ForumIAS

Mains Marathon

1st Week April, 2025

HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT

INDEX

1. Assess the challenges posed by disinformation to India's social and political landscape. Evaluate the efficacy of current countermeasures and suggest balanced strategies for combating this threat.

Introduction

Disinformation, the deliberate spread of false narratives, poses profound challenges to India's social and political fabric. With **900 million Internet users** projected by **2025 and 46% of disinformation** being political **(Indian School of Business-Cyber Peace Foundation study**), India's diverse landscape is vulnerable. The **"World Economic Forum's Global Risks Report 2025"** ranks disinformation as the **top short-term global threat, amplifying** its relevance.

Challenges to India's Social and Political Landscape

1. **Political Polarization & Electoral Manipulation**
    - **AI-generated deepfakes** of politicians, E.g., fake videos during the **2024 elections**) can sway voter behavior.
    - A study by the **Indian School of Business and CyberPeace Foundation** found that **46% of disinformation in India is political**, often spread by party-affiliated accounts.
    - Foreign actors, particularly **China**, exploit platforms like **Weibo** to spread anti-India narratives, as seen post-2017 Doklam standoff.
2. **Social Fragmentation & Violence**
    - Fake news on **WhatsApp** has triggered **lynchings and communal riots** E.g., 2018 mob killings over child abduction rumors.
    - **Religious and caste-based disinformation (16.8% of cases)** deepens societal divides.
3. **Economic Disruptions**
    - Misinformation can cause **bank runs, stock market crashes, and consumer boycotts** E.g., false rumors about companies "Snapchat vs Snapdeal case".
    - The **WEF warns** that disinformation can **destabilize economies** by manipulating public perception.
4. **Erosion of Trust in Media & Institutions**
    - Declining faith in **traditional media** has shifted reliance to **social media**, where **60% of Indians receive unverified news (Microsoft Survey, 2023).**

Efficacy of Current Countermeasures

1. **Regulatory Measures**
    - **IT Rules (2021)**: Mandate social media platforms to remove fake content, but enforcement remains weak.
    - **Ban on Chinese Apps (TikTok, WeChat)**: Reduced foreign interference but did not eliminate domestic disinformation.
2. **Fact-Checking Initiatives**
    - **Shakti – India Election Fact-Checking Collective** and **Deepfake Analysis Unit** were effective in **2024 elections**, but coverage is limited.
    - **Meta's withdrawal of fact-checking partnerships** in some regions raises concerns.
3. **Public Awareness Campaigns**
    - **RBI's financial literacy ads (featuring Amitabh Bachchan)** help combat scams, but **digital literacy remains low (only 38% can spot fake news)**.

Balanced Strategies for Combating Disinformation

1. **Strengthening Legal Frameworks**
    - Enact a **Digital India Act** with **EU-style transparency rules** for Big Tech.
    - Criminalize **malicious deepfakes** and **foreign disinformation campaigns**.
2. **Enhancing Technological Defenses**
    - Invest in **AI-driven fact-checking tools** (e.g., Google's Fact Check Explorer).
    - Establish a **National Misinformation Task Force** under **NITI Aayog**.
3. **Boosting Media Literacy**
    - Integrate **critical thinking and source verification** into school curricula.
    - Launch **public campaigns** (like Singapore's **"Get Smart With Sharks"**).
4. **Global Cooperation**
    - Join **Quad Alliance efforts** to counter **Chinese disinformation**.
    - Advocate for a **UN-backed disinformation code**.

Conclusion

Disinformation is not just a technological issue but a **democratic crisis**. While India has taken steps like **fact-checking units and app bans**, a **multi-pronged approach—combining regulation, technology, education, and global collaboration—is essential**. Without urgent action, disinformation could **irreparably damage India's social fabric and democratic foundations**. The challenge is to **balance free speech with accountability**, ensuring that **truth and unity prevail in the digital age**.

2. Assess the challenges hindering BIMSTEC's effectiveness in fostering regional integration. To what extent does India's strategic focus on the Bay of Bengal, including its unilateral actions, align with or diverge from BIMSTEC's objectives? Suggest measures to enhance BIMSTEC's functionality.

The **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)**, comprising **7 members**, was established in 1997 to enhance regional cooperation. Combined GDP of **$4.8 trillion with ~1.8 billion population (22% of global population).** Critical maritime zone with **$3 trillion blue economy potential (World Bank 2022).**

However, its progress has been slow due to several challenges:

1. Institutional Weaknesses

- **Lack of a Permanent Secretariat** until 2014, and even now, it suffers from **underfunding and bureaucratic delays**.
- **No dispute resolution mechanism**, unlike ASEAN or SAARC, leading to stalled projects.

2. Geopolitical Rivalries & Trust Deficits

- **India-China competition as** Myanmar and Thailand's growing ties with China reduce their reliance on BIMSTEC.
- **India's dominance concerns** because smaller members (Nepal, Bhutan) fear **asymmetrical benefits**, while Bangladesh and Sri Lanka seek **balanced engagement**.

- **Myanmar's Political Instability** disrupts connectivity projects like the **India-Myanmar-Thailand Trilateral Highway**.

3. Slow Implementation of Key Projects

- **Motor Vehicles Agreement (MVA) for seamless trade** remains unsigned due to **non-tariff barriers** and security concerns.
- **Energy Grid & Coastal Shipping Agreements** face delays due to **regulatory mismatches**.

4. Limited Economic Integration

- Intra-BIMSTEC trade is just **~7% of total trade**, compared to **~25% in ASEAN**.
- **No common trade agreement**—the BIMSTEC FTA negotiations began in 2004 but remain incomplete.

