

## 7 PM COMPILATION

**May, 2023**

### **Features of 7 PM compilation**

- ❖ **Comprehensive coverage of a given current topic**
- ❖ **Provide you all the information you need to frame a good answer**
- ❖ **Critical analysis, comparative analysis, legal/constitutional provisions, current issues and challenges and best practices around the world**
- ❖ **Written in lucid language and point format**
- ❖ **Wide use of charts, diagrams and info graphics**
- ❖ **Best-in class coverage, critically acclaimed by aspirants**
- ❖ **Out of the box thinking for value edition**
- ❖ **Best cost-benefit ratio according to successful aspirants**

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**Cheetah Reintroduction Project: progress so far – Explained, pointwise****Introduction**

The Cheetah Reintroduction Project, a significant conservation initiative in India, aims to restore the cheetah population after more than 70 years of extinction within the country. However, the recent deaths of two cheetahs, Sasha and Uday, at Kuno National Park have raised concerns about the project's progress and success. While some cheetah deaths were anticipated during the project's initial phase, the circumstances surrounding these two incidents have led to several questions and challenges that must be addressed.

About the Cheetah Reintroduction Project

**Must read:** [Cheetah Reintroduction in India – Explained, pointwise](#)

**What is the progress of the Cheetah Reintroduction project so far?**

**Successful Translocation:** In total, 20 cheetahs have been brought to India from Africa in two stages. The first phase took place in September 2022, when 8 cheetahs (3 males and 5 females) arrived from Namibia. The second phase occurred in February 2023, with the arrival of 12 cheetahs (7 males and 5 females) from South Africa. Sasha and Uday, who were part of the second phase translocated group.

**Establishment in Kuno National Park (KNP):** The translocated cheetahs, such as Siyaya and Savanna, have been adapting to their new environment, with some demonstrating the ability to hunt wild prey.

**Cheetah Births:** A significant milestone for the project is the birth of four cheetah cubs in Kuno, born to a female cheetah who adapted well to her new habitat.

**Read more:** [RIP Sasha: India's dream of its own cheetah population rests on her companions](#)

**What are the reasons for the death of Cheetahs since reintroduction?**

**Health issues:** For example, Sasha's death was due to kidney failure, possibly caused by an underlying infection or health issue that went undetected.

**Stress and captivity:** Both Sasha and Uday may have experienced high-stress levels from confinement, relocation, or other factors, contributing to their health decline.

**Diet issues:** The cheetahs were fed a flesh-only diet during quarantine and confinement, which might have deprived them of essential micronutrients and negatively impacted their health.

**Long confinement:** Uday spent almost 10 months in captivity before being flown to Kuno, which could have had adverse effects on his health and well-being.

**Possible poisoning:** One of the possibilities for Uday's sudden death is botulism poisoning, which can be fatal to cheetahs.

**Other reasons:** The deaths of Sasha and Uday have raised questions about the suitability of the selected cheetahs, their confinement periods, and the potential impact of stress and diet on their health. For instance, Sasha developed kidney failure and gastritis, while Uday's cause of death remains uncertain.

What are the steps taken by the government since Cheetah Reintroduction for conservation?

**Adoption of the action plan:** Considerations for formulating objectives & actions to achieve the goals of cheetah translocation in India. The Action Plan has been developed in compliance with IUCN guidelines (2013).

**Selecting suitable habitats:** Kuno National Park was chosen after extensive research, ensuring that it has the necessary ecological conditions to support the cheetah population.

**Health monitoring and care:** After the deaths of Sasha and Uday, the government has been more vigilant about the health of the remaining cheetahs, conducting regular health checks and providing necessary medical care.

**Enclosures and acclimatization:** Cheetahs were placed in large enclosures within Kuno National Park, allowing them to adjust to their new environment and even successfully give birth, as seen with one of the female cheetahs.

