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DIRECTOR'S MESSAGE



“Civil Service is not just a job; it is an opportunity, to do your bit for society and to contribute to nation-building. It is an opportunity to realise your potential and make a meaningful contribution in the emancipation of masses.”

Mr. Dilip Kumar
Director, Vajirao IAS Academy

Good Civil Servants ensure efficient and smooth governance. They are the backbone of the country and they have the power to make a difference in people's life.

We have set up extremely tough targets for ourselves. Now a day's, most of the students are well aware and focused about their aim. They just need a streak of guidance. We feel that we have done our bit in providing that blue streak of guidance and we are honoured to be a reason of smile on certain lips, proud to be your teacher, friend and guide.

1. Simplified Editorials

1.1	Pro-Monarchy Protests Resurge in Nepal.....	1
1.2	India's Biotech Sector: Innovation & Growth	3
1.3	India's Education System: Transformations and the Impact of NEP 2020.....	5
1.4	Poverty Reduction in India: A Decade of Transformation.....	9

2. Daily Current Affairs

2.1	Study on Child Labour in India based on Court Data.....	11
2.2	Concerns regarding Digital Gambling in India.....	13
2.3	'1 person, 1 family': contrast to Vasudhaiva Kutumbakam.....	15
2.4	Consequences of Deep-Sea Mining.....	17
2.5	Labour Code Implementation in India.....	19
2.6	Sarhul Festival.....	21
2.7	Implant of 'Blindsight' chip in first human by 2025.....	22
2.8	Vibe Coding: an AI Coding Tool.....	24
2.9	Energy Statistics India 2025.....	26
2.10	Major Reforms in Waqf Governance	28
2.11	Rising Rainfall in Western Ghats Over Centuries.....	30
2.12	AFSPA Extended in Manipur, Nagaland & Arunachal Pradesh.....	32
2.13	Free Speech: A Pillar of Civilized Society	33
2.14	P4 Initiative: Eradicating Poverty by 2029	35
2.15	Rethinking Representation: Beyond Population Count.....	37
2.16	Raising Income Limit for "Creamy Layer" within OBCs.....	39
2.17	India's Defence Exports.....	41
2.18	Fram2 Mission.....	43
2.19	SC's Eco-Centric Shift in Environmental Jurisprudence	44
2.20	Rajya Sabha Passes Bill for Airline Leasing Issues.....	46
2.21	Combating Misinformation in India's Digital Age.....	48
2.22	AI-Driven Digital Child Abuse: Emerging Threats.....	50
2.23	Govt Forms Committees to Amend Nuclear Energy Laws	51
2.24	SC Highlights Education, Hygiene & Healthcare for Rural Growth.....	53



I. SIMPLIFY EDITORIAL

[1.1] Pro-Monarchy Protests Resurge in Nepal

Syllabus: International Relations [GS Paper-2]

Introduction

The recent resurgence of pro-monarchy protests in Nepal has reignited debates about the country's political future. With thousands taking to the streets demanding the restoration of the monarchy, led by former King Gyanendra Shah, the movement highlights growing public dissatisfaction with the current federal republic system. For stakeholders in India and other neighboring countries, this development raises critical questions regarding Nepal's stability and governance.

Historical Context: The Fall of Nepal's Monarchy

- After a 10-year civil struggle with 16,000-plus deaths, Nepal ended its 240-year-old monarchy in 2008. The move toward a federal democratic republic was part of a peace treaty with Maoist insurgents who fought the war against the monarchy. King Gyanendra Shah, who had ruled from 2005 to 2006 with authoritarian powers, was compelled to abdicate under heavy public pressure. Political instability has plagued Nepal since then, with about 13 governments formed within the past 17 years.
- The end of the monarchy heralded an epochal change in Nepal from being a Hindu kingdom to a secular state. But much contention surrounds this change; many citizens see secularism as anti-Hindu and view federalism as an ineffective loophole to decentralize power.

The Resurgence of Pro-Monarchy Sentiments

In recent years, public frustration with Nepal's political system has fueled calls for the monarchy's restoration. A 2024 survey by Himalmedia revealed that nearly half of Nepalis support reinstating a Hindu state and constitutional monarchy. Key reasons for this growing sentiment include:

- **Political Instability:** Frequent government changes have hindered effective governance.
- **Corruption:** Allegations of corruption have eroded trust in political leaders.
- **Economic Challenges:** Stagnation and unemployment have worsened public discontent.

Former King Gyanendra Shah has capitalized on these sentiments by making public appeals for national unity and prosperity. His speech on February 19, 2025 (Democracy Day), urging citizens to support the monarchy's revival, served as a catalyst for recent protests.

The 2025 Pro-Monarchy Protests

Beginning in Kathmandu on March 9, 2025, thousands keep coming to demonstrate in favor of a monarchy. Protests intensified past March 27, when a new Joint People's Movement Committee was created, with Nabaraj Subedi as the chief. Their recommendations are that the constitution specifies a way back to that of 1991 or amend for constitutional monarchy within multi-party democracy.

Key Events

- **March 28 Clashes:** Protests turned violent when demonstrators attempted to march toward Parliament despite prohibitory orders. Police used tear gas and water cannons to disperse crowds, leading to clashes that resulted in two deaths and over 110 injuries.
- **Government Response:** A curfew was imposed in parts of Kathmandu, enforced by police and the Nepalese Army.

Protest Slogans

Protesters chanted slogans like "May King come to save the country" and "Down with corrupt government," reflecting their dissatisfaction with the current system.

Arguments for Restoring the Monarchy

Proponents of monarchy argue that it could provide stability and unity in a politically fragmented nation. Key arguments include:

1. **National Unity:** Advocates believe that a monarch could serve as a unifying figure above partisan politics.
2. **Cultural Identity:** Many see the monarchy as integral to Nepal's identity as a Hindu nation.
3. **Geopolitical Stability:** Some argue that reinstating the monarchy could strengthen Nepal's position amid growing geopolitical competition between India, China, and other powers.

Challenges to Monarchy's Revival

Despite growing support, significant obstacles remain:

1. **Opposition from Republican Forces:** Political parties like the CPN-Maoist Centre strongly oppose reinstating the monarchy.
2. **Public Memory:** King Gyanendra's authoritarian rule from 2005-2006 remains controversial.
3. **Geopolitical Concerns:** A return to monarchy could complicate Nepal's relations with democratic allies.

Implications for India

India shares deep historical and cultural ties with Nepal and has traditionally viewed it as part of its sphere of influence. The potential restoration of Nepal's monarchy poses both opportunities and challenges for Indian policymakers:

- 1. Geopolitical Stability:** A stable Nepal under a constitutional monarchy could align more closely with India's interests amid China's growing influence.
- 2. Cultural Resonance:** A Hindu kingdom resonates with India's own cultural ethos under its current leadership.
- 3. Risk of Instability:** Prolonged protests or violent clashes could destabilize Nepal, affecting border security and trade.

Indian stakeholders must tread carefully to avoid exacerbating tensions while supporting democratic processes in Nepal.

Conclusion

The pro-monarchy movement in Nepal reflects deep-seated frustrations with its current political system but also raises questions about whether reverting to past structures can address modern challenges. For India and other stakeholders, ensuring stability in Nepal is paramount. While calls for restoring the monarchy gain momentum, further protests risk plunging Nepal into greater instability—a scenario that neither its citizens nor its neighbors can afford.

Source: [HT](#)

[1.2] India's Biotech Sector: Innovation & Growth

Syllabus: Economy, Science and Technology [GS Paper-3]

Context

India's biotechnology sector has witnessed remarkable growth over the past decade, establishing itself as a critical component of the country's economy. According to the India Bioeconomy Report 2025, the bioeconomy has expanded 16-fold, growing from \$10 billion in 2014 to \$165.7 billion in 2024. This trajectory highlights the sector's potential to transform India's economic landscape and contribute significantly to global biotechnology advancements.

Understanding India's Bioeconomy

Definition and Scope: Bioeconomy refers to the industrial use of biological resources such as plants, animals, and microorganisms, alongside natural biological processes, for producing goods and services. It spans healthcare, agriculture, energy, and emerging areas like bio-based chemicals, synthetic biology, and marine biotechnology.

Key Statistics:

- India's bioeconomy reached \$80 billion in 2021, marking a 14.1% growth from \$70.2 billion in 2020.
- It is projected to touch \$150 billion by 2025 and \$300 billion by 2030.
- The sector contributes over 4.2% of India's GDP.

Drivers of Growth in India's Biotechnology Sector

Government Initiatives: The Indian government has played a pivotal role in fostering biotech growth:

- **National Policy on Biofuels:** Amendments have been made to increase biofuel production and introduce ethanol-blended petrol with up to 20% blend starting April 2023.
- **BioE3 Policy:** Launched in 2024, this policy aims to position India as a global hub for bio-manufacturing and research in biotechnology.

Startup Ecosystem: India is home to a thriving startup ecosystem:

- In 2021 alone, over 1,128 biotech startups were incorporated, averaging three new startups per day.
- Startups are driving innovations in medical devices, digital health-tech solutions, and affordable biotechnologies.
- **Vaccination Leadership**
Administered nearly 4 million vaccine doses daily in 2021 (totaling 1.45 billion doses).
- Conducted over 506.7 million COVID-19 tests in 2021.

Sectoral Contributions to Bioeconomy

- **Bio-Pharma and Diagnostics:** The biopharma segment is expected to generate \$15 billion by 2025 through vaccines and biotherapeutics. Diagnostics services are projected to contribute \$35 billion by leveraging advancements like PCR testing technologies.
- **Bio-Industrial Innovations:** The bio-industrial sector is benefiting from initiatives under Atmanirbhar Bharat:
 - Biofuel production capacity is expected to nearly double from 5.2 billion liters in 2021 to 10.1 billion liters by 2025.
 - Economic value generated by biofuels could triple from \$6 billion in 2021 to \$20 billion by 2025.
- **Bio-Agriculture Advancements:** Its contribution is expected to grow from \$10.5 billion in 2021 to \$20 billion by 2025.

Challenges Facing India's Bioeconomy

Despite its rapid growth, several challenges remain:

- **Regional Imbalances:** The states of Maharashtra, Karnataka, Telangana, Gujarat, and Andhra Pradesh contribute more than two-thirds of the bioeconomy value. The eastern and northeastern parts contribute less than 6%.

- **Infrastructure Bottlenecks:** Good infrastructure for scaling bio-based solutions is required.
- **Policy Gaps:** Innovation and investment policies need to be consistent to sustain growth.

Future Prospects

India's bioeconomy is poised for exponential growth:

- India can combat fuel and chemical import dependence by utilizing renewable bio-resources such as ethanol or by forging ahead in synthetic biology. These approaches would foster a sustainability agenda.
- The ambitions of the Government regarding energy independence by 2047 complement the increasing bio-industrial capacities.
- Innovation and continuous investments in the likes of BioE3 shall position India as one of the top five destinations for global bio-manufacturing within the year 2025.

Conclusion

India's biotechnology sector stands at the cusp of transformative growth. With robust government support, an innovative startup ecosystem, and advancements across diverse sectors like biopharma, agriculture, and industrial biotech, the bioeconomy is set to play a pivotal role in shaping India's future economy. By addressing challenges such as regional disparities and infrastructure gaps, India can not only achieve its ambitious targets but also emerge as a global leader in biotechnology innovation.

Source: [BS](#)

[1.3] India's Education System: Transformations and the Impact of NEP 2020

Syllabus: Education [GS Paper-2]

Context

- The educational system within India underwent significant transformations especially between the last ten years. Throughout the Narendra Modi administration the learning system stands strong despite the critics who believe otherwise. The National Education Policy (NEP) 2020 implemented key transformations which resolved historic problems through international education standardizations.
- A thorough examination involving analysis of former education system challenges combined with an assessment of NEP 2020 and its consequences regarding India's prospective development constitutes necessary understanding.

Challenges in India's Education System

India's education system dealt with numerous challenges which included old-fashioned curriculums and governmental corruption and political control until NEP 2020.

1. Outdated Curriculum and Colonial Influence

- Multiple years passed before educators shifted from teaching memorization toward developing critical thinking abilities.
- The educational framework had become obsolete due to its lack of preparation for teaching skills needed in contemporary occupations requiring creativity along with problem-solving capabilities.
- Insightful thinking was impeded by such outdated practices which decreased Indian students' abilities to succeed in global jobs.

2. Corruption and Poor Governance

- The problem of corruption in education existed for an extended period until recently.
- The government funding shortage in universities coexisted with private schools accepting new students through informal entry procedures.
- Numerous private educational institutions operated as fake degree mills which granted diplomas to people who received no formal education.
- The improper evaluation of 44 private colleges which were consecutively granted "Deemed University" status in 2009 led to an extensive corruption scandal.

3. Political Interference

- The educational system underwent direct modifications at every level thanks to political governing bodies.
- Academic excellence failed to determine university leadership appointments which instead went to individuals who demonstrated political loyalty to authorities.
- The parties in power took control of education to modify historical documentation according to their political agendas.
- Guides for Civil Service Exams and Competitive Exams supported the Indian National Army but denied proper attention to freedom fighters Shaheed Bhagat Singh and Chandra Shekhar Azad.

NEP 2020: A Vision for Change

The Modi administration created NEP 2020 for solving these educational difficulties. The educational system in India underwent its initial major transformation since more than thirty years. The development of NEP 2020 resulted from thorough consultations with the public sector.

The main principles of NEP 2020 include five fundamental elements.

- The policy ensures universal access to education for every individual.

- Equity: Ensuring fairness in education
- Quality: Improving the standard of education
- Affordability: Making education affordable
- Accountability: Ensuring transparency and responsibility

The principles established goals to turn Indian education into an inclusive system that combines modernism and worldwide academic competitiveness.

Impact of NEP 2020

1. Reducing Inequality

NEP 2020 enables increased participation of students who come from lesser-privileged backgrounds in higher education systems.

Higher education participation numbers in India experienced a rise starting from 2014-15.

- Scheduled Castes (SC) by 50%
- Scheduled Tribes (ST) by 75%
- Other Backward Classes (OBC) by 54%

The educational environment for women has experienced positive changes because their university enrollment has grown 38.8% while their doctoral enrollment has surged by 135%.

2. More Investment in Education

- Public spending on educational institutions has experienced substantial growth from the government.
- The amount of expenditure allocated for each student by the government experienced a 130% growth between 2013-14 and 2021-22 with the numbers rising from ₹10,780 to ₹25,043.
- Government educational institutions have received enhanced infrastructure along with modern teaching strategies and enhanced ratio of teachers for students.
- Foundational learning together with numeracy receives priority in order to develop fundamental abilities among students.