India's Strategic Focus: Alignment & Divergence with BIMSTEC

Alignment with BIMSTEC

- **Neighborhood First & Act East Policy**: BIMSTEC bridges **South and Southeast Asia**, aligning with India's **Indo-Pacific vision**.
- **Security Cooperation**: India promotes **counter-terrorism (BIMSTEC Convention, 2021) and maritime security** in the Bay of Bengal.
- **Infrastructure Push**: Projects like **Kolkata-Dhaka cargo shipping** and **Kaladan Multimodal Transit Corridor** support BIMSTEC's connectivity goals.

Divergence & Unilateral Actions

- **SAARC vs. BIMSTEC Prioritization**: India's **de facto boycott of SAARC** (due to Pakistan) has shifted focus to BIMSTEC, but **not all members see it as a replacement**.
- **Bilateral Over Multilateral Approach**: India's **separate deals with Bangladesh (BBIN MVA) and Sri Lanka (UDAN flights)** bypass BIMSTEC consensus.
- **Strategic Exclusivity**: India's **Quad and Indo-Pacific engagements** sometimes overshadow BIMSTEC's regionalism.

Measures to Enhance BIMSTEC's Functionality

1. Strengthening Institutional Capacity

- **Adequate Funding**: Member states should increase contributions to the Secretariat.
- **Fast-Track Dispute Mechanism**: A **BIMSTEC Arbitration Council** for trade and infrastructure disputes.

2. Accelerating Economic Integration

- **Finalize BIMSTEC FTA** by 2025, with **special provisions for LDCs (Nepal, Bhutan, Myanmar)**.
- **Adopt a Single BIMSTEC Visa** for tourism and business, modeled after **ASEAN's visa-free travel**.

3. Improving Connectivity

- **Operationalize MVA & Coastal Shipping Agreement** by 2026.
- **Complete India-Myanmar-Thailand Highway** with Japanese investment (to counter China's BRI influence).

4. Balancing Geopolitics

- **Engage China as a Dialogue Partner** (like ASEAN) to prevent BIMSTEC's marginalization.
- **Leverage Thailand's ASEAN Leadership** to bridge South-Southeast Asia.

5. Focus on Non-Traditional Security

- **Joint Disaster Management Force** for cyclones/floods (Bay of Bengal is climate-vulnerable).
- **Maritime Security Coordination** against piracy and illegal fishing.

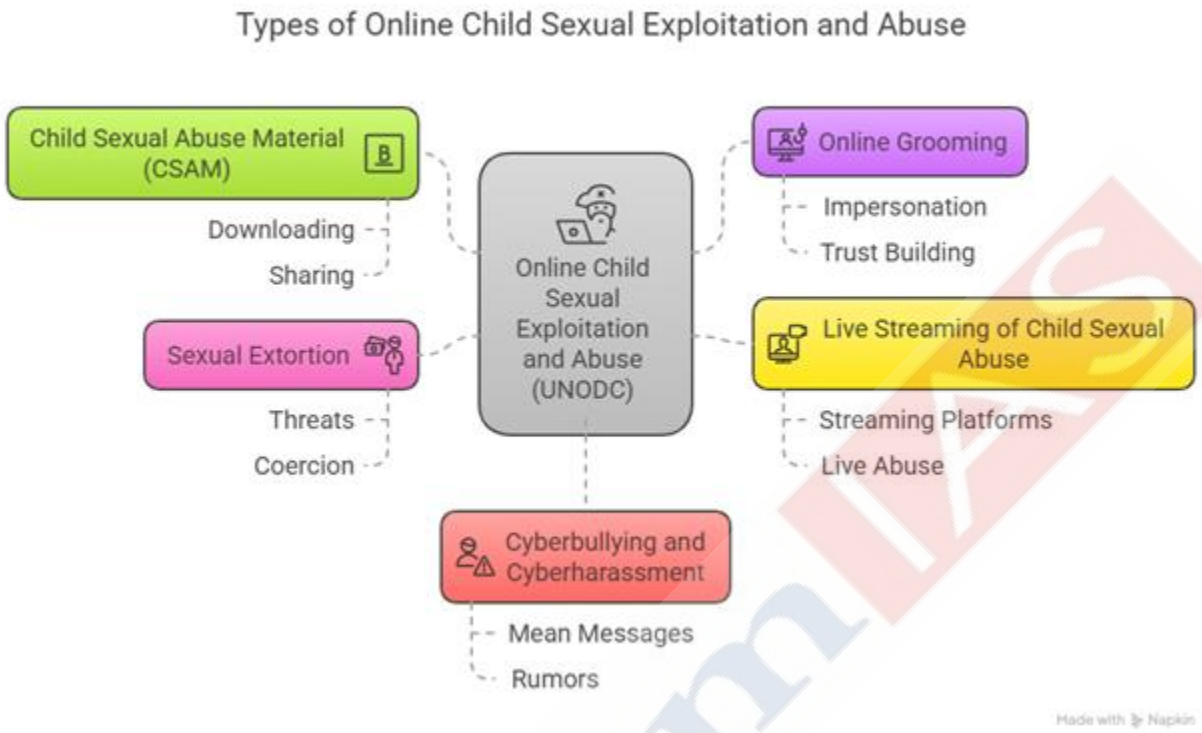
Conclusion: A Pragmatic Path Forward

BIMSTEC's potential remains untapped due to **structural inefficiencies, geopolitical tensions, and weak economic linkages**. While **India's strategic focus on the Bay of Bengal aligns with BIMSTEC's goals**, its **unilateralism and Quad engagements create perceptions of neglect**. To succeed, BIMSTEC must **emulate ASEAN's consensus-building**, prioritize **trade and connectivity**, and **balance great-power rivalries**.

3. Analyze the emerging threat of AI-generated child sexual abuse material (CSAM). What are the key challenges in regulating this technology, and suggest measures to protect children from such exploitation?