**Supporting prey base:** Efforts to enhance the prey base within Kuno National Park include habitat management practices, such as controlled grazing and reforestation, to provide a sustainable food source for the reintroduced cheetahs.

**Collaboration with international experts:** The government has partnered with the Cheetah Conservation Fund and other international organizations to ensure the success of the project, benefiting from their expertise and knowledge.

**Monitoring and data collection:** A monitoring system, including camera traps and tracking devices, has been established to collect data on the cheetah population and inform future conservation efforts.

**Raising awareness and community involvement:** Local communities around Kuno National Park have been engaged through educational programs and awareness campaigns, helping to promote coexistence between humans and cheetahs and foster support for the project.

#### **What are the benefits of cheetah reintroduction?**

**Biodiversity restoration:** Reintroducing cheetahs helps restore the natural balance of the ecosystem by reintroducing a top predator. The efforts to restore and protect their natural habitat can have positive cascading effects on other flora and fauna in the region.

**Enhanced tourism:** The presence of cheetahs in Indian national parks can boost wildlife tourism, attracting more visitors and generating revenue. This in turn can lead to job creation and support for local businesses, benefiting communities living around national parks and wildlife reserves.

**Ecological research opportunities:** Reintroducing cheetahs can provide a unique opportunity for scientists to study cheetah behaviour and ecology in a new environment.

**Conservation awareness:** The publicity surrounding the cheetah reintroduction raises public awareness about wildlife conservation and the importance of protecting endangered species.

**Mitigating human-wildlife conflict:** Cheetahs primarily prey on small to medium-sized ungulates, which could potentially reduce the population of crop-raiding animals, helping local farmers and alleviating human-wildlife conflict.

**Cultural significance:** The reintroduction of cheetahs can help revive their cultural importance in India, as they have historically been symbols of strength and agility in Indian mythology and folklore.

**Inspiring further conservation efforts:** The success of the cheetah reintroduction project can serve as a model for the reintroduction of other species, motivating conservationists and governments to pursue similar efforts for other endangered species.

**Read more:** [Can the cheetahs help India's grasslands?](#)

#### **What are the challenges faced in the implementation of the Cheetah Reintroduction project?**

**Suitability of selected cheetahs:** Despite concerns over the unsuitability of certain cheetahs like Sasha, who struggled to catch wild prey, they were still included in the project.

**Habitat and space:** Ensuring that Kuno National Park can support the growing cheetah population, as some experts question whether there is enough space for 22 cheetahs.

**Climate change impacts:** Adapting to the impacts of climate change on the habitat and prey availability may pose challenges for the cheetah population's long-term survival.

**Genetic diversity:** Ensuring genetic diversity within the reintroduced cheetah population to promote healthy breeding and prevent inbreeding, which could result in health issues.

**Balancing multiple conservation priorities:** Managing competing priorities in conservation, as resources and attention may need to be allocated to other species and ecosystems that also require urgent intervention, while still supporting the cheetah reintroduction project.

**Read more:** [There are better ways than cheetahs to revive ecosystems](#)

#### What should be done?

**Improve health monitoring:** Regular health checks and early detection of health issues can help prevent deaths like Sasha's from kidney disease and gastritis.

**Coordinate with other countries:** Collaborating with countries like South Africa and Namibia, which also have cheetah populations, to exchange knowledge and best practices in cheetah conservation.

**Secure adequate habitat:** Make sure the habitat (Kuno National Park) has enough space and resources for cheetahs. The government should work on projects that help both cheetahs and other animals by improving the ecosystem and increasing the number of prey animals.

**Enhance adaptation support:** Provide proper training to the cheetahs to improve their hunting skills and ensure their survival in the wild in Madhya Pradesh.

**Streamline project implementation:** Reducing delays in the translocation process and minimizing bureaucratic hurdles can help avoid prolonged captivity periods for the cheetahs.

**Strengthening collaboration:** Enhance cooperation between Indian authorities, international conservation organizations, and experts to share knowledge and best practices for cheetah reintroduction.