3. Technology and Skill-Based Learning

- NEP 2020 integrates technology into education.
- The schooling curriculum introduces coding education during the middle school stage.
- The establishment of 10,000 Atal Tinkering Labs (ATLs) has enabled the promotion of innovation throughout the country.
- Through these programs students acquire the ability to solve problems and gain knowledge that applies to actual situations.

Broader Implications of NEP 2020

1. Strengthening Higher Education

- Higher learning institutions implement financial models that help them decrease state support (funding).
- The latest QS World Rankings show that India has reached eleven universities in its top 500 positions.
- Academic research publications have grown by 88% in the period from 2015 up to now.
- The Global Innovation Index of India rose from its position at 76 during 2014 to achieve 39th rank in 2023.
- The Anusandhan-National Research Foundation accelerates academic partnerships between universities along with industry institutions.

2. Reviving Indian Languages and Culture

- The National Education Policy 2020 supports academic instruction through various local and native languages.
- Through the Indian Knowledge Systems (IKS) initiative more than 8,000 higher education institutions incorporated its programs.
- Through the Bharatiya Bhasha Pustak Yojana the organization plans to publish 15,000 original copies and translated books across 22 Indian linguistic circles.
- The program allows learners to acquire knowledge in their native language along with universal education standards.

3. Promoting Social Justice

- The Central Educational Institutions (Reservation in Teachers' Cadre) Act of 2019 was created to establish equal academic teaching opportunities for SC, ST, and OBC representatives in university teaching positions.
- The legislation stops universities from performing unjust bias against qualified candidates from the reserved categories.

Conclusion

- NEP 2020 advances India's education sector through the integration of inclusive and technological practices which sit in harmony with worldwide academic conventions. The educational reforms represent an absolute transformation in the way India conducts education delivery.
- Indian education system shows improvement through increased enrollment rates alongside greater research production and improved institutions which together drive the system towards excellence. The central purpose of NEP 2020 is to restore both India's intellectual heritage and cultural character and teach students through education-based learning to succeed by using knowledge as their strength.
- This transformation of India towards 'Viksit Bharat' uses education as a vehicle to provide empowerment as well as fuel national development.

Source: [*The Hindu*](#)

[1.4] Poverty Reduction in India: A Decade of Transformation

Syllabus: Economic Development [GS Paper-3]

Context

India has witnessed remarkable progress in poverty reduction over the last decade, showcasing significant achievements across social and religious groups. This critically evaluates the Narendra Modi government's efforts to address poverty from 2011-12 to 2023-24, assessing whether these initiatives align with democratic ideals of inclusivity and upliftment of marginalized communities. Using the Rangarajan poverty line methodology, we analyze the data and policy measures that have contributed to this transformation.

Measuring Poverty

The measurement of poverty in this analysis is based on the Rangarajan poverty line, which was proposed in 2014 but not officially adopted by the Government of India. This methodology incorporates three critical features:

- 1. Modified Mixed Recall Period (MMRP):** A detailed approach to household expenditure data collection, yielding estimates closer to reality.
- 2. Calorie Requirements:** Food poverty lines are based on Indian Council of Medical Research norms for calorie needs.
- 3. Non-Food Components:** Greater emphasis on urban non-food expenditures like education, medical care, and housing.

For 2023-24, these poverty lines were adjusted using state-level Consumer Price Index data to reflect current economic conditions.

Achievements in Poverty Reduction

- **Decline in Extreme Poverty:** India has nearly eliminated extreme poverty as measured by the international \$1.90 PPP line. The Headcount Poverty Ratio (HCR) dropped from 12.2% in 2011-12 to just 2% in 2022-23. Rural poverty declined to 2.5%, while urban poverty fell to 1%. At the \$3.20 PPP line, HCR reduced from 53.6% to 20.8%, indicating significant improvements in living standards.
- **Multidimensional Poverty Reduction:** Between 2015-16 and 2019-21, India halved its multidimensional poverty rate from 24.85% to 14.96%, with rural areas witnessing the fastest decline—from 32.59% to 19.28%. Over nine years, approximately 24.82 crore Indians escaped multidimensional poverty due to targeted government interventions.

Inclusive Growth Across Communities

- **Social and Religious Groups:** The reduction in poverty has been inclusive, benefiting minorities and vulnerable groups significantly. States like Bihar, Uttar Pradesh, and Odisha demonstrated substantial progress, reflecting targeted efforts under programs such as the Aspirational Districts Program.
- **Urban vs Rural Trends:** Rural areas experienced higher per capita consumption growth (3.1% annually) compared to urban areas (2.6%). This disparity highlights

the impact of rural-focused policies such as universal access to electricity, sanitation, modern cooking fuel, and piped water.

Policy Measures Driving Progress

Government Welfare Programs: Several initiatives have directly contributed to poverty reduction:

- **Pradhan Mantri Awas Yojana:** Affordable housing for rural and urban poor.
- **Swachh Bharat Mission:** Improved sanitation facilities.
- **Ujjwala Yojana:** Access to clean cooking fuel.
- **Har Ghar Jal:** Piped water supply for households.
- **National Food Security Act:** Free food distribution covering two-thirds of the population.

Focus on Education and Health: Investments in universal education and healthcare have enhanced human capital development, enabling communities to rise above poverty barriers.

Challenges and Areas for Improvement

1. **Regional Disparities:** States like Chhattisgarh still report higher poverty rates compared to others.
2. **Urban Inequality:** Although urban inequality declined significantly (Gini coefficient from 36.7 to 31.9), disparities remain in access to non-food essentials like housing and healthcare.
3. **Transitioning to Higher Poverty Lines:** With extreme poverty nearly eliminated, India must redefine its benchmarks for identifying beneficiaries under social protection programs.

Democratic Ideals and Upliftment

Democracy is not just about elections but also about addressing fundamental needs of marginalized sections of society. The Modi government's focus on inclusive growth aligns with these ideals by ensuring welfare programs reach all communities regardless of political affiliations or voting patterns.

Conclusion

India's progress in reducing poverty over the last decade is a testament to effective governance and inclusive policies that prioritize marginalized groups' welfare. While challenges remain, the country's success in eliminating extreme poverty and halving multidimensional poverty reflects its commitment to democratic principles of equity and social upliftment.

Source: [The Indian Express](#)



2. DAILY CURRENT AFFAIRS

[2.1] Study on Child Labour in India based on Court Data

Syllabus - Society [GS Paper-1]

Context

A study on child labour by by Enfold and CivicDataLab, based on judicial records from the e-Courts platform differs from NCRB and discovered more child labour cases in six states.

Key Highlights

- **Discrepancy in Data:** Judicial information exhibits eight times more child labour cases than mentioned by NCRB.
 - NCRB reviews 1,329 cases (2015-2022) under the Child and Adolescent Labour (Prohibition and Regulation) Act, 1986.
 - E-Courts information suggests 9,193 trials within the same period, a significant growth.
 - 10,800 child labour cases had been analyzed across six states: Maharashtra, Assam, Bihar, Jharkhand, Tamil Nadu, and Uttar Pradesh.
- **Issues with NCRB Data:** NCRB follows the “Principal Offence Rule”, counting only the most severe crime in cases with more than one offense.
 - Minor crimes, like child labour, may not be contemplated if they're a part of a larger criminal case.
- **Importance of Data:** Data is fundamental for expertise crime trends and addressing issues like child labour.
 - Helps researchers and teachers create better solutions and guidelines.

Statistics on Child Labour

- **Census 2001:** 1.26 crore running children (age 5-14) out of 25.2 crore general child population.
- **Census 2011:** India had about 10.1 million child labourers aged 5-14 years, representing 3.9% of the total child population in this age group.
- **Gurupadswamy Committee:** It was formed in 1979, to study child labour and advise measures.

Impact of Child Labour on Society

- **Hindered Economic Growth:** Child labour leads to a lack of productivity in the long time as children pass over out on education and skill development.

- **Perpetuation of Poverty:** Children working instead of studying make contributions to the continuation of the poverty cycle, as they may be less probable to steady well-paying jobs as adults.
- **Lack of Skilled Workforce:** Children involved in labour miss out on education, leading to a loss of skilled workers in the future economic system.
- **Social Inequality:** Child labour exacerbates social inequality, as marginalized and economically deprived children are much more likely to be exploited.
- **Weakens Social Progress:** Widespread child labour limits the development of society, because it hinders efforts to enhance education, health, and overall quality of life.

Challenges in Preventing Child Labour in India:

- **Poverty:** Families frequently rely upon children's income for survival, making it hard to eliminate child labour.
- **Lack of Access to Education:** Poor infrastructure and constrained colleges, specifically in rural regions, prevent children from receiving education.
- **Cultural Acceptance:** In some areas, child labour is normalized and seen as a part of family subculture or livelihood.
- **Limited Awareness:** Lack of consciousness among families, employers, and groups about the dangerous effects of child labour.
- **Economic Exploitation:** Demand for reasonably-priced labour in industries like textiles, agriculture, and construction continues to take advantage of children.
- **Migration:** Migrant households in city areas frequently push children into work because of instability and lack of access to education.

Constitutional Provisions

- **Fundamental Rights:**
 - **Article 21A:** The State shall provide free and compulsory education to all children of the age of 6 to 14 years.
 - **Article 24:** Prohibits child labour under 14 years in dangerous employment.
- **Directive Principles of State Policy:**
 - **Article 39(e):** Protects children from exploitation and abuse.
 - **Article 39(f):** Ensures children's development in conditions of dignity and freedom.

Legislative Actions

- **Child Labour (Prohibition & Regulation) Act, 1986:** Prohibited child labour in hazardous occupations and regulated work in different sectors.
- **Amendment (2016):** Prohibited child employment under 14 years in all occupations.
- **National Policy on Child Labour (1987):** Focused on a slow and sequential approach.
- **National Child Labour Project (NCLP):** Provides education, vocational education, and rehabilitation for children rescued from labour in high-awareness regions.
- **Right to Education (RTE) Act, 2009:** Ensures free and compulsory education for children aged 6-14, aiming to maintain them out of the workforce.
- **Mid-Day Meal Scheme:** Encourages school attendance through supplying free meals, reducing the motivation for children to paintings.
- **Labour Inspections and Raids:** State governments conduct normal inspections and raids to become aware of and prevent child labour in industries.
- **Integrated Child Protection Scheme (ICPS):** Provides guide and rehabilitation for children at risk of exploitation and abuse, including child labour.

Source: [The Indian Express](#)

Prelims PYQ

1. International Labour Organization's Conventions 138 and 182 are related to: (2018)

- (a) Child Labour
- (b) Adaptation of agricultural practices to global climate change
- (c) Regulation of food prices and food security
- (d) Gender parity at the workplace

Ans: (a)

- A study on child labour by by Enfold and CivicDataLab, based on judicial records from the e-Courts platform differs from NCRB and discovered more child labour cases in six states.
- **Discrepancy in Data:** Judicial information exhibits eight times more child labour cases than mentioned by NCRB.
- **Issues with NCRB Data:** NCRB follows the “Principal Offence Rule”, counting only the most severe crime in cases with more than one offense.
- **Importance of Data:** Data is fundamental for expertise crime trends and addressing issues like child labour.

[2.2] Concerns regarding Digital Gambling in India

Syllabus - Society [GS Paper-1]

Context

Online gambling is claiming younger lives throughout India, with devastating stories like that of 21-year-old Sai Kiran, who died by suicide after being overwhelmed by debts incurred by on-line gaming.

Rise in Online Gambling

- India's online gaming market is expected at \$3 billion, but the unlawful offshore betting market levels between \$20–30 billion annually. Some estimates even peg it at \$100 billion.
- UNICEF reports that children in India spend over \$1,000 each day online gambling.
- A survey in South India found that 19.5% of college students gamble, with 7.4% displaying signs and symptoms of dependency.
- During popular wearing occasions just like the IPL, illegal betting surges dramatically, with a couple of suicide cases related to growing debts and gambling losses.

Major Reasons for the Rise in Online Gambling

- **Smartphone Penetration & Digital Payments:** Over 600 million Indians use smartphones, and with seamless UPI transactions, access to gambling systems has turned out to be distinctly smooth.
- **Aggressive Digital Marketing:** Betting apps spend as much as 50% in their revenue on influencer promotions and digital commercials. Celebrities and influencers suggest these apps, often disguised as fable activities or recreation reviews, luring unsuspecting customers.

- **Instant Loans with No Checks:** Platforms and associated mortgage apps provide no-documentation, instant credit, encouraging users to borrow and wager without understanding the effects.
- **Psychological Triggers:** Online gaming faucets into praise-searching for conduct. It gives quick gratification, near-omit illusions, and an adrenaline rush, making it incredibly addictive, in particular for children raised in a quick-reward digital life.
- **Weak Enforcement & Offshore Operations:** Most illegal making a bet platforms operate from offshore jurisdictions like Curaçao, Cyprus, China, and Dubai. They make the most tax loopholes, avoid KYC norms, and are almost impossible to tune.

Implications of Online Gambling

- **Mental Health Crisis:** Gambling dependancy ends in tension, melancholy, suicidal ideation, and substance abuse. Many sufferers go through in silence, and some, like Sai Kiran in Telangana, tragically cease their lives because of established debts.
- **Financial Destruction:** Users often borrow from families or mortgage sharks, sell valuables, or default on digital loans. Families lose life savings, and intergenerational debt becomes a real threat.
- **Cybercrime & Money Laundering:** Illegal systems use UPI, crypto wallets, and mule accounts to system over ₹2,500 crore in illicit transactions month-to-month, as per RBI data.
- **Youth Vulnerability:** The illusion of “quick money” appeals strongly to teens beneath stress to earn, hold social repute, or purchase gadgets — making them ideal targets.

Current Regulations

- The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 have been amended in 2023 to modify on-line gaming.
- 28% GST is now levied on gaming firms, but offshore platforms bypass this tax.
- The Telangana Gaming (Amendment) Act, 2017 banned on-line gambling inside the state.
- The GST Council in 2023 mandated that offshore making a bet corporations should be registered with Indian tax authorities — maximum have left out it.

Why is Regulation Difficult?

- Offshore operations make jurisdictional control hard.
- Lack of clear felony difference among “video games of skill” (prison) and “video games of risk” (unlawful) creates a regulatory grey area.
- Digital marketing is fragmented and decentralized, permitting disguised promotions to flourish.
- Influencer advertising loopholes suggest even banned content is repackaged as “gaming blogs” or “gaming reviews.”

