (EC)** will no longer require a separate CTE.
- **Industries exempted:**
 - **39 categories of white category industries** including:
 - Solar cell and module manufacturing
 - Wind and hydel power units

- Fly ash brick manufacturing
- Leather cutting and stitching
- Air-cooler and air-conditioner assembling, repairing, and servicing.

- **Process of exemption:**

- State Pollution Control Boards (SPCBs) will be consulted during the EC process to ensure all aspects covered by CTE are addressed.
- A **Standard Operating Procedure (SOP)** has been issued for this integrated process.
- Industries will **still pay a CTE fee** to ensure no revenue loss for States.

Insta links:

1. White-category-sectors

19. GRADED RESPONSE ACTION PLAN

Context:

To address the worsening air quality in Delhi NCR, the **Commission for Air Quality Management (CAQM)** has invoked **Stage III of the Graded Response Action Plan (GRAP)**.



About Graded Response Action Plan (GRAP):

- **What is GRAP?**
 - A framework of emergency measures aimed at preventing the further deterioration of air quality in Delhi NCR.
 - Approved by the **Supreme Court in 2016** following the **M.C. Mehta vs. Union of India** case.
 - Initially implemented by the Environment Pollution (Prevention and Control) Authority (EPCA); **now managed by CAQM** since 2021.
- **Implementation:**
 - Based on real-time AQI data and meteorological **forecasts by IITM and IMD**.
 - GRAP measures are incremental, requir-

ing compliance with measures from all lower stages as air quality worsens.

- **New Revised GRAP:**
 - Came into **effect on October 1, 2023**, across NCR.
 - Strengthened to handle AQI deterioration during winter.
- Revised GRAP **Stages:**

Stage	AQI Range	Actions
Stage I - Poor	201-300	Enforce orders on over-aged diesel/petrol vehicles by NGT/SC.
Stage II - Very Poor	301-400	- Targeted actions at pollution hotspots.
		- Regulate diesel generator operations.
Stage III - Severe	401-450	- Restrict BS III petrol and BS IV diesel light motor vehicles (LMVs).
		- Consider suspending physical classes up to Class V.
Stage IV - Severe+	> 450	- Ban entry of LCVs from outside Delhi unless they are EVs, CNG, or BS-VI diesel (except essential services).
		- Close educational institutions and non-essential commercial activities.
		- Implement odd-even traffic rules for vehicles.

Insta links:

1. Air Pollution

Disaster Management

20. LIGHTNING RODS

Context:

In 2022, lightning strikes claimed 2,887 lives in India, highlighting the urgent need for safety measures. Petitions in India seek to classify lightning as a natural disaster, enabling better institutional support for affected individuals.

Geographical distribution of lightning in India:

- Lightning is **not a notified disaster** in India.
- **High frequency regions:** Northeastern states and eastern states (West Bengal, Jharkhand, Odisha) experience frequent lightning due to climatic factors.

- **High fatality regions:** Central Indian states like Madhya Pradesh, Maharashtra, Chhattisgarh, and Odisha report higher lightning-related deaths due to open agricultural fields.
- **Most vulnerable state:** Bihar faces the highest vulnerability, with significant fatalities annually due to population density and frequent thunderstorms.
- **In World: Lake Maracaibo in Venezuela** is the place on Earth that receives the most lightning strikes.

Science behind lightning rods:

- **Electric potential and current flow:** Electric current naturally flows from a region of higher electric potential (e.g., a charged cloud) to a lower electric potential (e.g., the earth).
- **The earth as a ground:** The earth serves as an abundant reservoir of low electric potential, capable of absorbing virtually infinite charges without becoming electrically saturated.
- **Structure of the lightning rod:** The rod is connected to a conductive wire that runs through the building and is grounded in the earth. This ensures the safe dissipation of electrical charges.
- **Ionization of air:** The sharp tip of the rod ionizes the surrounding air, creating a conductive path for the lightning discharge to follow, minimizing resistance.
- **Energy dissipation:** The rod channels the intense electric energy directly into the earth, preventing damage to the structure and surrounding environment.
- **Protection mechanism:** By being the path of least resistance, the rod attracts lightning strikes away from other nearby structures, ensuring safety.
- Types of Lightning Rods:
 - **Franklin Rods and Meshed Conductors:** Use grids or spikes to dissipate the discharge.
 - **Early streamer emission (ESE) rods:** Emit a continuous upward tracer to capture lightning more efficiently.