Introduction

The proliferation of Artificial Intelligence (AI) has brought unprecedented advancements, but it has also facilitated new forms of cybercrime. One of the most alarming threats is the **AI-assisted generation, possession, and dissemination of Child Sexual Abuse Material (CSAM)**. Reports from **WeProtect Global Alliance (2023)** indicate an **87% rise in online CSAM cases since 2019**. The **International AI Safety Report 2025** by the UK Government warns about AI-driven CSAM proliferation. India, as a rapidly digitizing nation, faces significant challenges in regulating this menace and protecting children from exploitation.



What is AI-Generated CSAM?

CSAM refers to **sexually explicit depictions of children, including audio, video, and images**. AI-powered tools can now generate **lifelike, synthetic CSAM** without involving real children, making detection difficult. The **Internet Watch Foundation (IWF) Report 2024** highlights the rapid rise of AI-created CSAM on the open web. **Deepfake technology** further complicates regulation, as it allows the fabrication of realistic child abuse images without direct criminal activity.

Key Challenges in Regulating AI-Generated CSAM

1. Legal and Policy Gaps

- India's **IT Act, 2000 (Section 67B)** and **POCSO Act, 2012** criminalize child pornography but lack provisions specifically targeting **AI-generated CSAM**.
- The **NHRC Advisory (2023)** recommends replacing 'child pornography' with **CSAM**, but legislative amendments remain pending.
- The **UK's upcoming legislation criminalizing AI tools for CSAM** sets a global precedent, but India has yet to introduce similar laws.

2. Detection and Enforcement Challenges

- AI-generated CSAM does not always depict real children, complicating its classification as an offense under existing laws.
- End-to-end encryption hinders tracking of CSAM-sharing networks.

- **NCRP data (April 2024)** recorded **1.94 lakh child pornography incidents** in India, but only a fraction led to convictions due to enforcement gaps.

3. Platform and Tech Company Accountability

- Major platforms like **Meta, X, TikTok, and Discord** face criticism for failing to **proactively block AI-generated CSAM**.
- **Congressional hearings (2024, U.S.)** criticized Big Tech's negligence in safeguarding children online.

Measures to Protect Children from AI-Generated CSAM

1. Strengthening Legal Frameworks

- Amend **POCSO Act, IT Act, and Digital India Act** to **explicitly criminalize AI-generated CSAM**.
- **Adopt the UN Draft Convention** on 'Countering the Use of Information and Communications Technology for Criminal Purposes'.
- Define **'sexually explicit' under IT Act Section 67B** to enable real-time CSAM blocking.

2. Enhanced Monitoring and AI-Based Detection

- **Use AI-powered tools** for deepfake and CSAM detection, similar to the **UK's AI Safety Institute approach**.
- Enforce **tech company liability** for CSAM detection and removal.

3. Stronger Global Collaboration and Regulation

- **India must partner with global CSAM tracking initiatives** like the **National Center for Missing and Exploited Children (NCMEC, USA)**.
- Introduce a **mandatory reporting system** for AI-driven CSAM cases.

Conclusion

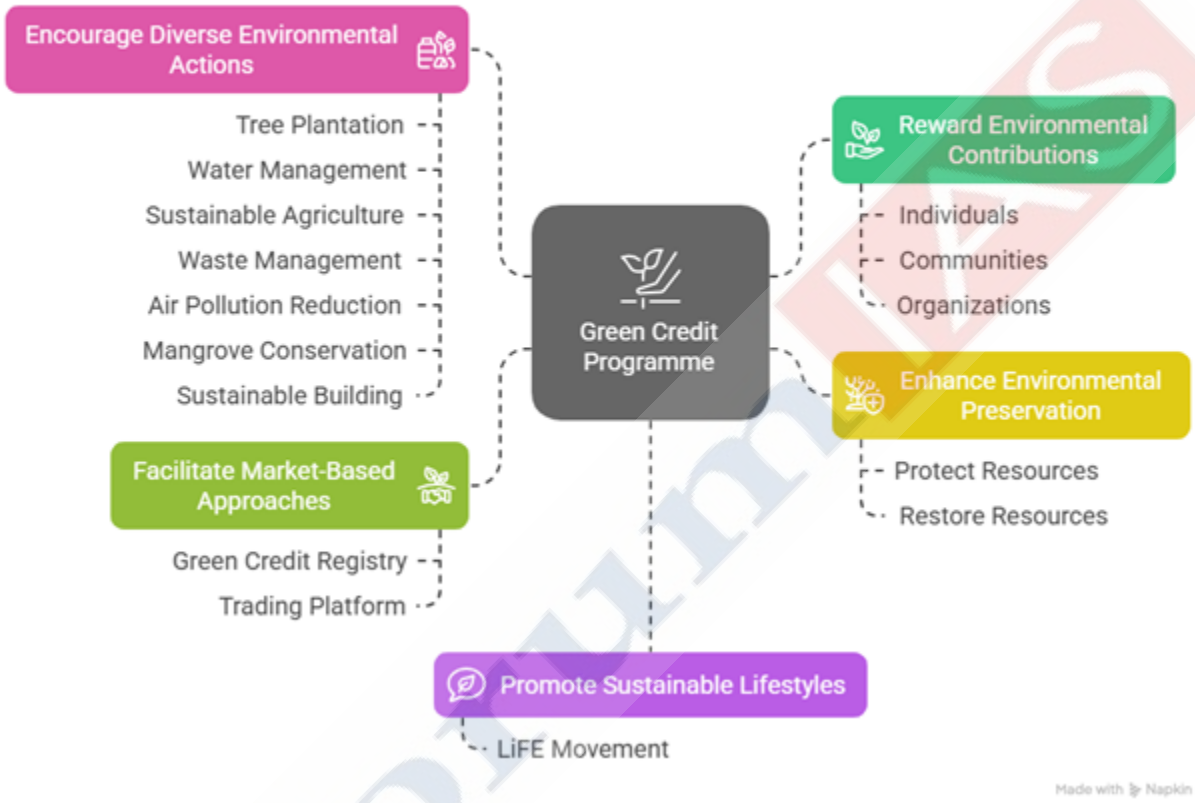
AI-generated CSAM poses a severe challenge to child safety. While India has taken steps through **NCRP and cybercrime reporting mechanisms**, **legal loopholes, poor enforcement, and Big Tech's lax oversight** continue to enable perpetrators. **A combination of stringent legislation, AI-driven monitoring, corporate accountability, and international cooperation** is essential to curb this emerging threat and safeguard children in the digital age.