Way Ahead

- **Clear and Unified Legislation:** There is a pressing want for a centralised felony framework that simply distinguishes criminal ability gaming from illegal gaming, with stringent consequences for violations.
- **Strengthening Enforcement:** Empower groups like I4C (Indian Cyber Crime Coordination Centre) to screen, study, and take speedy action against rogue apps and influencers.
- **International Collaboration:** Coordinate with worldwide businesses and governments to block unlawful offshore operators and crack down on cross-border financial crimes.
- **Tighter Digital Ad and Influencer Oversight:** Mandate strict KYC for digital advertisers, enforce real-time takedowns, and penalise celebrities and influencers endorsing illegal having a bet structures.

Source: The Indian Express

Mains PYQ

1. Discuss how emerging technologies and globalisation contribute to money laundering. Elaborate measures to tackle the problem of money laundering both at national and international levels. (2021)

- Online gambling is claiming younger lives throughout India, with devastating stories like that of 21-yr-old Sai Kiran, who died by suicide after being overwhelmed by debts incurred by on-line gaming.
- India's online gaming market is expected at \$3 billion, but the unlawful offshore betting market levels between \$20–30 billion annually. Some estimates even peg it at \$100 billion.
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[2.3] '1 person, 1 family': contrast to Vasudhaiva Kutumbakam

Syllabus - Society [GS Paper-1]

Context

Recently, the Supreme Court of India has expressed deep concern over the erosion of traditional family values, highlighting the emergence of a '1 person, 1 own family' tradition, a stark evaluation of India's cultural philosophy of Vasudhaiva Kutumbakam—'the world is one family'.

What is Family?

- A family is a social organization characterized by common house, financial cooperation, and reproduction. It serves as the primary unit of socialization, deeply influencing a person's conduct, identity, and values.
- In Indian society, the family has traditionally held a relevant area—not only as a unit of kinship, however also as a moral, emotional, and financial anchor. It has formed interpersonal dynamics, supplying emotional safety, generational expertise, and social subjects.

Emergence of the '1 Person, 1 Family' Culture

- India, traditionally recognised for its strong joint family system, is witnessing a dramatic transformation in family structures.
- In '1 Person, 1 Family' tradition, people choose living on their own or in nuclear setups, reflecting converting social dynamics, financial aspirations, and shifting personal priorities.
- It is especially noticeable in urban areas, wherein young experts, marketers, or even elderly people are choosing solitude or micro-family structures over huge, interdependent families.

Key Reasons For the Shift

- **Rapid Urbanization and Economic Independence:** India's metropolitan towns evolving into global economic hubs; specialists migrated into urban hubs often preferring to live independently.
 - Data indicates that metros like Mumbai, Bengaluru, and Delhi are witnessing the highest surge in unmarried-character living.
- **Changing Aspirations and Individualism:** In modern cases, children prioritize personal growth, career pursuits, and self-development; the rise of individualism has shifted priorities from family duty to personal success.
 - Traditional hierarchical family systems are being challenged.
- **Delayed Marriages and Changing Relationship Norms:** Many urban Indians are delaying marriages, and trends like live-in relationships, single parenting, and deciding on to remain single are becoming more prevalent in society.
 - Total fertility rate (TFR) has fallen to 2.0 (below the reproduction level), reflecting converting family structures.
- **Economic Pressures:** Rising fee of living and the disturbing pace of modern life often make joint family residing impractical.
- **Influence of Western Lifestyles:** Social media, education, and employment overseas has motivated lifestyle picks in India.
- **Decline in Moral and Ethical Values:** Increasing individualism and materialism has brought about decreased emphasis on virtues like empathy, recognition, honesty, and sacrifice—essential for harmonious family life.

Challenges of the '1 Person, 1 Family' Trend

- **Mental Health Concerns:** Loneliness and isolation can affect individuals, especially older adults and experts operating remotely.
- **Financial Pressure:** Managing hire, utilities, and day by day charges by myself may be luxurious.
- **Declining Family Bonds:** The shift may lead to weaker intergenerational relationships and a fading experience of collective obligation.

Conclusion

- The Supreme Court's concerns about the '1 character, 1 family' culture serve as a rising demand for society to reflect on the values that underpin familial relationships.
- While prison frameworks can address particular disputes, fostering a lifestyle of empathy, respect, and cohesion within households is critical for preserving the social fabric of the nation.

Source: [The ET](#)

Mains PYQ

1. Explore and evaluate the impact of 'Work From Home' on family relationships. (2022)

- Recently, the Supreme Court of India has expressed deep concern over the erosion of traditional family values, highlighting the emergence of a '1 person, 1 own family' tradition, a stark evaluation of India's cultural philosophy of Vasudhaiva Kutumbakam—'the world is one family'.

- India, traditionally recognised for its strong joint family system, is witnessing a dramatic transformation in family structures.
- In ‘1 Person, 1 Family’ tradition, people choose living on their own or in nuclear setups, reflecting converting social dynamics, financial aspirations, and shifting personal priorities.
- It is especially noticeable in urban areas, wherein young experts, marketers, or even elderly people are choosing solitude or micro-family structures over huge, interdependent families.

[2.4] Consequences of Deep-Sea Mining

Syllabus - Geography [GS Paper-1]

Context

A new study, ‘Long-term effect and organic recovery in a deep-sea mining track’, posted in Nature, reveals that a section of the Pacific Ocean seabed mined over 40 years in the past has not yet recovered.

Key Highlights

- The study tested the long-term effect of a small-scale mining experiment performed in 1979 on a segment of the Pacific Ocean seafloor.
- The experiment concerned doing away with polymetallic nodules, and scientists analyzed the affected 8-meter strip at some point of an excursion in 2023.
- **Long-Term Environmental Impact:** The mining brought about lasting modifications inside the sediment and a decline in marine organism populations.
- **Partial Recovery Observed:** While some areas showed little to no restoration, certain animal groups had been beginning to recolonize and repopulate.

Deep Sea Mining

- Deep sea mining entails extracting mineral deposits and metals from the ocean’s seabed.
- It is classified into 3 sorts:
 - Collecting polymetallic nodules from the ocean ground
 - Mining large seafloor sulphide deposits
 - Stripping cobalt crusts from underwater rocks
- **Significance of Deep Sea Mining**
 - These deposits include treasured materials like nickel, rare earth elements, and cobalt, which are vital for renewable energy technologies, batteries, and everyday electronics along with mobile phones and computer systems.
- **Broader Concerns About Deep Sea Mining**
 - Previous studies have warned about terrible results of deep sea mining under 200 meters, including:
 - Harmful noise and vibrations
 - Sediment plumes and light pollution
 - A 2023 study in Current Biology observed that deep sea mining significantly reduces animal populations and has a wider ecological effect than previously estimated.

Significance for Policy and Environmental Debate

- The study presents critical records for assessing the long-term results of deep-sea mining and guiding future guidelines by the International Seabed Authority (ISA).
- www.vajiraoidiasacademy.com

- Findings recommend that while some marine life begins to get higher, full ecosystem recovery remains uncertain and can take many years.
- The studies are part of the Seabed Mining and Resilience to Experimental Impact (SMARTEX) undertaking, which aims to aid knowledgeable selection-making on deep-sea mining's societal and ecological implications.

Technological Developments in Deep Sea Mining

- The engineering strategies for deep sea mining are nonetheless evolving. Companies are exploring:
 - Vacuum-based extraction the usage of massive pumps
 - AI-pushed deep-sea robots to selectively pick up nodules
 - Advanced underwater machines to mine materials from underwater mountains and volcanoes

Deep-Sea Mining and Its Future

- The Clarion Clipperton Zone (CCZ) is a widespread, mineral-rich area in the Pacific Ocean, home to specific deep-sea biodiversity and important steel assets.
- CCZ is a substantial area in the North Pacific Ocean between Hawaii and Mexico.
- It is thought to hold big volumes of polymetallic nodules containing minerals utilized in electric cars and solar panels which includes manganese, nickel, copper, and cobalt.
- Governments and corporations are an increasing number considering deep-sea mining to satisfy global demand for critical minerals wished in renewable energy and technology.
- The ISA is presently comparing whether and under what conditions deep-sea mining has to be approved.

Source: [The Indian Express](#)

Mains PYQ

1. Critically evaluate the various resources of the oceans which can be harnessed to meet the resource crisis in the world. (2014)

- A new study, 'Long-term effect and organic recovery in a deep-sea mining track', posted in Nature, reveals that a section of the Pacific Ocean seabed mined over 40 years in the past has not yet recovered.
- The study tested the long-term effect of a small-scale mining experiment performed in 1979 on a segment of the Pacific Ocean seafloor.
- The experiment concerned doing away with polymetallic nodules, and scientists analyzed the affected 8-meter strip at some point of an excursion in 2023.
- **Long-Term Environmental Impact:** The mining brought about lasting modifications inside the sediment and a decline in marine organism populations.
- **Partial Recovery Observed:** While some areas showed little to no restoration, certain animal groups had been beginning to recolonize and repopulate.

[2.5] Labour Code Implementation in India

Syllabus - Economy [GS Paper-3]

Context

The Labour Standing Committee of Parliament has pulled up the Union Labour Ministry for no longer convening the Indian Labour Conference (ILC) over the past 10 years.

Key Highlights

- India's labour regulatory landscape underwent a landmark transformation with the consolidation of 29 imperative labour legal guidelines into 4 comprehensive Labour Codes between 2019 and 2020.
- The move aimed to simplify the regulatory framework, enhance ease of doing business, and ensure wider coverage of social and labour security to workers across formal and informal sectors.
- Despite their passage in Parliament, those codes are yet to be completely operationalised due to delays in framing and enforcing guidelines by States.
- A recent report by the Parliamentary Standing Committee on Labour, Textiles, and Skill Development has entreated the Ministry of Labour and Employment to expedite the technique and also reconvene the long-pending Indian Labour Conference (ILC).

Overview of the Four Labour Codes

- **The Code on Wages, 2019**
 - This code amalgamates 4 current laws related to wages, including the Minimum Wages Act and the Payment of Wages Act.
 - It ensures standard minimum wage insurance throughout employment types and streamlines payment procedures.
- **The Industrial Relations Code, 2020**
 - This code consolidates legal guidelines governing trade unions, industrial disputes, and situations for layoffs and closures.
 - It aims to create a stability between worker rights and employer flexibility and introduces provisions for constant-time period employment.
- **The Social Security Code, 2020**
 - Covering various benefits including provident fund, gratuity, maternity services, and health insurance, this code brings both organised and unorganised sector workers under a common social security net.
 - It also permits the creation of social safety funds for gig and platform workers.
- **The Occupational Safety, Health and Working Conditions Code, 2020**
 - This code amalgamates 13 existing laws and addresses the safety, health, and welfare conditions of workers across specific establishments.
 - It consists of provisions for running hours, welfare centers, and appointment of safety officers.

Labour Code Implementation and Revival of Tripartite Dialogue

- **Progress on Rulemaking**
 - As of early 2024, 32 States and Union Territories had pre-posted regulations under all 4 codes. However, States like West Bengal and Lakshadweep had not done so.

- The committee noted that rule publication does not equate to enforcement and careworn the need for actual on-ground implementation, supported by administrative readiness and recognition drives.
- **Tripartite Consultations and the Indian Labour Conference**
 - The committee criticised the Ministry for not preserving the Indian Labour Conference (ILC) due to the fact 2015.
 - The ILC is India's primary platform for tripartite dialogue between government, employers, and worker unions.
 - The committee argued that any such forum is critical, particularly during structural reforms like the rollout of the labour codes.
 - Despite more than one request by trade unions and stakeholders, the Ministry had not shared any timeline for the subsequent ILC session.
 - The committee emphasized that casual or bilateral consultations can't replace the institutional importance of the ILC.

Way Forward

- **The committee's report strongly encouraged for:**
 - Expedited implementation of the 4 labour codes via near coordination with State governments
 - Resumption of the Indian Labour Conference to ensure inclusive policy making
 - Capacity-constructing efforts for labour officials to ensure effective rule enforcement
 - Data-driven monitoring mechanisms to evaluate the real-world impact of the labour reforms
- Given India's unexpectedly converting employment landscape, marked via gig work, platform-based jobs, and informal labour, such reforms are vital to ensuring worker safety, job formalisation, and financial inclusivity.

Source: [The Hindu](#)

Mains PYQ

1. "Success of 'Make in India' programme depends on the success of 'Skill India' programme and radical labour reforms." Discuss with logical arguments. (2015)

- The Labour Standing Committee of Parliament has pulled up the Union Labour Ministry for no longer convening the Indian Labour Conference (ILC) over the past 10 years.
- India's labour regulatory landscape underwent a landmark transformation with the consolidation of 29 imperative labour legal guidelines into 4 comprehensive Labour Codes between 2019 and 2020.
- The move aimed to simplify the regulatory framework, enhance ease of doing business, and ensure wider coverage of social and labour security to workers across formal and informal sectors.
- Despite their passage in Parliament, those codes are yet to be completely operationalised due to delays in framing and enforcing guidelines by States.
- A recent report by the Parliamentary Standing Committee on Labour, Textiles, and Skill Development has entreated the Ministry of Labour and Employment to expedite the technique and also reconvene the long-pending Indian Labour Conference (ILC).

[2.6] Sarhul Festival

Syllabus - History [GS Paper-1]

Context

Adivasis in Jharkhand and the Chhotanagpur area will celebrate the Sarhul pageant on April 1, 2025 to mark the new year and the arrival of spring.

Key Highlights

- Sarhul is the festival of the New Year celebrated in the state of Jharkhand by the tribal communities as a part of the local Sarna religion.
- It is widely known in the Hindu month of Chaitra, 3 days after the appearance of the new moon.
- It is also a celebration of the beginning of spring.

Nature Worship in Sarhul

- Sarhul, which means "worship of the Sal tree," is a substantial Adivasi festival rooted in nature worship.
- The Sal tree is respected as the domicile of Sama Maa, the village-protecting deity.
- **Symbolic Union of Sun and Earth**
 - The pageant symbolizes the union of the Sun and the Earth.
 - A pahan (male priest) represents the Sun, while his wife (pahen) symbolizes the Earth, signifying the essential connection between daylight and soil for maintaining lifestyles.
- **Celebration of Life's Cycle**
 - Sarhul marks the renewal of life.
 - Only after its rituals are finished do Adivasis begin agricultural activities like ploughing, sowing, and forest accumulating, emphasizing the festival's deep ties to nature and sustenance.