Insta Links:

1. Upward-lightning

Internal Security

21. CISF ALL WOMEN BATTALION

Context: The Indian Home Ministry has approved the establishment of the **first all-women battalion** in the Central Industrial Security Force (CISF), comprising 1,025 personnel.

About Central Industrial Security Force (CISF):

- **Overview:**
 - A Central Armed Police Force (CAPF) established on **March 10, 1969** under an Act of Parliament.
 - Became an armed force of the Republic of India in 1983.
- **Strength and Structure:**
 - Current strength exceeds 1,88,000 personnel, **with women comprising 7%**.
 - Headquartered in **New Delhi**, headed by a Director-General (IPS officer).
 - Organized into seven sectors.
- **Functions and Roles:**
 - Provides security to **359 establishments**, including nuclear facilities, airports, seaports, and heritage monuments like the Taj Mahal.
 - Manages **airport security since 2000** post IC-814 hijacking.
 - Operates a **VIP Security** vertical for high-profile protectees.
 - Offers fire protection services and consultancy to private entities.
- **Public Interface:**
 - CISF personnel interact daily with the public at airports, Delhi Metro, and historical landmarks.
 - Ensures safety while maintaining a visible and approachable presence.
- **Special Initiatives:**
 - Post-2008 Mumbai attacks, its **mandate expanded to secure private establishments**.
 - The newly announced all-women battalion will focus on diverse roles like VIP security and public-facing assignments.

Insta Links:

1. Nana Singh

22. OPERATION KAWACH

Context:

Delhi Police initiated Operation Kawach, a targeted crackdown against gangs, drug traffickers, and organized crime in response to rising criminal activities, including shootings in the city.

About Operation Kawach:

- **Aim:** To combat gang-related violence, drug trafficking, and illegal activities such as possession of firearms, liquor, and banned substances.
- **Agency involved:** Delhi Police, including local units, Special Cell, and Crime Branch.
- **Geographical area:** Multiple districts across Delhi, including Outer North, Dwarka, Southeast, Southwest, and North districts.

- **Significance:**

- Strengthens law enforcement against organized crime.
- Enhances public safety by dismantling networks linked to prominent gangs like Lawrence Bishnoi, Neeraj Bawana, and others.
- Prevents illegal trade of firearms, liquor, and narcotics.

Insta Links:

2. Parliamentary-panel-finds-on-drug-abuse-in-India

23. ARMED FORCES SPECIAL POWERS ACT

Context:

The Armed Forces (Special Powers) Act (AFSPA) has been reimposed in six police station limits in Manipur amidst escalating ethnic violence between the **Meitei and Kuki-Zo-Hmar communities**.

About AFSPA:

- **Enactment:** Passed by the **Parliament in 1958**.
 - AFSPA grants special powers to armed forces in disturbed areas to maintain public order.
- **Application:**
 - Applied after an area is declared “disturbed” under **Section 2** of the Act, due to issues like ethnic, religious, or communal tensions.
- **Declaration of Disturbed Areas:**
 - The **Central Government**, State Governor, or UT Administrator can declare an area as disturbed.
- **Special Powers Under AFSPA:**
 - Armed forces can:
 - Prohibit gatherings of five or more people.
 - Use force or open fire after due warning if laws are contravened.
 - Arrest individuals or search premises without warrants on reasonable suspicion.
 - Seize firearms and ban their possession.
 - Hand over arrested persons to local police with a detailed report.
- **Immunity Clause:**
 - Armed forces personnel are protected from prosecution unless sanctioned by the Union Government.
- **Current Enforcement:**
 - Enforced in **Jammu & Kashmir, Assam, Nagaland**, parts of **Manipur** (excluding

Imphal), and parts of **Arunachal Pradesh**.