4. Outline the key objectives of India's Green Credit Programme. Critically evaluate the potential benefits and associated criticisms of this scheme, particularly in relation to its impact on environmental sustainability.

Introduction

The **Green Credit Programme (GCP)**, launched by the **Ministry of Environment, Forest and Climate Change (MoEFCC) in 2023**, is a market-based mechanism designed to incentivize voluntary environmental actions through **tradable green credits**. The programme was officially unveiled by **Prime Minister Narendra Modi** at **COP28 in Dubai**, aligning with India's **Mission LiFE (Lifestyle for Sustainable Environment)**.

However, while the scheme aims to promote sustainable practices, it has also faced criticism for potentially **incentivizing forest diversion** and undermining ecological integrity.



Objectives of the Green Credit Programme

The **GCP seeks to achieve the following key objectives**:

1. **Promoting Voluntary Environmental Actions** – Encouraging individuals, businesses, and industries to undertake **eco-friendly initiatives** such as **afforestation, waste management, and water conservation**.
2. **Creating a Market for Green Credits** – Establishing a **tradable credit system** that allows entities to **purchase green credits** to fulfill their environmental, legal, or corporate social responsibility (CSR) obligations.
3. **Encouraging Afforestation and Land Restoration** – Restoring degraded landscapes through **tree plantations, soil conservation, and water harvesting**.
4. **Strengthening Environmental Accountability** – Enabling industries to integrate **green credits** into compliance mechanisms such as **compensatory afforestation** and **SEBI's Business Responsibility and Sustainability Reporting (BRSR)** framework.

5. **Aligning with Climate Commitments** – Supporting India's commitment to achieving **net zero emissions by 2070** and restoring **26 million hectares of degraded land by 2030** (as per the **UNCCD Bonn Challenge**).

Potential Benefits of the Green Credit Programme

The **GCP offers several advantages** that contribute to **environmental and economic sustainability**:

1. Enhanced Private Sector Participation – Encourages **corporations, industries, and startups** to invest in **climate-positive actions** through an economic incentive model.

2. **Afforestation and Ecosystem Restoration** – Could help **increase forest cover** in **degraded lands** and **improve biodiversity**. As per **GCP progress data (March 2024)**, **54,669 hectares across 17 states** have been earmarked for afforestation.

3. Market-Based Environmental Conservation – Creates a **domestic green credit market**, reducing reliance on **government-funded environmental projects**.

4. Integration with Sustainability Frameworks – Companies can use **green credits** in **ESG (Environmental, Social, and Governance) disclosures**, promoting corporate accountability.

5. Alignment with International Climate Goals – Supports India's **Nationally Determined Contributions (NDCs)** under the **Paris Agreement** and the **UN Sustainable Development Goals (SDGs), especially SDG 13 (Climate Action).**

Criticisms and Concerns

Despite its potential benefits, the **GCP has raised serious environmental and legal concerns**:

1. **Risk of Forest Diversion** – Critics argue that green credits could be **misused to compensate for deforestation**, replacing **old-growth forests** with **commercial plantations** (Supreme Court, 2024).

2. Threat to Ecological Balance – Open forests and scrublands, which provide **unique biodiversity functions**, may be converted into **monoculture plantations**.

3. Lack of Additionality – The scheme mandates **afforestation on degraded lands rather than adding non-forest land**, contradicting the **Van (Sanrakshan Evam Samvardhan) Adhiniyam, 2023**.

4. **Market Manipulation Risks – Green credits could be purchased by polluters** to bypass stricter environmental norms, leading to **"greenwashing"** (overstated sustainability claims).

5. Uncertain Long-Term Viability – Concerns exist regarding the **survival rate of plantations**, as seen in past **Compensatory Afforestation Programmes** where **poor monitoring** led to **high mortality rates of planted saplings**.

Way Forward: Strengthening the Green Credit Programme

To **ensure the effectiveness of the GCP**, the following steps must be taken:

1. **Strengthening Legal Safeguards** – Green credits **must not be used as substitutes for forest diversion compensations**.
2. Scientific Land Restoration – The scheme should prioritize **natural forest regeneration** rather than **monoculture plantations**.

3. Transparent Market Mechanisms – Strict regulatory frameworks should be introduced to **prevent market manipulation and greenwashing**.

4. **Community and Indigenous Involvement** – Engaging **local communities, Gram Sabhas, and forest-dwelling populations** can enhance **sustainability and ecological integrity**.