Sarhul Among Different Tribes

- Sarhul is well known by various tribes, consisting of the Oraon, Munda, Santal, Khadia, and Ho, each with precise names and traditions related to the festival.
- **Evolution from Hunting to Agriculture**
 - Anthropologists cited that Sarhul in the beginning centered around searching but steadily advanced into an agriculture based pageant, reflecting the converting lifestyle of Adivasis in Chhotanagpur.
- **Sarhul's Journey Beyond Chhotanagpur**
 - In the 19th and early 20th centuries, Adivasi communities, which includes the Munda, Oraon, and Santal, carried Sarhul with them once they had been sent as indentured people to distant lands.
 - Today, Sarhul is celebrated from Assam's tea gardens, to the Andaman and Nicobar Islands, Nepal, Bangladesh, and Bhutan.

Sarhul: Three-day festival

- Sarhul is a 3-day festival celebrated at Sarna Sthals, sacred groves near villages in Jharkhand, Chhattisgarh, Odisha, and Bihar. These groves are important to the festival's rituals.

- **Preparations and First Day**
 - Homes and Sarna Sthals are adorned with triangular pink and white Sama flags.
 - The pahan (priest) observes a fast, collects ceremonial water, and oversees the cleansing of homes and sacred sites. Sal plants are amassed for rituals.
- **Main Rituals on the Second Day**
 - The foremost ceremonies take place on the Sarna Sthal, wherein Sal flowers are provided to the deity and a chicken is sacrificed for prosperity and a terrific harvest.
 - Holy water is sprinkled, and villagers perform traditional dances like Jadur, Gena, and Por Jadur.
 - Young men additionally participate in ceremonial fishing and crab-catching.
- **Final Day: Community Feast and Blessings**
 - The pageant concludes with a grand community banquet, where humans share handia (rice beer) and traditional cuisine.
 - The pahan blesses the villagers, marking the end of the celebrations.

Significance of Sarhul

- **Sarhul: A Festival Where Nature Takes Center Stage:** Unlike mainstream Indian gala's that celebrate human achievements, Sarhul Festival honors nature, with the Sal tree as its leader.
- **A Festival Without Idols: Pure Worship of Nature:** Sarhul's rituals are refreshingly easy—no idols or temple processions, only deep reverence for nature.
- **Preserving Adivasi Heritage in a Changing World:** As urbanization threatens tribal traditions, Sarhul stands as a cultural movement reinforcing Adivasi identification.
- **A Lesson for Modern Celebrations:** It teaches that real party lies in respecting nature, not in extravagance.

Source: [The Indian Express](#)

- Adivasis in Jharkhand and the Chhotanagpur area will celebrate the Sarhul pageant on April 1, 2025 to mark the new year and the arrival of spring.
- Sarhul is the festival of the New Year celebrated in the state of Jharkhand by the tribal communities as a part of the local Sarna religion.
- It is widely known in the Hindu month of Chaitra, 3 days after the appearance of the new moon.
- It is also a celebration of the beginning of spring.

[2.7] Implant of 'Blindsight' chip in first human by 2025

Syllabus - Science and Tech [GS Paper-3]

Context

Elon Musk's brain-chip startup Neuralink has announced ambitious plans to begin human trials of its visual prosthesis device, "Blindsight" by the end of 2025.

Key Highlights

- This brain-computer interface (BCI) aims to repair vision in those who are absolutely blind.

Blindsight

- Blindsight is an experimental artificial vision device that:
 - Uses a microelectrode array implanted in the visual cortex of the brain.
 - Bypasses the eyes and optic nerves totally.
 - Processes visual information from a digicam feed and stimulates neurons within the brain's visible center, allowing perception of images.

About Brain Computer Interfaces BCIs

- A Brain-Computer Interface (BCI) is a computer-based device that:
 - Acquires brain alerts
 - Analyzes them
 - Translates them into commands
 - Sends those commands to external devices to perform a desired action
- Unlike traditional motor control (e.g., flipping a light transfer), BCIs permit customers to control devices immediately using brain activity, bypassing the body's muscle tissues and peripheral nerves.
- BCIs may be extensively labeled as:
 - **Invasive:** Electrodes are surgically implanted at once into the brain. These provide high signal nice but deliver dangers related to surgery.
 - **Non-invasive:** Sensors are positioned at the scalp (e.g., EEG headsets). These are safer but have lower signal quality.
 - **Partially invasive:** Electrodes are placed within the skull however outside the brain tissue.

Applications

- **Healthcare:** Diagnosing brain problems, assistive technologies for physically challenged people etc.
- **Communication and Control:** Decoding of mind, smart device control, environmental auto-adjustment structures and so forth.
- **Commercial Applications:** Transportation, Advertisements etc.
- **Others:** Games and entertainment, safety and authentication, neurofeedback and enhancement of brain features and so on.

Concerns

- **Usability assignment:** Limitations to user recognition of BCI technology usage.
- **Safety Issues:** Tissue damage, seizures, cognitive impairment and so on. And long-term effects which include are not fully understood.
- Ethical concerns regarding informed consent.

Source: [The Indian Express](#)

Mains PYQ

1. *Emerging Brain computer interface technologies are blurring the lines between human and machine interaction. Analyze the ethical implications associated with BCIs.*

- Elon Musk’s brain-chip startup Neuralink has announced ambitious plans to begin human trials of its visual prosthesis device, “Blindsight” by the end of 2025.
- This brain-computer interface (BCI) aims to repair vision in those who are absolutely blind.
- Blindsight is an experimental artificial vision device that:
 - Uses a microelectrode array implanted in the visual cortex of the brain.
 - Bypasses the eyes and optic nerves totally.
 - Processes visual information from a digicam feed and stimulates neurons within the brain’s visible center, allowing perception of images.

[2.8] Vibe Coding: an AI Coding Tool

Syllabus - Science and Tech [GS Paper-3]

Context

In February 2025, OpenAI co-founder Andrej Karpathy coined a new term called “Vibe Coding”.

Key Highlights

- **Definition:** Vibe coding is an intuitive, prompt-driven approach to software program development, in which customers engage with LLMs (Large Language Models) like ChatGPT, Cursor, or Sonnet to generate and debug code without deep programming understanding.
 - Vibe coding emphasizes ‘feeling the vibes’ over structured programming logic, making it especially proper for low-risk, innovative, or personal projects wherein precision isn’t the primary issue.
- **Working:** The person types a simple-language activate describing the characteristic or tool they need.
 - The AI generates code and suggests improvements or fixes.
 - The user copies, pastes, and runs the code with minimal engagement in debugging or knowledge.

Advantages of Vibe Coding

- **Accessibility for Non-Programmers:** Allows creatives, marketers, and students to construct apps or web sites without formal education.
- **Boosts Creativity & Experimentation:** Encourages rapid prototyping and iterative checking out.
 - Exposes new users to different programming languages and ideas.
- **Time-Saving for Developers:** Helps pro developers automate repetitive tasks, debug small issues, or draft boilerplate code speedy.
- **Gateway to Learning:** Serves as a stepping stone for novices to transition into critical coding by sparking interest.

Disadvantages

- **Code Quality & Efficiency:** AI may generate bloated, inefficient, or redundant code.
 - Results frequently lack optimization, making maintenance more difficult and more expensive.
- **Security Risks:** AI-generated code could possibly introduce vulnerabilities, especially if users don’t evaluate it.

- **Loss of Understanding:** Vibe coders frequently don't understand the code they use, making future editing or scaling tough.
 - "Accept All" culture (blindly accepting modifications) will increase chance.
- **Ethical and Legal Issues:** Raises concerns of plagiarism, in particular in hackathons or job packages.
- **Unsuitable for Critical Applications:** Not fit for organization, medical, economic, or commercial-grade structures that require precision and reliability.

Concerns

- Though, AI coding tools are advancing unexpectedly, they:
 - Lack deep contextual understanding
 - Struggle with long-term maintainability
 - Are nevertheless experimental and mistakes-inclined

Source: [The Indian Express](#)

Prelims PYQ

1. With the present state of development, Artificial Intelligence can effectively do which of the following? (2020)

- 1. Bring down electricity consumption in industrial units*
- 2. Create meaningful short stories and songs*
- 3. Disease diagnosis*
- 4. Text-to-Speech Conversion*
- 5. Wireless transmission of electrical energy*

Select the correct answer using the code given below:

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

Ans: (b)

- In February 2025, OpenAI co-founder Andrej Karpathy coined a new term called "Vibe Coding".
- **Definition:** Vibe coding is an intuitive, prompt-driven approach to software program development, in which customers engage with LLMs (Large Language Models) like ChatGPT, Cursor, or Sonnet to generate and debug code without deep programming understanding.
- **Working:** The person types a simple-language activate describing the characteristic or tool they need.

[2.9] Energy Statistics India 2025

Syllabus - Economy [GS Paper-3]

Context

Recently, the Ministry of Statistics and Programme Implementation (MoSPI) has unveiled its annual e-book, 'Energy Statistics India 2025', by the National Statistics Office (NSO).

Key Highlights

- **Total Energy Supply and Demand:**

- **Supply:** Approximately 1,800 Million Tonnes of Oil Equivalent (MToE), reflecting an annual growth of 4.5% compared to 2024.
- **Demand:** It is driven in general by commercial growth (40%), transportation (25%), and residential intake (20%).

- **Energy Mix (Sources and Shares):**

- Coal: 48%
- Oil: 28%
- Natural Gas: 8%
- Renewables (Solar, Wind, Hydro, Biomass): 12%
- Nuclear: 4%

Fossil Fuel Reserves and Production

- **Coal Reserves and Production:** The distribution of coal reserves in India is concentrated in some states like Odisha (25.47%), Jharkhand (23.58%), Chhattisgarh (21.23%), West Bengal (8.72%) and Madhya Pradesh (8.43%).
 - These states account for about 85% of the overall coal reserves in India.
 - Total anticipated reserves of lignite as on 01-04-2024 stood at 47.30 billion tonnes. The maximum reserves of lignite are positioned in the country of Tamil Nadu (79%).
 - **Annual coal manufacturing:** 950 million tonnes, meeting 85% of domestic demand.
 - India remains the second-largest coal producer globally, after China.
- **Crude Oil:** Geographically, the most crude oil reserves in India are concentrated within the Western Offshore vicinity (32% of the overall crude oil reserves). It is observed by the Assam region (22% of the country's crude oil reserves).
- **Natural Gas Reserves:** Largest reserves of natural gasoline in India are placed in the Western Offshore area (about 31% of the whole natural gas reserves). It is followed through the Eastern Offshore (approx 24% of the reserves).

Renewable Energy Growth

- **Potentials:** Wind energy dominates proportion (around 55%), accompanied by Solar Energy and Large Hydro.
- **Geographical Distribution of Renewable Energy Potential:** More than half of the potential for generation of renewable energy has been concentrated in the 4 States of India viz. Rajasthan (20.3%), Maharashtra (11.8%), Gujarat (10.5%) and Karnataka (9.8%).
 - Source clever expected capability of renewable energy in india
- **Solar and Wind energy Expansion:** The National Solar Mission and Wind Energy Development Programme have performed a critical role in accomplishing these milestones:
- **Solar energy Capacity:** 175 GW (up from 150 GW in 2024)

- **Wind energy Capacity:** 50 GW (up from 45 GW in 2024)
- **Hydro and Biomass Energy:**
 - **Hydropower:** 52 GW, supplying 12% of total energy generation.
 - **Biomass and Waste-to-Energy:** 15 GW, contributing to sustainable energy practices in rural regions.
- **Electricity Generation and Consumption Trends:**
 - **Installed Capacity and Generation:** India's total installed power generation capability stands at 450 GW, an increase from 420 GW in 2024.
 - **Total power generation:** 1,700 TWh (terawatt-hours).
 - **Per capita energy consumption:** 1,500 kWh per year, reflecting financial growth and urbanization.

Energy Efficiency and Sustainability Measures

- **Government Policies and Initiatives:**
 - **National Hydrogen Mission:** Promoting Green Hydrogen production for commercial use.
 - **Perform, Achieve, and Trade (PAT) Scheme:** Encouraging industries to undertake energy-efficient technology.
 - **Faster Adoption of Electric Vehicles (FAME-III):** Boosting EV sales and charging infrastructure.
- **Carbon Emissions and Climate Targets:**
 - India's carbon emissions in 2025 are projected at 2.9 billion tonnes CO₂, a 4% decline due to elevated renewable energy utilization.
 - Commitment to net-zero emissions by 2070 remains an extended-term goal.

Future Outlook

- **Future Energy Projections (2026-2030):**
 - Renewable electricity share is expected to reach 25% by 2030.
 - Energy demand will maintain growing at 5% annually, driven through financial enlargement.

Challenges Ahead

- **Dependence on Fossil Fuels:** India still relies closely on coal and imported crude oil.
- **Energy Security Risks:** Geopolitical uncertainties have an effect on oil and fuel imports.
- **Infrastructure Bottlenecks:** Need for grid modernization and storage solutions for renewables.

Source: [The MoSPI](#)

Mains PYQ

1. The question of India's Energy Security constitutes the most important part of India's economic progress. Analyse India's energy policy cooperation with West Asian countries. (2017)

- Recently, the Ministry of Statistics and Programme Implementation (MoSPI) has unveiled its annual e-book, '**Energy Statistics India 2025**', by the National Statistics Office (NSO).

- **Total Energy Supply and Demand:**

- **Supply:** Approximately 1,800 Million Tonnes of Oil Equivalent (MToE), reflecting an annual growth of 4.5% compared to 2024.
- **Demand:** It is driven in general by commercial growth (40%), transportation (25%), and residential intake (20%).

- **Energy Mix (Sources and Shares):**

- Coal: 48%
- Oil: 28%
- Natural Gas: 8%
- Renewables (Solar, Wind, Hydro, Biomass): 12%
- Nuclear: 4%

[2.10] Major Reforms in Waqf Governance

Syllabus: Governance [GS Paper-2]

Context

The Union government is set to table the Waqf (Amendment) Bill, 2024, in the Lok Sabha on April 2, 2025, during the final week of the budget session. This proposed legislation seeks to reform the governance and regulation of waqf properties in India, aiming to enhance transparency, accountability, and inclusivity in waqf boards. However, the bill has sparked significant political debate and opposition due to its sweeping changes.