Committees Related to AFSPA:

- **Justice B.P. Jeevan Reddy Committee (2004):**
 - Proposed incorporating the provisions of **AFSPA** into the **Unlawful Activities (Prevention) Act, 1967**.
 - Recommended repealing AFSPA to ensure a balance between security needs and human rights.
- **Second Administrative Reforms Commission (ARC) 5th Report (2007):**
 - Suggested **repealing AFSPA** to eliminate feelings of **discrimination and alienation** among the affected populations.
- **Santosh Hegde Committee (2013):**
 - Recommended **periodic review every six months** to assess the necessity of implementing AFSPA in designated areas.
- **Justice Verma Committee (2013):** Suggested bringing cases of **sexual violence by armed forces personnel** under **ordinary criminal law** to ensure accountability.

Insta links:

1. AFSPA

Defence

24. PINAKA MULTI-BARREL ROCKET LAUNCHER

Context: France is evaluating India’s Pinaka multi-barrel rocket launcher (MBRL) system for its military requirements, highlighting the growing defense ties between India and France.

About Pinaka Rocket Missile System:

- **Type:** Multi-Barrel Rocket Launcher (MBRL) designed by DRDO’s Armament Research and Development Establishment (ARDE).
- **First Use:** Played a crucial role in neutralizing enemy positions during the Kargil War.
- **Targets:** Effective against enemy troops, vehicles, communication centers, air terminals, and ammunition depots.
- **Features:**
 - Launcher system includes a multi-tube launcher vehicle, command post vehicle, and replenishment vehicles.
 - Can fire 12 rockets in 48 seconds, covering an area of 700 × 500 square meters.

- Mounted on a Tatra truck for mobility with hydraulically actuated outriggers for stability during firing.

• **Range:**

- Current range of 38-75 km.
- Guided extended-range variants in development to increase range to 120 km and eventually to 300 km.

Insta Links:

1. Army-weapons-stock

25. LONG-RANGE LAND ATTACK CRUISE MISSILE

Context:

The Defence Research and Development Organisation (DRDO) successfully conducted the maiden flight test of the **Long-Range Land Attack Cruise Missile (LRLACM)**, a state-of-the-art indigenous missile with a range of 1,000 km.

About LRLACM:

• **Range and Performance:**

- **Range:** 1,000 km with precision strike capability.
- Equipped with advanced avionics and software for reliability and efficiency.
- This is a new variant of **Nirbhay LRLACM** with improved features

• **Development:**

- Developed by Aeronautical Development Establishment (**ADE**), Bengaluru, with contributions from DRDO labs and Indian industries.
- Bharat Dynamics Limited and Bharat Electronics Limited are key development-cum-production partners.

• **Design and Navigation:**

- Configured for ground launch using mobile articulated launchers and naval launch from ships using universal vertical launch modules.

• **Strategic Significance:**

- Provides the armed forces with long-range standoff capabilities, comparable to

the U.S. Tomahawk cruise missile.

- **Approval:**
 - Approved by the Defence Acquisition Council in July 2020.

About Nirbhay Cruise Missile:

- **Type and Range:** Sub-sonic long-range cruise missile with a strike capability of up to 1,000 km.
- **Development:** Designed by Aeronautical Development Establishment (ADE), under DRDO, Bengaluru.
- **Launch and Propulsion:** Uses a solid booster for launch, transitioning to a turbojet engine for sustained flight.
- **Capabilities:**
 - Deep penetration to target high-value assets with precision.
 - Capable of loitering and operating at very low altitudes (~100 meters).
- **Warhead options:** Can carry both conventional and nuclear payloads weighing 200-300 kg.

Insta links:

1. Army weapon stocks

26. E-TARANG SYSTEM

Context:

The e-Tarang System, an AI-enabled software developed collaboratively by the Integrated Defence Staff and BISAG-N, was launched during the annual meeting of the Joint Electromagnetic Board (JEMB).