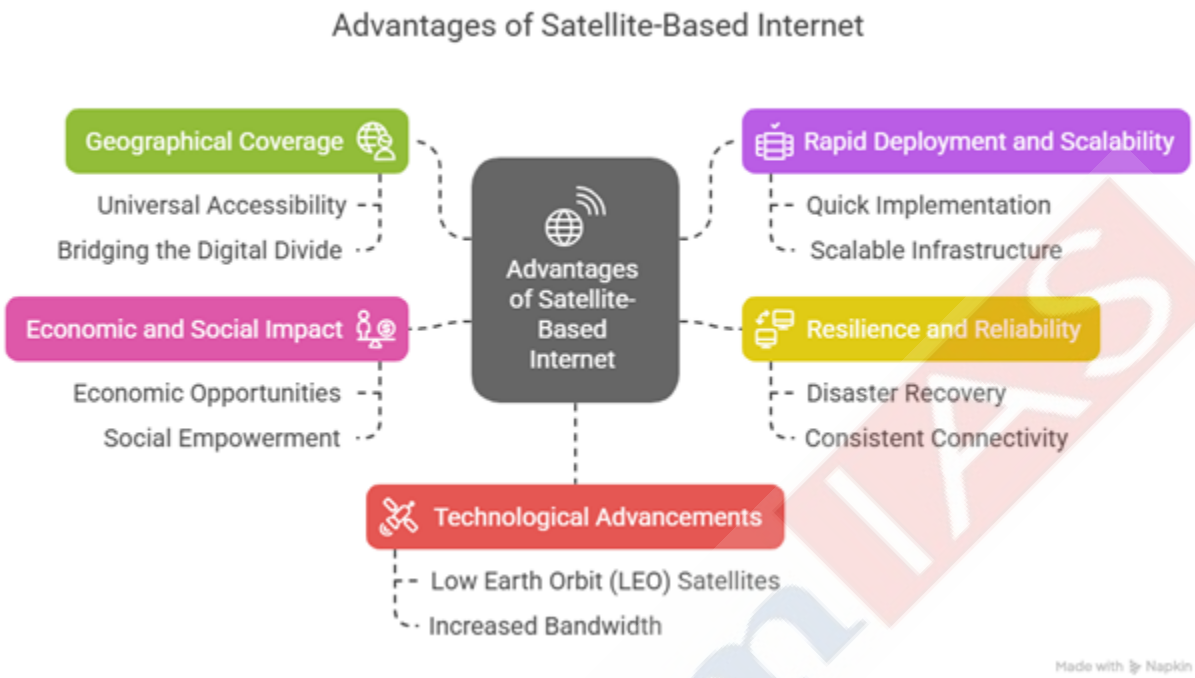
5. Third-Party Monitoring & Audits – Independent environmental audits should **assess plantation survival rates and ecological impact**.

Conclusion

While the **Green Credit Programme** has the potential to **mobilize private investment in environmental conservation**, its **current structure raises concerns** about **greenwashing, ecological degradation, and market misuse**. A **scientifically designed, legally robust, and community-inclusive approach** is essential to ensure that **India's climate and sustainability goals are met without undermining ecological integrity**.

5. While satellite-based internet promises to bridge the digital divide, its implications for India's data localization policies and national security necessitate a nuanced approach. Evaluate the challenges and opportunities presented by this technology, and discuss the regulatory measures India must adopt to ensure its digital sovereignty.

Introduction
Satellite-based internet, especially through Low Earth Orbit (LEO) satellites, is emerging as a transformative tool to ensure last-mile digital connectivity in India. With **internet penetration at ~52.4% and persistent rural-urban divides**, technologies like Starlink and OneWeb offer promise. However, this also raises complex issues around **data localization**, **strategic autonomy**, and **national cybersecurity**.



Opportunities Presented

1. Bridging the Digital Divide: Satellite internet bypasses physical infrastructure, offering **high-speed internet in remote areas** like **Ladakh and Northeast India**. It boosts access to **e-learning (PM e-Vidya), telemedicine (e-Sanjeevani)**, and financial services, contributing to **inclusive growth.**

2. Economic Potential: **FICCI (2023) estimates** satellite broadband can add **$50 billion to GDP.** Enhanced **digital inclusion supports MSMEs, startups, and India's vision of a $1 trillion digital economy by 2025**.

3. Disaster Resilience & 5G Integration: Satellite networks ensure communication during disasters and can backhaul 5G services in inaccessible terrains.

4. Strategic Communication: Crucial for defense and surveillance in border areas. India's own systems reduce dependence on foreign-controlled networks, echoing **China's use of BeiDou for military autonomy.**

5. Geopolitical Leverage: Collaborations like **OneWeb (Airtel-backed) and Starlink (with Jio)** position India within Western digital alliances, countering **China's Digital Silk Road** ambitions.

Challenges and Concerns

1. Data Sovereignty: Satellite providers like Starlink may store Indian data abroad, conflicting with India's data localization policies. The **Personal Data Protection Bill (2023)** lacks specific provisions for satellite data.

2. National Security Risks: Foreign satellite systems could be weaponized or shut down during conflict, as seen when **SpaceX** restricted **Starlink in Ukraine (2022).** Cyberattacks **(e.g., Russia's attack on Viasat)** also expose vulnerabilities.

3. Market Monopolization: Starlink currently controls **~80% of LEO satellites**, raising risks of digital oligopolies and foreign control.

4. Regulatory Gaps: Spectrum allocation disputes **(Ku/Ka bands**) and lack of clarity on licensing delay implementation. Absence of **PSUs like BSNL** limits sovereign control.

5. Affordability & Accessibility: Current **pricing (~₹1.5 lakh/year)** is unaffordable for most Indians, reinforcing inequality unless subsidized.

6. Space Sustainability: LEO congestion raises the threat of **orbital collisions** and Kessler Syndrome, with long-term implications for **space security.**

Regulatory Measures to Ensure Digital Sovereignty

1. Domestic Capacity Building: Accelerate **ISRO-private partnerships** to launch indigenous **LEO constellations**. Integrate **BSNL and defense sectors** into strategic communications.

2. Data Localization Mandates: Ensure satellite operators store Indian user data within national boundaries, similar to **EU's GDPR.**

3. Tiered Pricing & Subsidies: Promote affordable rural access through conditional subsidies and **public-private models.**

4. Strategic Diversification: Avoid over-reliance on one provider. Build alliances with **France, Japan, and BRICS** for satellite and cybersecurity cooperation.

5. Global Governance Advocacy: Push for satellite traffic regulation via **ITU and UNOOSA** to ensure sustainable and equitable space usage.