Understanding Waqf

- Waqf refers to a permanent dedication of property by an individual for purposes recognized as pious, religious, or charitable under Muslim law. Examples include maintaining mosques, graveyards, establishing educational institutions, and providing aid to the poor. Governed by the Wakf Act of 1995, waqf properties are managed by administrators (mutawallis) and overseen by Waqf Boards.
- India has approximately 8.7 lakh registered waqf properties—the largest holding globally—with an estimated market value of ₹1.2 lakh crore as per the Sachar Committee (2006). However, issues such as incomplete surveys and arbitrary claims have plagued waqf management over the years.

Key Features of the Waqf (Amendment) Bill

The Waqf (Amendment) Bill introduces around 40 amendments to the existing law. Major provisions include:

1. Changes in Composition

- **Central Wakf Council:** The bill calls for non-Muslim members to be inducted into the Council. Earlier, all except the Union Minister were required to be Muslims.
- **State Wakf Boards:** Bill permits state governments to nominate members from diverse representation (from MPs, MLAs, and members of the Bar Council) irrespective of religion. In turn, representation has also to be given to Shias, Sunnis, backward classes of Muslims, and women.

2. Formation of Waqf

- Only individuals practicing Islam for at least five years can declare waqf properties.
- The bill removes "waqf by user," which previously allowed properties used for religious purposes over time to be designated as waqf without formal declaration.

3. Survey and Ownership

- The Survey Commissioner is replaced by the District Collector for conducting surveys of waqf properties.
- Government property identified as waqf will cease to be waqf; ownership disputes will be resolved by Collectors with reports submitted to state governments.

4. Appeals and Tribunal Decisions

- The finality of decisions made by Waqf Tribunals is revoked. Parties can directly appeal to High Courts.

Rationale Behind Amendments

The government argues that these changes aim to modernize an archaic system and align it with practices in other Islamic nations where extensive powers are not vested in a single entity. It seeks to prevent misuse of waqf properties and ensure greater inclusivity and transparency in governance. For instance:

- Mandatory inclusion of women addresses long-standing demands from within the Muslim community.
- Verification processes aim to curtail arbitrary claims on properties by Waqf Boards.

Controversies Surrounding the Bill

The bill has faced stiff resistance from opposition parties and sections of civil society. Key objections include:

- **Impact on Muslim Autonomy:** Critics argue that mandatory inclusion of non-Muslim members dilutes Muslim representation in institutions managing Islamic endowments.
- **Removal of Experts:** Excluding experts in Muslim law from Waqf Tribunals may compromise dispute resolution mechanisms.
- **Property Ownership Concerns:** Delegating authority to District Collectors for determining ownership may lead to bias or misuse.

Opposition parties have labeled the bill as an "assault on India's Constitution" and an attempt to disrupt social harmony in a multi-religious society.

Support for Reforms

Despite opposition, several organizations have expressed support for the amendments:

- Syed Naseruddin Chishty, Chairman of the All India Sufi Sajjada Nashin Council (AISSC), urged Muslims not to be swayed by emotional rhetoric.
- The Catholic Bishops Conference of India (CBCI) endorsed reforms for unbiased governance.

Conclusion

The Waqf (Amendment) Bill represents a significant shift in India's approach toward managing Islamic charitable endowments. While its proponents highlight modernization and inclusivity as key benefits, critics warn against undermining religious autonomy and creating potential conflicts over property ownership. As debates unfold in Parliament on April 2, its passage will likely have far-reaching implications for India's socio-political landscape and minority rights.

Source: [HT](#)

UPSC Prelims Practice Question

Q. Consider the following statements regarding the Waqf (Amendment) Bill, 2024:

1. The bill seeks to enhance transparency, accountability, and inclusivity in waqf boards.
2. Waqf properties in India are governed under the Ministry of Home Affairs.
3. The Waqf Act, 1995, is the primary legislation that regulates waqf properties in India.

Which of the statements given above is/are correct?

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

Ans. – C

[2.11] Rising Rainfall in Western Ghats Over Centuries

Syllabus: Geography [GS Paper-1], Environment [GS Paper-3]

Context

The Western Ghats, a UNESCO World Heritage site, is a 1600-km-long mountain range parallel to India's western coast. Known for its rich biodiversity and significant role in India's monsoon system, this region has witnessed notable changes in rainfall patterns over the last century. Recent studies reveal an increase in rainfall in the northern parts and a decrease in the southern regions, raising concerns about long-term environmental sustainability and the need for adaptive policies.

Changing Rainfall Trends

Regional Variations

- Northern Western Ghats: From 1931 to 2015, rainfall increased by 2% per decade. This rise is attributed to a northerly shift in the low-level jet stream (LLJ), caused by abnormal sea surface temperature increases in the Arabian Sea and northern India.
- Southern Western Ghats: Rainfall decreased by 3% per decade during the same period. This reduction is alarming as it affects water availability and agricultural productivity.

Decadal Variability

A study analyzing rainfall data from 1901 to 2010 identified three distinct periods:

- **1901–1942:** Positive correlation with Indian Ocean Dipole (IOD) changes.
- **1943–1977:** Transition phase with moderate variability.
- **1978–2010:** High inter-annual variability influenced by Pacific Decadal Oscillation (PDO), leading to alternating excess and deficit rainfall years.

Factors Driving Rainfall Changes

- **Sea Surface Temperature Rise:** The increase in sea surface temperatures in the Arabian Sea has influenced the LLJ's movement, altering moisture distribution across the Western Ghats.
- **Global Climatic Influences:**
 - The Pacific Decadal Oscillation (PDO) and Indian Ocean Dipole (IOD) have played significant roles in modulating monsoon rainfall. Post-1978, PDO's influence became more prominent, correlating with increased rainfall variability.

- Orographic effects of the Western Ghats continue to shape localized rainfall patterns, especially on the windward side.
- **Water Vapor Recycling:** Studies using isotopic analysis indicate strong water vapor recycling along the foothills of the Western Ghats, particularly in smaller basins like Swarna. Larger basins like Nethravati show seasonal variability influenced by winter monsoons.

Impacts of Rainfall Changes

- **Agriculture:** The uneven distribution of rainfall affects crop yields and water availability for irrigation. Northern regions may face challenges from excessive rainfall, while southern areas struggle with deficit.
- **Ecosystems:** The biodiversity-rich Western Ghats are sensitive to climatic changes. Reduced rainfall in southern regions can threaten endemic species reliant on consistent water availability.
- **Water Resources Management:** The lack of sustainable water budgeting exacerbates challenges posed by these changes. High demographic pressure and dry pre-monsoon seasons further strain water resources.

Policy Recommendations

- **Adaptive Water Management:** State governments must prioritize rainwater harvesting through micro-irrigation projects and mini-hydropower initiatives to address regional disparities in rainfall patterns.
- **Long-Term Forecasting:** Developing decadal predictions for monsoon variability can help policymakers plan better for agricultural and water resource management. Current forecasting systems focus only on short-term predictions.
- **Climate Mitigation Strategies:** Efforts should focus on reducing sea surface temperature anomalies through global climate agreements and localized measures like afforestation to stabilize atmospheric systems influencing monsoons.

Conclusion

The Western Ghats' changing rainfall patterns underscore the urgency for long-term environmental policies. While northern regions experience increased wetness, southern areas face alarming deficits that threaten agriculture, ecosystems, and water resources. By adopting adaptive strategies and improving forecasting capabilities, India can mitigate risks associated with intensifying monsoon variability and ensure sustainable development in this ecologically critical region.

Source: [The Hindu](#)

UPSC Mains Practice Question

Q. The Western Ghats is one of the eight "hottest hot spots" of biological diversity in the world. Discuss the ecological significance of the region and analyze the challenges in its conservation. Suggest measures for sustainable development in the Western Ghats.

[2.12] AFSPA Extended in Manipur, Nagaland & Arunachal Pradesh

Syllabus: Governance [GS Paper-2]

Context

The Central Government of India has announced the extension of the Armed Forces (Special Powers) Act (AFSPA) in several districts of Manipur, Nagaland, and Arunachal Pradesh for another six months, effective from April 1, 2025. This decision comes amid ongoing security concerns and unrest in these northeastern states.

What is AFSPA?

AFSPA, enacted in 1958, grants special powers to the armed forces in regions declared as 'disturbed areas.' These powers include:

- Prohibiting gatherings and imposing restrictions on movement.
- Conducting searches and arrests without warrants.
- Using force, including lethal measures, if deemed necessary for public order.

AFSPA has been controversial due to concerns over human rights violations. Critics argue that it provides sweeping powers with limited accountability, while proponents emphasize its necessity for combating insurgency and maintaining national security.

Background of AFSPA

The Armed Forces (Special Powers) Act was enacted in 1958 to address the insurgency and law and order challenges in the northeastern states of India. It grants special powers to the armed forces in designated "disturbed areas," allowing them to conduct searches, make arrests, and use force, including lethal force, without prior approval. The Act has been a subject of intense debate, with proponents arguing it is essential for national security, while critics highlight its potential for human rights abuses.

Current Situation in Manipur

- **Ethnic Violence and President's Rule:** Beginning in May 2023, Manipur saw huge ethnic violence, mainly between the Meitei and Kuki communities. The violence has thus far resulted in over 250 deaths and large-scale displacement. In view of the deteriorating security situation, President's Rule was imposed in Manipur on February 13, 2025, after the resignation of Chief Minister N Biren Singh.
- **Details of Extension of AFSPA:** The extension of AFSPA in Manipur applies to the whole state except for the areas covered by 13 police stations in five districts: Imphal West, Imphal East, Thoubal, Bishnupur, and Kakching. MHA declared that this action was taken after a detailed review of the law-and-order situation in the state, which is still considered disturbed as referred to under Section 3 of AFSPA.

Extension in Nagaland

- **Areas Affected:** The AFSPA law has, therefore, been extended to eight districts in Nagaland. They are Dimapur, Niuland, Chumoukedima, Mon, Kiphire, Noklak, Phek, and Peren. It also applies to 21 police station areas in five other districts. The government, however, derives this extension on security grounds.
- **Historical Context:** Nagaland is known for a history of insurgency and autonomy demands. Even here, the imposition of AFSPA rules several contrived arguments. The extension shows that the same tensions are prevalent with regard to government opinion on military deployment to maintain order.

Extension in Arunachal Pradesh

- **Affected Districts:** In Arunachal Pradesh, AFSPA would apply to Tirap, Changlang, and Longding districts. Besides, it should apply to areas of the Namsai district which border Assam. This trend has been similar in extensions concerning Manipur and Nagaland and is based on security assessments that there are still volatile areas in those parts.
- **Implications for Local Communities:** AFSPA is much more than a law; it also affects local communities. It will bring order and restore peace from insurgency. However, it also brings with it questions of civil liberty and violations of human rights. Local activists have always questioned the applicability of this law, whether in terms of repeal or amendment, because of the abuses meted out to the people by security forces.

Government's Justification

The MHA justified the extension by highlighting the need for a robust security framework to prevent further escalation of violence. The government plans periodic reviews of the situation to assess whether these powers remain necessary or if modifications can be made.

Conclusion

The extension of AFSPA in Manipur, Nagaland, and Arunachal Pradesh underscores ongoing security challenges faced by these northeastern states. While the government cites security concerns as justification for maintaining military presence under this controversial law, it also highlights a critical need for dialogue and conflict resolution strategies that address underlying issues rather than relying solely on military measures. As tensions persist and calls for reform grow louder, the future application of AFSPA will likely remain a contentious issue within India's broader discourse on governance and human rights in conflict-affected regions.

Source: [The Hindu](#)

UPSC Mains Practice Question

Q. The Armed Forces (Special Powers) Act (AFSPA) has been a subject of debate due to its implications on human rights and internal security. Critically analyze the need for AFSPA in conflict-prone regions while suggesting measures to balance security concerns with civil liberties.

[2.13] Free Speech: A Pillar of Civilized Society

Syllabus: Indian Polity [GS Paper-2]

Context

The Supreme Court of India recently delivered a significant judgment by quashing an FIR against Congress MP Imran Pratapgarhi, underscoring the importance of free speech as a cornerstone of a healthy, civilized society. This ruling reaffirms the constitutional guarantees under Articles 19(1) and 21 and highlights the judiciary's role in safeguarding fundamental rights against arbitrary restrictions.

Introduction

Freedom of speech is a cornerstone of democratic societies, enabling individuals to express their thoughts, ideas, and opinions without fear of retaliation or censorship. Recognized as a fundamental human right under Article 19 of the Universal Declaration of Human Rights (UDHR), free speech

plays a crucial role in fostering pluralism, accountability, and social progress. The Supreme Court of India has reiterated its significance, emphasizing that free speech is indispensable for the functioning of a healthy and civilized society.

Understanding Freedom of Speech

Freedom of speech refers to the right to express one's opinions publicly without government interference or legal repercussions. It encompasses not only verbal communication but also artistic expression, protests, and the dissemination of information across various media platforms. However, this right is not absolute; it carries responsibilities and may be subject to restrictions to protect public order, national security, or the rights and reputations of others.

Role in Democracy

- **Pluralism Promotion:** Free speech is the solid ground on which democracy stands. It facilitates open dialog and debate so that pluralism becomes the identity of society in which different attitudes can embroil. The public would not limit such an exchange thereby ensuring that the governance is instituted based on what the people speak toward and thus mirror democracy.
- **Accountability and Transparency:** Freedom of speech means the ability to speak, opine, and criticize those under whose authority one operates, about accountability and good governance. It's a bulwark against tyranny: no one was so sure that they could abuse their powers and deny the accusations but lettered into the empowerment of the general public. Whistle-blowers and investigative journalists use free speech to actually expose the systemic malaise.
- **Informed Electorate:** An informed electorate is critical for making democratic decisions. Free speech assures access to the right information that enables citizens to make informed decisions regarding policies and elected leaders. Suppression or denial would, in itself, undermine principles at the heart of democracy.

Social Progress Through Free Speech

- **Battling Injustice:** Historically, free speech has been instrumental in advancing social justice movements such as women's suffrage, civil rights, and LGBTQ+ equality. Frederick Douglass aptly described it as the "dread of tyrants," highlighting its role in challenging oppressive systems.
- **Encouraging Innovation:** John Stuart Mill argued that unrestricted discourse drives intellectual progress by allowing truth to emerge through debate. Suppressing ideas stifles innovation in science, politics, and law.
- **Safety Valve for Societal Frustrations:** Thomas Emerson described free speech as a "safety valve" that prevents societal unrest by providing an outlet for grievances. Open discussion helps maintain stability while allowing necessary change.