About e-Tarang System:


- **Developer:** Integrated Defence Staff and BISAG-N.
- **Launch Event:** Unveiled during the Joint Electromagnetic Board (JEMB) meeting, chaired by Deputy Chief of Integrated Defence Staff (Operations) Air Marshal Jeetendra Mishra.
- **Features:**
 - AI-enabled system for automated and efficient defence spectrum planning and management.
 - Integrates various defence communication systems for improved operational synergy.
 - Enables interference-free operation of defence equipment during wartime and peacetime.
 - Supports the development of advanced technologies in higher frequency bands.
- **Objective:** Enhance joint electronic warfare operations and modernize India's spectrum warfare capabilities.
- **Significance:**
 - Part of broader initiatives to modernize military infrastructure.
 - Improves interoperability among the Army, Navy, and Air Force.
 - Boosts efficiency and coordination in electromagnetic spectrum management.

Insta Links:

1. Tarang-shakti-2024

MAPPING

INTERNATIONAL

Place	Why in News?
<p>1. SOUTH CHINA SEA</p>	<p>Context: The Philippines’ Foreign Ministry said it summoned China’s Ambassador to protest Beijing’s drawing of baselines around the disputed Scarborough Shoal in the South China Sea.</p> <p>Disputed claims in the South China Sea</p>  <p>Places in News: South China Sea Dispute</p> <ol style="list-style-type: none"> South China Sea: <ul style="list-style-type: none"> Contains an estimated 11 billion barrels of oil and 190 trillion cubic feet of natural gas. Claimed by China, Brunei, Indonesia, Malaysia, Philippines, Taiwan, and Vietnam. Spratly Islands: <ul style="list-style-type: none"> Strategic location with rich natural resources and fishing zones. Second Thomas Shoal: Philippines grounded BRP Sierra Madre to assert claims. Frequent site of China-Philippines clashes, including laser usage and water cannon incidents by Chinese vessels. Paracel Islands: <ul style="list-style-type: none"> Militarized by China with fighter jets, missiles, and radar systems. Woody Island: <ul style="list-style-type: none"> Key base for China’s military installations in the region. Scarborough Shoal: <ul style="list-style-type: none"> Known as Scarborough Shoal, Panacot, Bajo de Masinloc (Spanish), Huangyan Island (Mandarin), and Panatang Shoal (Filipino). Disputed between the Philippines, People’s Republic of China, and Taiwan. <ul style="list-style-type: none"> Claimed by the Philippines via the Treaty of Washington (1900) and the 1734 Velarde map. Claimed by China under its nine-dash line. <p>Insta Links:</p> <ol style="list-style-type: none"> South-China-Sea

2. SOLOMON ISLANDS



Context: Scientists have uncovered the largest coral colony on Earth in the **Solomon Islands**, offering insights into marine ecosystems’ resilience and the threats posed by climate change.

New Discovery of Coral Colony:

- **Location:** Solomon Islands, Southwest Pacific Ocean.
- **Region and Depth:** Found 42 feet underwater, near the Macquarie Ridge.
- **Size and Structure:** Measures **112 feet by 105 feet**, rising 16 feet above the ocean floor.
- **Age:** Estimated to be around **300 years old** or older.
- **Features:** Composed of hard coral ***Pavona clavus***, with colors ranging from brown, yellow, red, pink, and blue. Often referred to as “shoulder blade coral.”
- **Discovery:** Made during an October 2024 expedition by National Geographic’s Pristine Seas team.