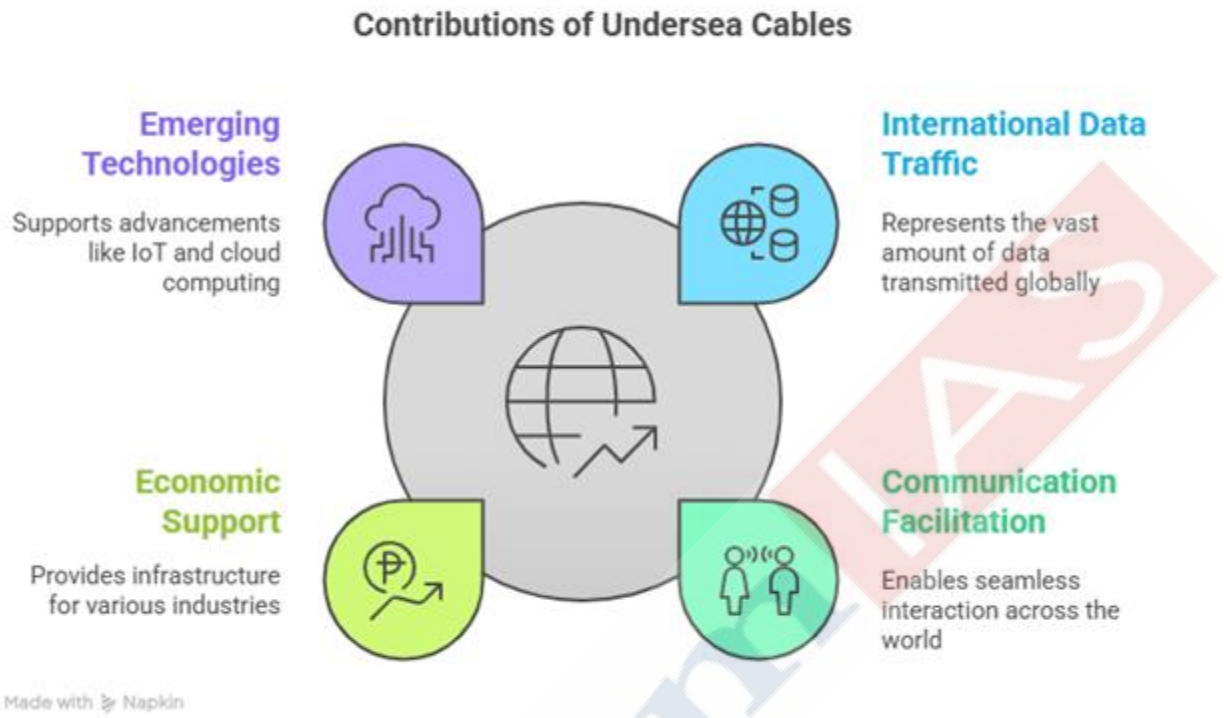
Conclusion

Satellite internet holds immense promise for a digitally inclusive India. But realizing this vision without compromising sovereignty requires a calibrated strategy combining **technological self-reliance**, **robust regulation**, and **international cooperation**. As India charts its digital future, it must ensure that access does not come at the cost of autonomy.

6. Assess the strategic significance of undersea cable networks for India's digital economy and national security. Discuss the vulnerabilities of this infrastructure and suggest measures to ensure its resilience.

Introduction

Undersea cable networks form the **backbone of the global digital infrastructure**, transmitting over **90% of international data**. For a digitally emerging nation like India, which aspires to be a **$1 trillion digital economy by 2026 (MeitY Vision Document),** these cables are not only critical for economic growth but also for national security. Despite their strategic significance, India's cable infrastructure faces several vulnerabilities that need urgent redressal.



Strategic Significance

1. Digital Economy Enabler

- Undersea cables ensure **low-latency, high-bandwidth** international connectivity.
- Vital for sectors like **IT services, fintech, e-commerce, and cloud computing** that rely on uninterrupted global data flow.
- New systems like **2Africa Pearls (Meta & Airtel)** and **SEA-ME-WE-6** add up to **100 Tbps** capacity, boosting digital bandwidth in India.

2. Critical Infrastructure for Governance

- Cables carry secure communications for **government operations**, **financial transactions**, and **defense systems**.
- Nearly **$10 trillion in financial transactions** flow through these cables globally **(Goldman Sachs).**

3. Strategic and Geopolitical Influence

- India's geographic location offers potential to be a **subsea cable hub** between the East and West.
- Enhancing India's control over cable routes increases **data sovereignty** and **geopolitical leverage**, especially in the Indo-Pacific.

Vulnerabilities

1. Overdependence on Few Landings Points

- 95% of India's subsea cables land in **a 6-km stretch in Versova, Mumbai**.
- This clustering creates a **single-point failure risk** from sabotage, natural disasters, or accidents.

2. Geopolitical Risks

- **Red Sea cable disruptions** (e.g. 2024 incidents near Bab-el-Mandeb) affected ~25% of India's internet traffic.
- Conflicts or piracy in key chokepoints can severely impact connectivity.

3. Regulatory Bottlenecks

- Around **51 permissions** are needed to land a single cable in India, leading to **deployment delays**.
- Projects spend **80% of time** on managing last-mile regulatory and territorial hurdles (Meta executive, 2024).

4. Lack of Indigenous Repair Capacity

- India lacks dedicated **cable repair ships and depots**, depending on **foreign vessels** with long clearance times.
- Frequent damage from **fishing trawlers** also highlights inadequate cable protection near shores.

Measures for Resilience

1. Diversify Landing Sites

- Establish new **landing points in eastern and southern coasts** to avoid overconcentration.
- Promote **distributed cable architecture** to mitigate regional outages.

2. Streamline Approvals

- Implement **single-window clearance** under a nodal authority (e.g., DoT or IN-SPACe-type model).
- Digitize and standardize permissions to reduce delays.