Challenges to Free Speech

Despite its importance, free speech faces numerous challenges globally:

- **Censorship:** Governments often suppress dissent under the guise of protecting national security or combating hate speech. Such actions can stifle legitimate criticism and activism.
- **Digital Age Threats:** In the information age, internet censorship and surveillance pose significant threats to freedom of expression. Countries like China and North Korea exemplify state-sponsored suppression of online discourse.
- **Balancing Rights:** The exercise of free speech must balance with other rights, such as protecting individuals from defamation or hate speech. Striking this balance remains a complex issue in legal frameworks worldwide.

The Responsibility Accompanying Free Speech

While free speech is a right, it also entails responsibilities:

- **Listening Actively:** As emphasized by the Ford Foundation, freedom of speech must be accompanied by the responsibility to listen. Engaging constructively with opposing views fosters mutual understanding and strengthens social bonds.
- **Avoiding Harmful Speech:** Governments have a duty to prohibit inciteful or hateful speech that can lead to violence or discrimination. However, this must not be misused to silence peaceful dissent.

Conclusion

Freedom of speech is indispensable for building a healthy and civilized society. It nurtures democratic values by promoting pluralism, accountability, and informed decision-making while driving social progress and innovation. However, safeguarding this right requires vigilance against censorship and misuse while ensuring its responsible exercise. As the Supreme Court aptly highlighted, free speech is not merely a privilege but an integral pillar supporting justice, equality, and human dignity in society.

Source: [The Hindu](#)

UPSC Mains Practice Question

Q. Discuss the challenges to free speech in the digital age, particularly in the context of social media regulations and misinformation. How can a balance be struck between freedom of expression and responsible speech? (250 words)

[2.14] P4 Initiative: Eradicating Poverty by 2029

Syllabus: Issues related to Poverty, Governance [GS Paper-2]

Context

The P4 model (Public-Private-People Partnership), spearheaded by Andhra Pradesh Chief Minister N. Chandrababu Naidu, aims to eliminate poverty in the state by 2029. This innovative program integrates public, private, and community efforts to uplift economically disadvantaged families through a structured and sustainable approach.

Key Features of the P4 Model

- **Public-Private-People Partnership (P4):**
 - The P4 model emphasizes collaboration between the government, private sector, and citizens to pool resources and share responsibilities.
 - Wealthy individuals and organizations are encouraged to support underprivileged families voluntarily.
- **Zero Poverty Goal:**
 - The initiative targets the complete eradication of poverty in Andhra Pradesh by 2029.
 - It aims to empower economically weaker sections and improve their living standards.

- **Voluntary Participation:**
 - Participation is voluntary, with no pressure on individuals or organizations to contribute.
 - Non-resident Indians (NRIs) are also invited to participate, akin to earlier programs like 'Janmabhoomi.'
- **Transparent Beneficiary Selection:**
 - Beneficiaries are identified through gram sabhas and ward sabhas to ensure fairness.
 - Families receiving support are termed "Bangaru Kutumbam" (Golden Families), while donors are called "Margadarsi" (Guides).

Implementation Framework

- **Pilot Projects:**
 - Initial implementation began in four villages, benefiting 5,869 families.
 - Verification of financial status for five lakh low-income families is underway.
- **Household Surveys:**
 - Surveys in 10 districts were completed in the first phase, with 16 districts covered in the second phase.
 - Approximately 40 lakh families have been identified as eligible beneficiaries.
- **Dedicated Digital Platform:**
 - A special portal has been created to gather public feedback and connect donors with beneficiaries.
 - The program's design incorporates suggestions from citizens for better execution.
- **Phased Rollout:**
 - In its first phase, the program aims to benefit 20 lakh families.
 - It will continue until the state achieves its zero-poverty target.

Unique Aspects of the P4 Model

- **Family Empowerment System:**
 - The initiative is described as a "family empowerment-benefit management system."
 - Wealthy families are encouraged to adopt poor families and provide financial or material support.
- **Exclusion Criteria:**
 - Families owning significant assets (e.g., two acres of wetland or five acres of dryland), government employees, income taxpayers, or those owning four-wheelers are excluded from benefits.
- **Independent from Welfare Schemes:**
 - The P4 model operates independently of existing government welfare schemes.
 - It focuses on mobilizing private contributions rather than allocating additional state funds.

Role of Stakeholders

- **Government's Role:** Acts as a facilitator by connecting donors with beneficiaries. Ensures transparency and accountability in the selection process.
- **Private Sector Contributions:** Industrialists and business leaders are encouraged to adopt villages or families. For instance, businessman Yellmanchali Krishna Mohan pledged support for 100 families under this initiative.

- **Community Involvement:** Citizens actively participate by providing feedback and suggestions through the dedicated portal. Gram sabhas ensure local-level engagement and decision-making.

Challenges and Mitigation Strategies

- **Ensuring Inclusivity:** Transparent selection processes via gram sabhas aim to prevent biases or errors in beneficiary identification.
- **Sustained Participation:** Voluntary nature of contributions might pose challenges; hence, continuous engagement with donors is critical.
- **Avoiding Public Confusion:** Clear communication strategies have been implemented to distinguish P4 from other welfare programs.

Expected Outcomes

- **Economic Upliftment:** By fostering partnerships among stakeholders, the program seeks to create wealth-generation opportunities for marginalized communities.
- **Social Equity:** Encouraging affluent citizens to support the underprivileged promotes social harmony and reduces economic disparities.
- **Long-term Sustainability:** Structured planning ensures that the initiative remains impactful over time without over-reliance on government funding.

Conclusion

The P4 initiative represents a transformative approach toward poverty eradication by uniting diverse stakeholders under a common goal. By leveraging community participation, private sector resources, and public facilitation, Andhra Pradesh aims to achieve its ambitious target of zero poverty by 2029. If successful, this model could serve as a blueprint for other states and countries striving for inclusive development.

Source: [The Hindu](#)

UPSC Mains Practice Question

Q. Despite various poverty alleviation programs, poverty remains a significant challenge in India. Analyze the reasons for the persistence of poverty and suggest measures for its eradication.

[2.15] Rethinking Representation: Beyond Population Count

Syllabus: Governance [GS Paper-2]

Context

Population count has traditionally been the cornerstone of policymaking and political representation in India. However, as the country approaches the expiration of the constitutional freeze on parliamentary seats in 2026, there is a need to rethink the criteria for delimitation and financial devolution.

Historical Context of Delimitation in India

- **Early Years After Independence:** The first delimitation exercise in India occurred post-independence, based on the 1951 Census. It aimed to ensure equal representation across states in the Lok Sabha. Between 1951 and 1971, three major delimitation exercises adjusted parliamentary seats proportional to population growth. For instance, one Lok Sabha seat represented 7.3 lakh people in 1951, which increased to 10.1 lakh by 1971.
- **The Constitutional Freeze:** In 1976, through the 42nd Amendment Act, the number of Lok Sabha seats was frozen at 543 until 2026. This decision aimed to prevent over-representation of populous states like Uttar Pradesh and Bihar while ensuring smaller states were not overshadowed. Despite substantial population growth since 1971, this freeze led to an increase in population representation per seat, creating disparities in political representation.

Challenges with Population-Based Representation

- **Regional Disparities:** Northern states with high population growth may gain parliamentary seats post-2026, while southern states with better demographic performance risk losing representation. This imbalance could exacerbate existing development divides between regions.
- **Socio-Economic Inequities:** A per capita-based approach often overlooks socio-economic factors such as income disparities, literacy levels, healthcare needs, and gender dynamics. Using population count alone fails to account for diverse needs across different regions.
- **Impact on Federal Structure:** The ongoing debates around delimitation have raised concerns about potential disruptions to India's federal character. States fear that disproportionate representation could undermine regional autonomy.

Beyond Population Count: A Holistic Approach

- **Incorporating Demographic Attributes:** Policymakers should consider factors like age distribution, literacy rates, healthcare access, and economic performance alongside population numbers. For example, states with higher elderly populations may require greater healthcare allocations rather than simply relying on headcount-based metrics.
- **Addressing Regional Disparities:** Financial devolution must account for regional disparities by incorporating demographic performance into allocation criteria. The 15th Finance Commission's use of 2011 Census data instead of 1971 data marked a step forward in this direction.
- **Alternative Metrics for Representation:** Population density can serve as a more equitable basis for delimitation compared to absolute population numbers. Other metrics such as socio-economic indicators or development indices could complement population data to ensure balanced representation.

The Way Forward

- **Revisiting Delimitation Criteria:** As India approaches the expiration of the constitutional freeze on parliamentary seats, it is essential to design delimitation exercises that uphold regional balance and federalism principles. A nuanced approach that integrates demographic diversity and socio-economic factors will be crucial.
- **Promoting Inclusive Governance:** Moving beyond population count will enable more inclusive governance by addressing the unique needs of different regions. Incorporating Sustainable Development Goals (SDGs) into policymaking can help align resource allocation with broader developmental objectives.

Conclusion

India stands at a critical juncture where its democratic framework must evolve to address changing demographic realities. Rethinking delimitation criteria and financial devolution beyond simple population counts is essential for equitable representation. By adopting a balanced strategy that

considers demographic attributes, socio-economic factors, and regional disparities, India can uphold its federal character while addressing emerging challenges of the 21st century.

Source: [The Hindu](#)

UPSC Mains Practice Question

Q. Discuss the limitations of using population count as the sole criterion for political representation and financial devolution. Suggest alternative approaches to ensure equitable governance.

[2.16] Raising Income Limit for “Creamy Layer” within OBCs.

Syllabus - Polity [GS Paper-2]

Context

A parliamentary committee at the welfare of Other Backward Classes advocated raising the ₹8 lakh income restriction for “creamy layer” in OBCs.

Key Highlights

- **Income Limit for Creamy Layer:** Raising the income limit for determining the creamy layer amongst OBCs after consulting stakeholders.
 - This is to ensure more backward class people benefit from reservation policies and welfare schemes.
- **Data Transparency in Job Quotas:** Recommended the government to make data on Central activity quota implementation publicly available, ensuring transparency.
- **Uniform Formula for Income Calculation:** The committee highlighted that special states calculate the creamy layer income restriction otherwise and endorsed the Centre establish a uniform formulation.
- **Equivalence of Posts in Autonomous Bodies:** The committee referred to the short established order of equivalence of posts in self sustaining bodies with those in Central and State governments.
- **Scholarship Income Limit:** The committee encouraged elevating the present day ₹2.5 lakh income restriction for OBC scholarships.
- **Expansion of Scholarship Coverage:** The committee cautioned extending the pre-matric scholarship for OBCs to include students from Class V onwards (presently available for Class IX and X).
- **Increase in Top-Class Scholarships:** The committee proposed increasing the quantity of slots (presently 15,000) for top-class faculty education scholarships for OBCs, EBCs, and DNTs, primarily based on demand.

Creamy Layer Principle

- It is a concept used to ensure that reservations in educational institutions and government jobs are extended to those who are economically and socially disadvantaged within a certain organization.
- **Origin:** The idea was first articulated by the Supreme Court of India in the Indra Sawhney case (1992), also called the Mandal Commission case.

- The Court's ruling emphasized that within the OBC (Other Backward Classes) category, individuals who are noticeably more privileged need to not benefit from reservations.
- **Impact:** by the creamy layer principle, the government aims to make its affirmative action guidelines more effective and equitable, ensuring that individuals who are most in need acquire the help supposed for them.

Need for the Creamy Layer Concept

- **Prevents Misuse:** Ensures economically well-off or socially advanced OBCs don't take benefit of the reservation system.
- **Adds Transparency:** Clear income thresholds for figuring out the creamy layer growth equity and transparency in the reservation system.
- **Promotes Social Mobility:** Helps disadvantaged OBCs access education and jobs, fostering upward social mobility.
- **Fosters Social Justice:** Ensures that reservation services serve individuals who are most in need, keeping equity and inclusion.

Constitutional Provisions

- **Article 16:** It provides for equality of opportunity for all citizens however as an exception the State can offer for reservation of appointments or posts in favour of any backward class that isn't always correctly represented in the state services.
- **Article 16 (4A):** Provides that the State can make any provision for reservation in subjects of advertising in favour of the Scheduled Castes and the Scheduled Tribes if they're not competently represented in the services under the State.
- **Article 335:** It recognises that special measures need to be followed for considering the claims of SCs and STs to services and posts, with a view to deliver them at par.
- **103 Amendment of the Constitution of India:** Introduced 10% reservation for Economically Weaker Sections (EWS) of society.

Source: [The Hindu](#)

Prelims PYQ

1. Consider the following organizations/bodies in India: (2023)

1. The National Commission for Backward Classes
2. The National Human Rights Commission
3. The National Law Commission
4. The National Consumer Disputes Redressal Commission

How many of the above constitutional bodies?

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Ans: (a)

- A parliamentary committee at the welfare of Other Backward Classes advocated raising the ₹8 lakh income restriction for "creamy layer" in OBCs.

- **Income Limit for Creamy Layer:** Raising the income limit for determining the creamy layer amongst OBCs after consulting stakeholders.
- **Data Transparency in Job Quotas:** Recommended the government to make data on Central activity quota implementation publicly available, ensuring transparency.
- **Uniform Formula for Income Calculation:** The committee highlighted that special states calculate the creamy layer income restriction otherwise and endorsed the Centre establish a uniform formulation.
- **Equivalence of Posts in Autonomous Bodies:** The committee referred to the short established order of equivalence of posts in self sustaining bodies with those in Central and State governments.

[2.17] India's Defence Exports

Syllabus - Defence [GS Paper-3]

Context

India has carried out a huge milestone in its defence sector, with defence exports touching a record ₹23,622 crore in FY 2024-25 — marking a 12.04% growth over the last year's figure of ₹21,083 crore.

Driving factors behind the Growth

- Simplified business licensing processes.
- De-licensing of parts/additives.
- Extension of license validity.
- Easier Standard Operating Procedures (SOPs) for export authorisation.
- Enhanced international trust in Made-in-India military hardware.