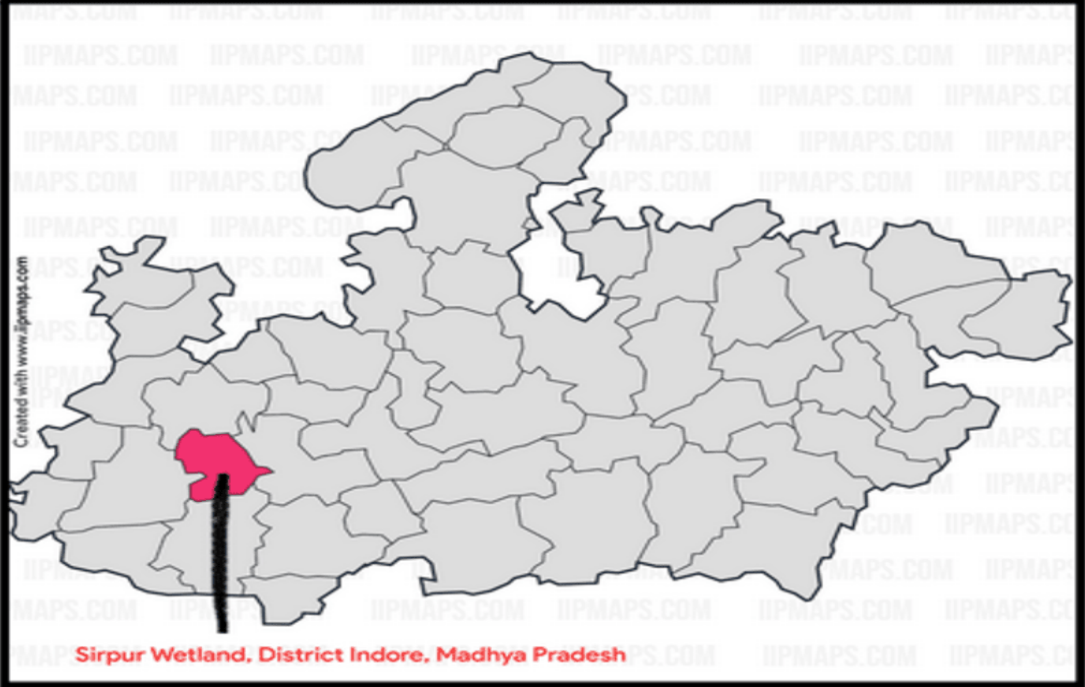
About Corals:

- **Nature:** Corals are **sessile animals** that attach permanently to the ocean floor.
- **Symbiosis:** Corals share a mutualistic relationship with algae (**zooxanthellae**), which provide nutrients through photosynthesis.
- **Structure:**
 - **Polyps:** Individual coral animals that form large colonies.
 - **Skeletons:** Hard corals create reefs with limestone skeletons, providing habitats for marine life.
- **Classification:** Divided into **hard corals** (reef-building) and **soft corals** (non-reef-building).
- **Ecological role:**
 - Serve as **rainforests of the sea**, home to thousands of marine species.
 - Play a crucial role in marine biodiversity and shoreline protection.

Insta Links:

2. [Coral reef](#)

INDIAN

Place	Why in News?
<p>3. SIRPUR RAMSAR SITE</p>	<p>Context: In a decisive move to protect the ecological significance of the Sirpur Ramsar site, the Indore Municipal Corporation (IMC) launched a demolition drive on Saturday to remove unauthorized encroachments.</p> <div data-bbox="424 539 1513 1223" style="border: 1px solid black; padding: 5px; margin: 10px 0;">  <p style="text-align: center; color: red; font-weight: bold;">Sirpur Wetland, District Indore, Madhya Pradesh</p> </div> <p>About Sirpur Wetland:</p> <ul style="list-style-type: none"> • Location: A 670-acre lake in Indore, Madhya Pradesh, over 130 years old. • Created by: Maharaja Shivajirao Holkar for water supply and recreation. • Ramsar recognition: Declared a Ramsar site in 2022. • Ecological importance: Inhabited by 189 bird species from 55 families alongside reptiles, insects, butterflies, and fish. • Restoration: Revived from severe deterioration to an urban wetland of international ecological importance. • Water sources: Fed by three channels, with Sukhniwas Lake being the most significant. <p>Insta Links:</p> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> <p>3. World-wetlands-day-2024</p> </div>

4. MATTUPETTY DAM

Context: The trial run of Kerala’s first seaplane service at Mattupetty Dam in Idukki district has sparked ecological concerns due to its proximity to sensitive wildlife habitats, despite its potential to boost tourism.