3. Strengthen Domestic Capabilities

- Invest in **Indian-owned cable repair ships and storage depots**.
- Mandate **cable protection zones** and monitoring systems to prevent accidental damage.

4. Geopolitical Strategy and Partnerships

- Collaborate with trusted partners through platforms like **Quad and IPEF** to secure global cable routes.
- Develop **redundant routes bypassing conflict-prone chokepoints**.

Conclusion

Undersea cables are a **strategic digital lifeline** for India's economic and security interests. As India rises as a digital superpower, ensuring the **resilience, autonomy, and security** of its subsea cable networks is not just an infrastructure imperative, but a **national strategic priority**. A robust mix of **policy reform, investment, and geopolitics** is essential to safeguard this invisible yet vital infrastructure.

7. Assess the current state of preventive healthcare in India. Discuss key challenges and suggest policy measures to strengthen its integration into the national healthcare system.

Introduction

Preventive healthcare refers to measures taken to prevent the onset of diseases rather than treating them after they occur. It includes immunisation, health screenings, sanitation, lifestyle modifications, and surveillance systems. In India, preventive healthcare is gradually gaining prominence, especially post-COVID-19. However, its integration into the healthcare system remains partial and under-prioritised.

Current Status

1. India has made commendable progress in areas such as **universal immunisation**, **maternal-child healthcare, sanitation (Swachh Bharat Abhiyan),** and **disease surveillance.**

2. The launch of the **Ayushman Bharat – Health and Wellness Centres (HWCs)** aims to provide comprehensive primary care, including prevention and promotion. **Over 1.6 lakh HWCs** are operational, with a strong focus on NCD screening and health education.
3. Additionally, India's **Integrated Health Information Platform (IHIP)** and the **Integrated Disease Surveillance Programme (IDSP)** enable real-time disease tracking, vital for early detection and response to outbreaks.

Key Challenges

1. Limited awareness and health-seeking behaviour: Preventive services are underutilised due to low awareness and health literacy, especially in rural and tribal areas.
2. **Underfunding**: Public health expenditure remains low at around 2.1% of GDP, limiting investments in community health and prevention.
3. **Urban-rural disparity**: Preventive services are better in urban areas, while rural populations face inadequate access.
4. **Fragmented data systems**: Though IHIP is a step forward, lack of private sector data integration hampers full-spectrum disease surveillance.
5. **Burden of NCDs**: Lifestyle diseases like hypertension, diabetes, and cancer are rising, yet preventive screening and behavioural interventions are insufficient.
6. **Human resource gaps**: A shortage of trained public health professionals undermines implementation.

Way Forward / Policy Measures

1. Increase public health investment to at least 3% of GDP, focusing on preventive infrastructure and staffing.
2. Strengthen integration of private sector data into national surveillance platforms like IHIP to enhance outbreak preparedness.
3. Expand digital health tools (like the Ayushman Bharat Digital Mission) for preventive health alerts and personalised health guidance.
4. Incentivise preventive care through insurance reimbursements for regular screenings and vaccinations.
5. Promote health education campaigns using local languages, community health workers, and mass media.
6. Address NCDs systematically by expanding screening at HWCs, ensuring follow-up, and integrating behavioural counselling.

Conclusion

India's preventive healthcare is evolving, but it requires robust investment, integration, and awareness-building. A shift from reactive to preventive health will be crucial to achieving **Universal Health Coverage** and fulfilling **SDG 3 (Good Health and Well-Being).**

8. Evaluate the concerns surrounding the rising failure rate of Indian startups. Discuss the key challenges faced by these ventures and suggest policy measures to enhance their sustainability and growth. (400 words)

Introduction

India has emerged as the world's third-largest startup ecosystem, with over 100 unicorns and more than 1 lakh DPIIT-recognised startups. However, an estimated **80–90% of Indian startups fail within the first five years** (IBM Institute, 2017), raising concerns about their sustainability and systemic gaps in the entrepreneurial ecosystem.

Concerns Surrounding High Failure Rates

1. Loss of Public and Investor Confidence: High failure rates discourage private and foreign investors, shrinking risk capital pools.
2. **Wasted Talent and Innovation**: Failed ventures often reflect untapped potential, contributing to brain drain.
3. **Strain on Public Support Systems**: Government incentives and incubators, though well-meaning, may not yield intended results if startups aren't sustainable.
4. **Economic Impacts**: Frequent failures disrupt employment generation and value creation, undermining the startup vision of **Atmanirbhar Bharat**.

Key Challenges Faced by Indian Startups

1. Access to Capital: Most startups depend on foreign VC funding. Domestic capital, especially from banks or pension funds, remains risk-averse.

2. Shallow Innovation: A large proportion focus on **consumer tech**, offering low-entry-barrier solutions with limited competitive moat.

3. Regulatory Bottlenecks: Complex compliance frameworks (taxation, FDI norms, data laws) raise entry and survival costs.

4. Talent and Skill Mismatch: Founders often lack management or sectoral expertise. India lags in deep-tech, with minimal R&D (0.65% of GDP – World Bank).

5. Scaling Barriers: Many startups plateau post initial growth due to lack of market access, high customer acquisition costs, and operational inefficiencies.

6. Inadequate Exit Ecosystem: A weak IPO market and few M&A options limit monetization and recycling of capital.

Examples

- **Byju's** has faced financial distress due to unsustainable expansion and governance issues.
- **Housing.com** and **Stayzilla** shut down due to flawed business models and cash burn.