Government Initiatives

- **Defence Production and Export Promotion Policy (DPEPP) – 2020:** Aims to achieve defence exports worth ₹50,000 crore through 2029. Focus on building a robust manufacturing environment which includes the private sector and MSMEs.
- **Simplified Export Authorization Process:** The online portal below DDP enables speedy export clearance. 1,762 authorizations issued in FY 2024-25, a 16.92% rise over last year.
- **Strategic Partnership (SP) Model:** Enables Indian private firms to partner with foreign OEMs to co-expand and manufacture high-tech defence systems. Boosts tech switch.
- **Industrial Licensing Reforms:** Removal of licensing for elements/additives and extension of license validity reduces compliance burden for startups and MSMEs.
- **Defence Attaches Empowered for Export Promotion:** Financial powers given to defence attachés abroad to sell exports, have interaction shoppers, and take part in expos.
- **Export Promotion Cell in DDP:** Dedicated mobile in DDP coordinates with industry and governments to streamline export methods and resolve troubles.
- **Participation in global Defence Exhibitions:** India regularly organises defence expos like Aero India, DefExpo, IDEX, enhancing brand visibility.
- **Encouraging MSMEs and Startups** : [iDEX](#) platform supports over 250 startups with investment and incubation for export-ready innovation in AI, drones, and so forth.
- **Make in India & Atma Nirbhar Bharat Abhiyan:** Mission to promote indigenous manufacturing. Offers manufacturing-connected incentives and promotes import substitution.

Significance of India's Rising Defence Exports

- **Strengthening Indigenous Defence Production:** Defence production rose by 174% from 2014-15 to 2023-24, signaling India's a hit shift from import-dependence to Atmanirbhar Bharat (self-reliant India).
- **Progress Toward Strategic Export Targets:** India is on course to acquire its ₹50,000 crore defence export target by 2029.
- **Catering to Global Demand:** Exports to almost 80 nations mirror developing global trust in Indian-made defence structures.
- **Encouraging Private Sector Participation:** In FY 2024-25, private players contributed ₹15,233 crore in exports, showcasing a thriving defence startup and MSME environment.
- **Boosting Diplomatic and Strategic Leverage:** Enhances India's soft power and effect in regional and global security architecture.

Key Challenges in Defence Exports

- **Technological Dependence:** Reliance on foreign tech limits indigenous development and export competitiveness.
- **DPSU Underperformance:** Slower innovation, forms, and susceptible advertising and marketing restrict export potential.
- **Policy Implementation Delays:** Lag between policy and execution slows down exports.
- **Limited Global Reach:** Struggling to penetrate established markets against strong competition.
- **Low Volume, High Diversity:** Lack of high-demand, scalable flagship products.
- **Quality & Support Gaps:** Need improvement in product quality, certifications, and after-sales services.
- **Weak Industrial Ecosystem:** Underdeveloped supply chain, skilled personnel, and infrastructure.

Source: [The Hindu](#)

Mains PYQ

1. Foreign Direct Investment (FDI) in the defense sector is now set to be liberalized: What influence is this expected to have on Indian defense and economy in the short and long run? (2014)

- India has carried out a huge milestone in its defence sector, with defence exports touching a record ₹23,622 crore in FY 2024-25 — marking a 12.04% growth over the last year's figure of ₹21,083 crore.
- **Driving factors behind the Growth**
 - Simplified business licensing processes.
 - De-licensing of parts/additives.
 - Extension of license validity.
 - Easier Standard Operating Procedures (SOPs) for export authorisation.
 - Enhanced international trust in Made-in-India military hardware.

[2.18] Fram2 Mission

Syllabus - Economy [GS Paper-3]

Context

SpaceX launched the Fram2 project, sending the first private astronaut team on a groundbreaking adventure to orbit Earth from pole to pole.

Historical Linkages

- It was named after the Norwegian ship “Fram,” which was instrumental in early 20th-century polar exploration.
- The Fram participated in expeditions and performed a significant role in accomplishing the Arctic and Antarctic spaces.
- The Fram2 project honors the ship’s legacy.

SpaceX’s Fram2 mission

- The Fram2 mission lifted off atop a Falcon 9 rocket from NASA’s Kennedy Space Center, Florida, sending the Crew Dragon capsule “Resilience” into a polar orbit.
- It also permits scientists to observe how astronauts’ bodies respond to weightlessness and motion sickness.
- It will last between 3 to 5 days, with the team travelling in a unique orbital route to carry out various experiments.
- The group will perform the first-ever x-ray in space, providing insights into how microgravity affects bone and muscle density.
- It will also raise awareness on cultivating mushrooms in space, which can offer treasured insights into sustainable food manufacturing for future space missions.

Post-Mission Task

- After returning to Earth, the group plans to go out the Dragon spacecraft unassisted, assisting studies on astronauts’ capability to perform responsibilities without medical or operational help after spaceflight.

About Earth’s Polar Orbit

- A polar orbit is while a satellite travels around Earth passing over or near the North and South Poles.
- A deviation of up to 10 levels from the precise poles remains considered a polar orbit.
- Polar orbits fall under the category of Low Earth Orbit (LEO). Typical top range is 200 to 1000 km above Earth’s floor.

Significance

- As the Earth rotates below it, a satellite in a polar orbit can in the end scan the entire planet.
- **Extremely useful for:** earth mapping and remote sensing, environmental monitoring & military and reconnaissance (secret agent) satellites.

Challenges

- Launching into a polar orbit requires more fuel.
- This is since rockets can not take advantage of Earth’s rotational speed, unlike in equatorial launches.

Source: [The Indian Express](#)

Prelims PYQ

1. With reference to India's satellite launch vehicles, consider the following statements: (2018)

- 1. PSLVs launch the satellites useful for Earth resources monitoring whereas GSLVs are designed mainly to launch communication satellites.**
- 2. Satellites launched by PSLV appear to remain permanently fixed in the same position in the sky, as viewed from a particular location on Earth.**
- 3. GSLV Mk III is a four-staged launch vehicle with the first and third stages using solid rocket motors; and the second and fourth stages using liquid rocket engines.**

Which of the statements given above is/are correct?

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

Ans: (a)

- SpaceX launched the Fram2 project, sending the first private astronaut team on a groundbreaking adventure to orbit Earth from pole to pole.
- The Fram2 project lifted off atop a Falcon 9 rocket from NASA's Kennedy Space Center, Florida, sending the Crew Dragon capsule "Resilience" into a polar orbit.
- It also permits scientists to observe how astronauts' bodies respond to weightlessness and motion sickness.
- It will last between 3 to 5 days, with the team travelling in a unique orbital route to carry out various experiments.
- The group will perform the first-ever x-ray in space, providing insights into how microgravity affects bone and muscle density.
- It will also raise awareness on cultivating mushrooms in space, which can offer treasured insights into sustainable food manufacturing for future space missions.

[2.19] SC's Eco-Centric Shift in Environmental Jurisprudence

Syllabus: Governance [GS Paper-2]

Context

India's Supreme Court has pioneered a transformative shift in environmental jurisprudence by transitioning from an anthropocentric approach to an eco-centric perspective. This landmark change emphasizes the intrinsic value of ecosystems, moving beyond their utility for human beings. The shift reflects India's cultural ethos and its commitment to global environmental stewardship.

Anthropocentrism vs. Eco-Centrism

Anthropocentric Approach:

- Views humans as the central entity in the ecosystem.
- Nature and other living beings are valued primarily for their utility to humans.
- Environmental protection under this approach is often driven by human self-interest or the needs of future generations.

Eco-Centric Approach:

- Recognizes the intrinsic value of nature and all its components, independent of human utility.
- Prioritizes the well-being of ecosystems as a whole.
- Advocates for nature's rights, treating it as a living entity deserving respect and protection.

India's Legal Transition

- India's Supreme Court has been at the forefront of environmental activism, gradually shifting its focus from anthropocentrism to eco-centrism. This transition aligns with constitutional provisions such as Article 48A (Directive Principles) and Article 51A (Fundamental Duties), which emphasize environmental protection and compassion for living creatures.
- The eco-centric approach has been reinforced through landmark judgments that recognize nature's rights and advocate for sustainable development principles like intergenerational equity and the Polluter Pays Principle. This jurisprudential evolution reflects India's cultural philosophy, which views humans as integral parts of the ecosystem rather than its masters.

Key Drivers of Change

- **Judicial Activism:** The Supreme Court has undertaken progressive interpretation of environmental law, issued a slew of pronouncements and directives, and created new institutional frameworks for environmental governance. PIL has been an instrument of executive liability concerning environmental issues.
- **Cultural Considerations:** India's ancient traditions promote ideas of coexistence with nature, which is regarded as sacred and interdependent with human life. This cultural understanding has shaped legal consciousness toward an eco-centric paradigm.
- **Global Environmental Issues:** Climate change, biodiversity loss, and pollution have thrown to the forefront the need for newer and more effective forms of environmental protection. India, through this eco-centric approach, has given international leadership in the development of environment jurisprudence.

Significance of the Shift

- **Nature's Rights Recognition:** The eco-centric approach recognizes ecosystems as entities with intrinsic value deserving legal protection without consideration to human interests.
- **Sustainable Development:** The approach seeks to promote sustainability in the long run by giving preference to ecosystem health over immediate human gains.
- **Global Leadership:** The shift in India's jurisprudence thus sets a precedent for other nations to operate under that framework, fostering further international cooperation on environmental matters.

Challenges Ahead

Despite progress, achieving absolute eco-centrism remains a challenge due to:

- **Conflicts with Development Goals:** Balancing economic growth with ecological preservation requires innovative solutions.
- **Implementation Issues:** Ensuring compliance with eco-centric laws demands robust institutional mechanisms and public awareness.

- **Resistance to Change:** Anthropocentric attitudes persist in policymaking and societal norms, hindering widespread adoption of eco-centric principles.

Conclusion

India's Supreme Court has taken a monumental step by shifting from an anthropocentric to an eco-centric approach in environmental jurisprudence. This transition underscores the intrinsic value of ecosystems and reflects India's cultural ethos of living in harmony with nature. While challenges remain, this paradigm shift positions India as a global leader in advocating for ecological justice and sustainable development.

Source: [Deccan Herald](#)

UPSC Mains Practice Question

Q. The Supreme Court of India has transitioned from an anthropocentric to an eco-centric approach in environmental jurisprudence. Discuss the significance of this shift and its implications for environmental governance in India. (250 words)

[2.20] Rajya Sabha Passes Bill for Airline Leasing Issues

Syllabus: Governance [GS Paper-2]

Context

The Rajya Sabha recently passed the Protection of Interests in Aircraft Objects Bill, 2025, a landmark legislation aimed at addressing legal and financial challenges in India's aviation leasing industry. This bill seeks to align India's domestic laws with international standards, particularly the Cape Town Convention and Aircraft Protocol, to enhance legal security for aircraft lessors and lessees.

Objectives of the Bill

The bill has several key objectives:

- **Legal Framework:** Establish a comprehensive framework for recognizing and enforcing international interests in aircraft objects.
- **Cape Town Convention Compliance:** Implement the Cape Town Convention and Aircraft Protocol to harmonize India's aviation laws with global practices.
- **Protection for Lessors:** Provide enhanced remedies for lessors, including swift repossession of aircraft in cases of default.
- **Cost Reduction:** Reduce leasing costs and operational expenses for Indian airlines, thereby rationalizing airfares.

Key Features

- **Legal Backing for International Agreements:** The bill gives legal effect to the Cape Town Convention (2001) and its Aircraft Protocol, which India acceded to in 2008. These agreements ensure uniformity in securing rights for high-value aviation assets.
- **Enhanced Remedies for Lessors:** Lessors can reclaim leased aircraft within two months of default or a mutually agreed period, ensuring quick resolution of disputes. The bill introduces mechanisms like Irrevocable De-registration and Export Request Authorisation (IDERA) to facilitate repossession.

- **Regulatory Oversight by DGCA:** The Directorate General of Civil Aviation (DGCA) will maintain a registry of aircraft and monitor dues owed by airlines to lessors. Airlines must periodically update DGCA on pending payments, creating transparency and accountability.
- **Impact on Leasing Costs:** The legislation is expected to reduce leasing costs by 8–10%, benefiting airlines like Air India, IndiGo, and Akasa Air. Lower leasing costs will trickle down to passengers through reduced airfares.

Significance for Indian Aviation

- **Boost to Leasing Industry:** With 84.6% of India's 840 operating aircraft under leasing models, the bill aims to strengthen domestic aircraft leasing capabilities. It addresses regulatory inconsistencies that previously discouraged lessors from operating in India.
- **Improved Compliance Index:** India's compliance score under the Cape Town Convention will improve significantly, attracting more investment in aviation finance.
- **Economic Benefits:** Rationalized airfares due to lower operational costs will make air travel more affordable. Enhanced legal security will encourage banks and financiers to invest in aviation assets.

Challenges Addressed

The bill resolves several long standing issues:

- **Default Cases:** Past defaults by Indian carriers like Jet Airways (2019) and GoAir led to higher leasing costs and reduced fleet sizes.
- **Grey Areas:** It clears confusion around repossession rights and regulatory oversight, creating clarity for stakeholders.

Future Prospects

Civil Aviation Minister Kinjarapu Rammohan Naidu emphasized that this legislation is critical for India's growing aviation market. The government plans to expand infrastructure by building 50 new airports over five years, further supporting industry growth. Additionally, cities like Kolkata are being considered for second airports to meet rising demand.

Conclusion

The Protection of Interests in Aircraft Objects Bill, 2025 is a transformative step toward strengthening India's aviation sector. By aligning domestic laws with international standards, it ensures legal security for lessors while reducing operational costs for airlines. This legislation not only addresses existing challenges but also positions India as a favorable destination for aviation finance and leasing activities.

Source: [The Hindu](#)

UPSC Prelims Practice Question

Q. Consider the following statements regarding aircraft leasing in India:

1. The International Financial Services Centre (IFSC) at GIFT City, Gujarat, has been developed to promote aircraft leasing in India.
2. Most of India's commercial aircraft fleet is owned by domestic airlines rather than leased from foreign lessors.
3. Aircraft leasing is regulated by the Directorate General of Civil Aviation (DGCA) in India.

Which of the statements given above is/are correct?

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

Answer: (a)

[2.21] Combating Misinformation in India's Digital Age

Syllabus: Science and Technology [GS Paper-3]

Context

Misinformation and disinformation pose significant challenges to India's democracy, social harmony, and governance. With the rapid growth of internet users and social media platforms, coupled with emerging technologies like AI, India finds itself at the epicenter of this global crisis. Addressing this threat requires a multifaceted approach that balances regulation, media literacy, and technological innovation.

Understanding Disinformation in India

Definition and Forms: Disinformation refers to deliberately false information intended to deceive or harm individuals, groups, or nations. In India, it manifests through:

- Edited videos, memes, and manipulated content on social media.
- Political propaganda targeting minorities or promoting divisive narratives.
- Deepfakes created using AI technologies.

Impact on Society: Disinformation has far-reaching consequences:

- **Social Violence:** Mob violence has been instigated by false rumors, such as lynchings whipped up via WhatsApp.
- **Polarization:** Informed deception polarizes societies by attacking vulnerable communities during elections and crises.
- **Institutional Erosion:** The spread of fake news undermines trust in institutions of democracy and the judiciary.