About Mattupetty Dam:

- **Location:** Near Munnar, in Idukki district, Kerala, India.
- **Type:** Storage concrete gravity dam.
- **Purpose:** Built for water conservation and hydroelectric power generation.
- **Rivers:** Located near the confluence of Muthirappuzha, Chanduvarai, and Kundale rivers.
- **Ecological significance:** Provides habitat and sustenance for a variety of wildlife, including elephants and birds.

More locations in news:

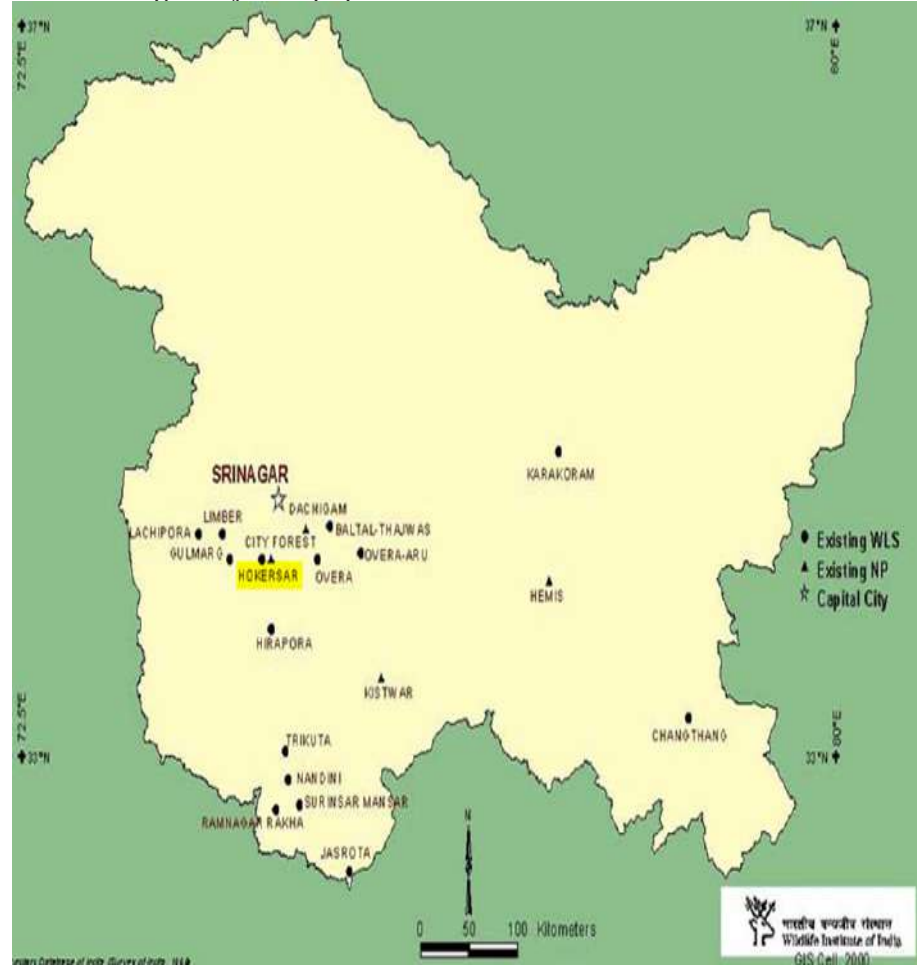
- **Mattupetty Dam:** Site of Kerala’s first seaplane service trial.
- **Munnar:** Closest hill station, benefitting from the project.
- **Anamudi Shola National Park:** Located 3.5 km north of Mattupetty.
- **Pampadum Shola National Park & Kurinjimala Sanctuary:** East of Mattupetty, designated as eco-sensitive zones.
- **Kanan Devan Hills Reserve Forest:** Surrounds Mattupetty and serves as a habitat for protected species.

Insta Links:

4. [Analysis-of-the-dam-safety-act-2021](#)

5. HOKERSAR WETLAND

Context: The **Hokersar wetland**, a Ramsar site in the Kashmir Valley, has witnessed a sharp decline in migratory bird populations due to an 81% rainfall deficit in the region.