Policy Measures for Sustainability

1. **Startup India 2.0**: Shift focus from just creation to long-term **sustainability, R&D support**, and revenue stability.
2. **R&D Incentives**: Boost public-private research partnerships and expedite the creation of the **National Research Foundation**.
3. **Access to Domestic Capital**: Allow a portion of **EPFO/NPS** funds into AIFs/startup funds; strengthen SIDBI's role.
4. **Ease of Doing Business**: Simplify tax, IP, and compliance frameworks for early-stage ventures.
5. **Capacity Building**: Institutionalize **entrepreneurship education**, especially in Tier-2/3 cities.
6. **Revive Exit Markets**: Strengthen SME IPOs and incentivize domestic acquisitions of startups.

Conclusion

India's startup ecosystem is rich in energy and potential but needs structural reforms to move from a "funding-first" model to an **innovation-first and value-driven ecosystem**. Addressing root challenges will ensure that startups truly contribute to India's socio-economic transformation.

9. Evaluate India's preparedness in shaping a future-ready workforce amidst rapid technological change. Discuss key challenges and suggest essential policy interventions.

Introduction:
India, with over 65% of its population below 35 years, holds immense potential to become the world's talent powerhouse. However, rapid technological shifts driven by Industry 4.0, AI, automation, and the green economy demand a resilient, agile, and future-ready workforce. While India has initiated several reforms, its preparedness remains mixed.

India's Preparedness:

1. Positive Trends: The QS World Future Skills Index ranks India **2nd in green and AI skills**. The NEP 2020 introduces coding, multidisciplinary education, and vocational training early on. Digital learning platforms like **DIKSHA**, **SWAYAM**, and **PM e-Vidya** expand access.

2. Strategic Initiatives: Skill India Mission, **PMKVY**, and **SANKALP** aim to train over 40 crore youth. Industry collaboration through **TCS iON**, **Infosys Springboard**, and **NEAT** provide real-world exposure.

Despite these strides, gaps remain.

Key Challenges:

1. Skills Mismatch: Only **46.8% of graduates are employable** (India Skills Report 2023). 'Skills Fit' remains low due to outdated curricula and poor industry-academia linkages.

2. Digital Divide & Inequity: Only **29% of rural India** has internet access (NFHS-5), limiting e-learning reach.

3. Low Innovation Readiness:

4. India scores just **15.6/100 in innovation performance** (QS Index) due to low R&D investment (**0.7% of GDP**).

5. Gender & Regional Disparities: Women's participation in STEM and formal skilling programmes remains low.

Policy Interventions Needed:

1. Curriculum Reform: Embed analytical thinking, design thinking, and sustainability in education from early stages.

2. Boost R&D & Innovation: Increase R&D expenditure to at least **1.5% of GDP**; promote incubation in HEIs.

3. Strengthen Industry Linkages: Promote internships, co-designed curricula, and apprenticeships under **NAPS**.

4. Digital Infrastructure Expansion: Invest in rural digital access and vernacular e-learning content.

5. Inclusive Skilling: Target women, rural youth, and marginalized communities through tailored skilling and gig economy integration.

Conclusion:

India's demographic advantage must be matched by a dynamic skilling ecosystem. While foundational efforts are in place, sustained focus on innovation, inclusion, and industry alignment is crucial to build a truly future-ready workforce and realize the vision of Viksit Bharat@2047.

10. Critically evaluate the argument that the efficacy of the Bharatiya Vayuyan Adhiniyam, 2024 is contingent upon substantive reforms within India's arbitration framework, specifically concerning the aviation sector.

Introduction

The **Bharatiya Vayuyan Adhiniyam (BVA), 2024** marks a significant upgrade from the archaic **Aircraft Act, 1934**, addressing licensing, passenger rights, and air traffic management. However, its **efficacy remains contingent on substantive arbitration reforms**, as India's aviation sector continues to rely on foreign arbitration hubs like Singapore and London for dispute resolution.

Why Arbitration Reforms Are Critical

1. Specialized Nature of Aviation Disputes: Aviation conflicts involve **technical issues** (e.g., WTO compliance, lessor-lessee agreements) that generic arbitrators under India's **Arbitration Act, 1996** lack expertise to resolve. For instance, the **Kingfisher Airlines** dispute was settled in London, while **Go First's** lessors opted for Singapore—highlighting India's incapacity to handle complex cases.

2. Economic and Strategic Costs: **$1.2 billion/year** is lost to overseas arbitration fees (FICCI 2023). **Investor confidence** erodes when disputes are outsourced, signaling weak institutional support.

3. Judicial Delays and Interference: **Section 34** of the Arbitration Act allows excessive court appeals, delaying enforcement. In contrast, **Singapore's SIAC** resolves cases within **12 months**, making it the preferred choice for 90% of India-linked aviation arbitrations.

BVA 2024's Limitations

1. **Absence of sector-specific arbitration**: The Arbitration and Conciliation Act, 1996 lacks provisions tailored for aviation disputes. Unlike **Singapore** or **London**, India does not have **dedicated aviation arbitration panels** or legal expertise in this domain.

2. Arbitration exodus: Over **90% of Indian corporate arbitration cases** are handled by international centres like **SIAC**. This results in a **loss of legal revenue**, **trust deficit among foreign investors**, and impacts **India's arbitration sovereignty**.

3. Lack of institutional credibility: Institutions like **MCIA** and **DIAC** exist but lack global trust and sectoral specialization. Judicial overreach and government-appointed arbitrators hamper perceptions of **neutrality and fairness**.

4. No integration with aviation policy: The 2024 Act does not create dispute resolution mechanisms or link arbitration reform with aviation regulatory changes.

Way Forward

To make BVA 2024 effective, India must:

1. Establish a specialized aviation arbitration tribunal with technical experts.

2. Amend the Arbitration Act to exclude aviation disputes from protracted litigation.

3. Align with global standards (e.g., Cape Town Convention) to attract lessors and airlines.

Conclusion: Without arbitration reforms, BVA 2024's transformative potential will remain unrealized. India must prioritize **legal infrastructure** to complement regulatory upgrades, ensuring disputes—and economic benefits—are retained domestically.