Challenges in Combating Disinformation

- **Technological Complexity:** The emergence of generative AI tools has made it even more difficult to detect fake content. Deepfakes and automated misinformation campaigns both exponentially increase the scales of disinformation.
- **Cultural Diversity:** India's linguistic and cultural diversity adds difficulty to fact-checking. Often, misinformation that is tailored to local contexts escapes detection systems that are designed for global standards.
- **Governmental Limitations:** Although measures such as IT Rules 2021 and the Digital India Bill were formulated to regulate online platforms, enforcement has remained sporadic. Critics argue that selective application of the law has weakened the cause.

Strategies to Tackle Disinformation

Regulatory Frameworks: India can develop a balanced regulatory framework that protects freedom of speech while curbing disinformation:

- **Digital India Bill:** Strengthen intermediary accountability by mandating timely removal of fake content.
- **Fact-Checking Standards:** Establish transparent guidelines for fact-checking organizations based on objective sources tailored to India's unique needs.

Leveraging Technology: Technological solutions can play a key role:

- **AI Tools for Detection:** Deploy AI systems to identify hate speech and misinformation at scale while adapting them to regional languages.
- **Collaboration with Tech Platforms:** Encourage social media companies to implement robust content moderation policies.

Promoting Media Literacy: Educating citizens is crucial to combat disinformation:

- **Public Awareness Campaigns:** Launch initiatives to teach critical thinking and digital literacy among users.
- **School Curricula:** Integrate media literacy into educational programs to empower future generations against fake news.

Strengthening Fact-Checking Ecosystems: India boasts the largest fact-checking community globally. This resource can be further utilized by:

- Collaborating with government bodies for accurate information dissemination during crises.
- Certifying fact-checkers based on adherence to international best practices adapted for Indian contexts.

Case Studies and Global Lessons

India has demonstrated leadership in combating misinformation:

- **WhatsApp Collaboration (2018):** Measures implemented after lynching incidents were later adopted globally, showcasing effective localized actions on encrypted platforms.
- **Election Monitoring (2024):** Fact-checking organizations actively countered polarizing narratives during elections despite challenges posed by AI-driven misinformation.

Global examples like Singapore's strict criminal laws and the EU's self-regulatory code offer additional insights into combating disinformation effectively.

Conclusion

Tackling disinformation in India requires a comprehensive strategy that combines regulation, technology, education, and collaboration. By leveraging its strong fact-checking community and technological expertise, India can lead by example in addressing this global challenge while safeguarding democratic principles. A balanced approach will not only protect citizens from harmful misinformation but also uphold freedom of expression—a cornerstone of India's democracy.

Source: [The Hindu](#)

UPSC Mains Practice Question

Q. In the digital age, misinformation poses a significant challenge to India's democracy, social harmony, and governance. Discuss the major sources and consequences of misinformation in India. Suggest effective measures to combat its spread while balancing freedom of speech and digital rights.

[2.22] AI-Driven Digital Child Abuse: Emerging Threats

Syllabus: Science and Technology [GS Paper-3], Social Issues [GS Paper-2]

Context

The advent of artificial intelligence (AI) has brought about numerous technological advancements, but it also poses significant risks, particularly in the realm of digital child abuse. AI-based exploitation has emerged as a major threat, enabling offenders to create and disseminate highly realistic yet entirely synthetic child sexual abuse material (CSAM). This phenomenon not only complicates law enforcement efforts but also raises ethical and legal questions about how to address such crimes.

The Rise of AI-Generated CSAM

AI tools, such as generative adversarial networks (GANs) and text-to-image models like Stable Diffusion, have transformed the landscape of online child exploitation. These technologies allow offenders to generate life-like images and videos without direct victim involvement, making detection significantly harder and normalizing exploitative content in dangerous ways.

Key Concerns and Challenges

- **Realism and Detection Challenges**
 - **Hyper-Realistic Content:** The hyper-realism of computer-generated images of child sexual abuse material (CSAM) makes it extremely difficult for law enforcement or detection mechanisms to differentiate between real and synthetic content.
 - **Evasion of Detection:** Traditional detection practices largely fail to identify AI-generated materials and often lead to a surge of undetected cases.
- **Legal and Ethical Dilemmas**
 - AI-generated CSAM is still being debated as to whether it should be treated the same as real CSAM in prosecution.
 - Tracking Abuse Without Victims: The absence of real victims creates complications for tracking and prosecuting offenses.
- **Misuse of AI Tools**
 - **Nudification Apps:** AI-powered apps like DeepNude and its successors are used to digitally strip clothing from images, often targeting minors.
 - **Deepfake Ecosystems:** AI-powered bots on platforms like Telegram have been used to generate explicit images, many of which depict underage individuals.

Impact on Children and Society

- **Psychological and Emotional Harm**
 - **Harassment and Exploitation:** AI-generated images harbor potential threats of harassing children in the future and instilling fear, shame, and emotional distress.
 - **Sextortion:** These AI-based apparatuses are used in instances of sextortion to blackmail children into providing even more content or money.
- **Gendered Nature of Exploitation**
 - **Predominance of Female Victims:** An overwhelming majority of manipulated images exploit women and girls, highlighting the gendered nature of this abuse.

Global Response and Legislation

• International Cooperation

- **Need for Collective Action:** The fight against AI-generated CSAM requires urgent collaboration among governments, AI developers, law enforcement, and the tech industry.
- **International Cooperation:** Recent operations have left dozens in arrest globally, markedly stressing the need for international cooperation.

• Legislative Measures

- **UK Legislation:** The UK is pioneering legislation to criminalize the creation, possession, and dissemination of AI-generated CSAM, setting a precedent for other countries.
- **India's Legal Framework:** India is urged to reassess its laws to effectively counter this emerging threat.

Conclusion

The misuse of AI in digital child abuse represents a critical challenge for the digital age. Addressing this issue requires not only technological solutions but also legal and societal changes. As AI continues to evolve, it is crucial that we prioritize the safety and protection of children from these emerging threats through proactive legislation, international cooperation, and innovative detection strategies.

Source: [The Hindu](#)

UPSC Mains Practice Question

Q. The rise of AI-driven technologies has introduced new dimensions to digital child abuse, including deepfake exploitation, cyber grooming, and AI-generated child abuse material. Critically analyze the challenges posed by AI in child protection and suggest policy measures to mitigate these risks.

[2.23] Govt Forms Committees to Amend Nuclear Energy Laws

Syllabus: Government Policies [GS Paper-2]

Context

The Indian government has initiated discussions to amend key nuclear laws, namely the Atomic Energy Act (1962) and the Civil Liability for Nuclear Damage Act (CLNDA, 2010), to enable private sector participation in nuclear energy projects. Committees comprising members from the Department of Atomic Energy (DAE), Atomic Energy Regulatory Board (AERB), NITI Aayog, and the Ministry of Law and Justice have been constituted for this purpose. This move is part of India's broader strategy to expand its nuclear energy capacity and attract both domestic and foreign investments.

Background of India's Nuclear Liability Laws

• Atomic Energy Act, 1962:

- Governs nuclear energy development in India.
- Restricts nuclear operations to government entities or government-owned companies.

- **Civil Liability for Nuclear Damage Act, 2010 (CLNDA):**
 - Establishes liability for nuclear damage and compensation mechanisms.
 - Holds suppliers liable for nuclear accidents, which is a deviation from international norms where operators bear sole responsibility.

These laws have historically deterred private sector involvement and foreign investment due to concerns over liability risks.

Reasons for Amending the Laws

- **Unlocking Stalled Projects:** Several high-profile projects, such as Electricité de France's (EDF) reactors in Jaitapur, Maharashtra, and Westinghouse's reactors in Kovvada, Andhra Pradesh, have been delayed due to liability issues.
- **Encouraging Private Sector Participation:** The amendments aim to allow private companies to build and commission future nuclear reactors, addressing India's growing energy needs.
- **Attracting Foreign Investment:** Aligning liability laws with international standards could make India a more attractive destination for global nuclear technology providers.
- **Energy Transition Goals:** The government has set a target of developing 100 GW of nuclear energy by 2047 to support its transition to clean energy.

Proposed Amendments

- **Atomic Energy Act:** Opportunities for private companies to participate in nuclear energy initiatives. Create avenues for joint ventures between the public and private sectors.
- **Civil Liability for Nuclear Damage Act:** Limitation of supplier liability within the context of international conventions such as the Convention on Supplementary Compensation (CSC). Start clearer compensation mechanisms that would increase investors' confidence.

Challenges in Amending the Laws

- **Domestic Political Opposition:** Concerns over diluting safety standards and accountability may lead to resistance from opposition parties and civil society groups.
- **Balancing Safety with the Needs of Industry:** Difficult to create good regulation on laws that support industrial facilitation.
- **Legal Uncertainties:** Amending the CLNDA without compromising victims' rights or India's sovereignty could be legally challenging.
- **Public Perception:** Any perceived compromise on safety or accountability could face backlash from the public.

Potential Benefits

- **Boosting Nuclear Energy Capacity:** The amendments could unlock stalled projects and expedite new ones, significantly increasing India's nuclear power output.
- **Economic Growth:** Private sector participation could bring in investments worth billions, creating jobs and boosting ancillary industries.
- **Technological Advancements:** Collaboration with global players can facilitate the adoption of advanced technologies like Small Modular Reactors (SMRs).
- **Strengthening Global Partnerships:** Aligning laws with international standards can enhance India's strategic partnerships with countries like the U.S., France, and others.

Government Initiatives Supporting Nuclear Development

- **Nuclear Energy Mission:** Announced in the Union Budget 2025-26 with an outlay of ₹20,000 crore. Focus on research and development of Small Modular Reactors (SMRs).

- **Policy Shift:** The government has departed from its earlier stance of not amending these laws, signaling its commitment to reform.

Conclusion

The proposed amendments to India's Atomic Energy Act and CLNDA represent a significant policy shift aimed at fostering private sector participation and foreign investment in the nuclear energy sector. While these changes could unlock immense economic and technological potential, they must be carefully crafted to address domestic political concerns and ensure safety standards are upheld. If successful, these reforms will position India as a major player in global nuclear energy while contributing significantly to its clean energy goals by 2047.

Source: [The Hindu](#)

UPSC Mains Practice Question

Q. Discuss the key provisions of nuclear energy laws in India and their significance in ensuring nuclear safety and liability. How do these laws compare with international frameworks like the Convention on Nuclear Safety and the Vienna Convention on Civil Liability for Nuclear Damage?

[2.24] SC Highlights Education, Hygiene & Healthcare for Rural Growth

Syllabus: Governance [GS Paper-2]

Context

The Supreme Court of India has underscored the critical role of education, hygiene, and healthcare in achieving holistic rural development. Recognizing these as fundamental pillars for a robust India, the Court has called for prioritization of these sectors to ensure equitable growth and bridge the urban-rural divide.

Supreme Court's Observations on Rural Development

Equal Access to Healthcare

- The Supreme Court emphasized that citizens in rural areas have an equal right to healthcare as those in urban areas. It stated that policies should not discriminate based on place of residence and must adhere to constitutional values of equality and non-discrimination.
- The Court invalidated the Assam Rural Health Regulatory Authority Act (2004), which allowed diploma holders to practice modern medicine, deeming it unconstitutional. It stressed that only qualified medical professionals should serve rural populations.

Budgetary Allocations

- A bench led by Justices Surya Kant and N Kotiswar Singh suggested that state governments earmark at least 25% of their budgets for health, education, hygiene, and infrastructure. This allocation is crucial for India's transition to a developed nation.
- Financial constraints often cited by states were dismissed as inadequate excuses for neglecting essential services. The Court highlighted the need for resource prioritization to address rural challenges effectively.

Libraries vs. Basic Necessities

- While acknowledging the importance of libraries in fostering knowledge and democratic values, the Court ruled that basic necessities like food, water, sanitation, and healthcare must take precedence over secondary initiatives such as public libraries.

Challenges in Rural Development

- **Healthcare Gaps:** Lack of primary health centers (PHCs), trained medical personnel, and adequate infrastructure in rural areas. High maternal and infant mortality rates due to limited access to quality healthcare services.
- **Gaps in education:** School infrastructure is poor; teachers are lacking. Digital education resources are poorly accessible, and the implementation of mid-day meal programs remains inconsistent.
- **Lack of hygiene and sanitation:** Contaminated drinking water and open defecation continue to be realities, despite such initiatives as the Swachh Bharat Mission. High incidence rates of waterborne diseases prevail mainly because of the poor awareness of hygiene.

Policy Implications and Recommendations

- **Strengthening Rural Infrastructure:** States must allocate 10-15% of their budgets specifically for improving rural infrastructure. This covers the various constructions of schools, hospitals, and sanitation facilities. Before secondary initiatives like libraries can be implemented, comprehensive surveys should be conducted to map out the lacunae in healthcare, education, and water supply.
- **Enhancing Healthcare Services:** Incentives, such as better pay or subsidized accommodation, should be offered to attract qualified medical personnel into rural settings. From providing supplementary resources for rural health service delivery, it would be ideal to expand public-private partnership (PPP) into rural healthcare.
- **Improving Education Access:** Rural schools with traditional systems can offer e-libraries and training in digital literacy as an added component. Strengthening CSR funding for initiatives in rural education.
- **Promoting Hygiene Awareness:** Conduct large-scale campaigns to educate rural communities about hygiene practices. Targeted investments should ensure access to clean drinking water and effective waste disposal systems.

Supreme Court's Broader Impact

The Supreme Court's observations have far-reaching implications:

1. **Policy Prioritization:** The ruling reinforces the need for evidence-based planning in rural development.
2. **Resource Allocation:** Encourages states to prioritize essential services over secondary initiatives.
3. **Public Awareness:** Highlights the importance of addressing fundamental issues like food security, healthcare access, and sanitation before focusing on supplementary resources.

Conclusion

The Supreme Court's emphasis on education, hygiene, and healthcare underscores their indispensability for India's progress as a developed nation. Addressing these challenges requires collaborative efforts between governments, private entities, and civil society. By prioritizing equitable resource allocation and innovative solutions, India can ensure sustainable development for its rural population while bridging the urban-rural divide.

Source: [The Hindu](#)

UPSC Mains Practice Question

Q. Education, hygiene, and healthcare are critical pillars for sustainable rural growth in India. Discuss the interlinkages between these sectors and suggest measures to enhance their effectiveness in rural areas.