About Hokersar Wetland:

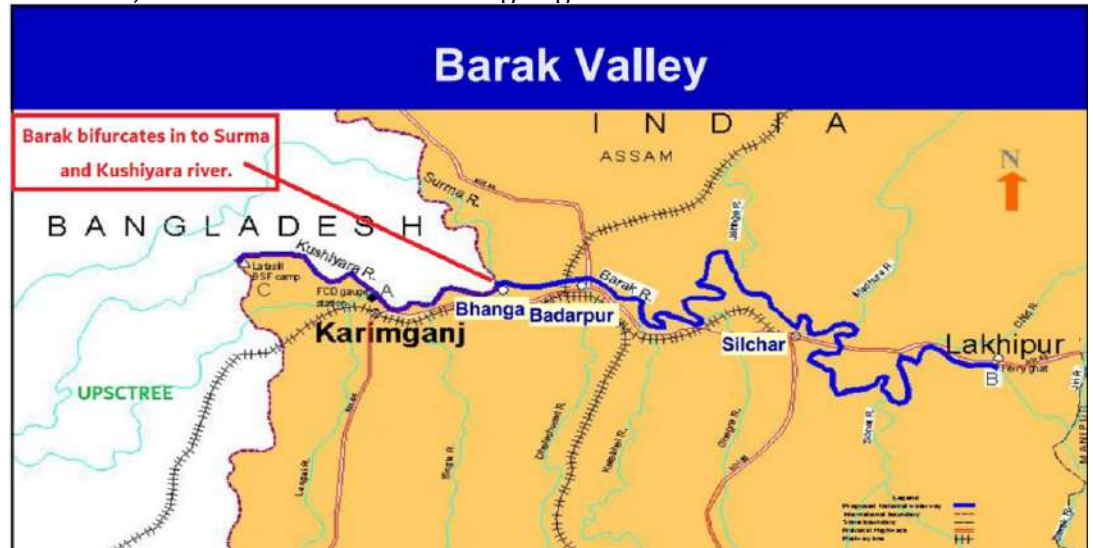
- **Location:**
 - Situated in Srinagar, **Jammu and Kashmir**, within the northwest Himalayan biogeographic province.
 - Receives water from **Doodhganga River**, a tributary of Jhelum.
- **Ecological Importance:**
 - Known as the '**Queen Wetland of Kashmir**', it is the only site with remaining reedbeds of Kashmir.
 - Acts as a pathway for 68 waterfowl species, including Little Cormorant, Common Shelduck, and endangered White-eyed Pochard.
 - Provides food, spawning grounds for fish, and feeding and breeding habitats for migratory birds.
- **Biodiversity:**
 - Hosts over 232 bird species and shelters 2 million migratory waterfowl annually.
 - Attracts birds from Siberia, Central Asia, and Europe.
- **Threats:**
 - **Rainfall Deficit:** Reduced water levels due to insufficient rainfall.
 - **Habitat Degradation:** Encroachments, illegal sewage dumping, and mining activities.
 - **Illegal Mining:** Increased stream widths and silt deposition have harmed the wetland ecosystem.

Insta Links:

5. **Ramsar site**

6. BARAK RIVER

Context: The Manipur Police discovered three bodies, suspected to be those of missing abductees, in the Barak River amidst ongoing militant activities in the state.



About Barak River:

- **Origin and Course:**
 - Rises in the Manipur Hills, flows into Assam, and later enters Bangladesh as the Surma and Kushiara rivers.
 - Joins the Meghna River, receiving the combined flow of the Ganga and Brahmaputra.
- **Tributaries:**
 - Major tributaries include the Jiri, Dhaleswari, Singla, Longai, Sonai, and Katakhal.
- **Drainage and Sub-basin:**
 - Covers a drainage area of 41,723 sq. km in India, about 1.38% of the country's total geographical area.
 - Lies across Meghalaya, Manipur, Mizoram, Assam, Tripura, and Nagaland.
- **Geographic Boundaries:**
 - Bounded by the Barail range to the north, the Lushai Hills to the east, and Bangladesh to the south and west.

Insta Links:

6. [Drainage-system](#)