**Establish a long-term monitoring plan:** Develop a comprehensive plan to monitor the cheetah population, track their movements, and evaluate the overall success of the reintroduction project.

**Encourage community-based conservation:** Involve local communities in conservation efforts, providing economic incentives and opportunities for sustainable development, such as ecotourism or community-led wildlife management.

**Sources:** The Times of India ([Article 1](#) and [Article 2](#)), [Business Standard](#), [Indian Express](#), [Business World](#) and [Firstpost](#).

**Syllabus:** GS – 3: Environment and Bio-diversity – Conservation.

### Neurotoxic gas leaks and remedies – Explained, pointwise

#### Introduction

The Bhopal gas tragedy of 1984 should have served as a powerful wake-up call to prioritize safety measures and prevent any Neurotoxic gas leak incident from happening again. However, India continues to face challenges related to neurotoxic gas leaks, as evidenced by recent events such as the toxic gas leak in Ludhiana, Punjab, and the 2020 styrene vapour leak in Visakhapatnam, Andhra Pradesh.

This highlights the need to address the pressing issue of neurotoxic gas leaks and explore effective remedies to safeguard the lives of millions of people who are at risk of being exposed to these hazardous substances.

About the present neurotoxic gas leak in Ludhiana

Recently, there is a gas leak in Ludhiana's Giaspura area that led to the death of 11 people and the hospitalization of four others. There has been a leak of high levels of hydrogen sulfide, a neurotoxin. It is suspected that the poisonous gas emanated from a partially open manhole in the locality, possibly due to industrial waste dumping.

#### **What are the previous instances of neurotoxic gas leaks in India?**

**Bhopal Gas Tragedy (1984):** The Bhopal Gas Tragedy is considered the world's worst industrial disaster. On the night of December 2-3, 1984, a gas leak at the Union Carbide India Limited (UCIL) pesticide plant released 40 tons of methyl isocyanate (MIC) gas. This led to thousands of deaths and long-term health issues for survivors.

**Visakhapatnam Gas Leak (2020):** In May 2020, a styrene gas leak occurred at the LG Polymers plant in Visakhapatnam, Andhra Pradesh. The leak happened during the reopening of the plant after a COVID-19 lockdown. This caused the death of 11 people, hospitalization of hundreds, and evacuation of thousands.

**Surat Chemical Leak (2022):** In February 2022, a chemical leak in Surat, Gujarat resulted in the deaths of six people. A tanker dumped toxic material, which led to the release of poisonous gases into the atmosphere. Thereby causing severe health hazards for the local population. There are other incidents also which garnered public attention and highlighted the need for better safety standards in the chemical and industrial sectors.

#### **What are neurotoxic gases and how do they affect humans?**

Neurotoxic gases are poisonous substances that can directly affect the nervous system. They can disrupt or even kill neurons or nerve cells, which are essential for transmitting and processing signals in the brain and other parts of the nervous system. Examples of common neurotoxic gases include methane, hydrogen sulfide, carbon monoxide, and carbon dioxide.

##### **Neurotoxic gases effects on Humans:**

**Breathing difficulties:** Exposure to these gases can lead to respiratory problems, making it hard for individuals to breathe.

**Irritation:** Neurotoxic gases can cause irritation in the eyes, skin, nose, and throat.

**Central nervous system damage:** These gases can affect the central nervous system, causing nerve damage and impairing functions such as vision, hearing, and balance.

**Oxygen deprivation:** High concentrations of neurotoxic gases can overpower the oxygen levels in the body, leading to potentially fatal consequences.

#### **What are the various reasons behind neurotoxic gas leaks?**

**Poor Waste Management:** Inadequate disposal of industrial waste can lead to the release of neurotoxic gases. For example, dumping toxic chemicals into sewers can cause dangerous chemical reactions, as seen in the Ludhiana gas leak incident.

**Inadequate Maintenance of Industrial Plants:** Poorly maintained plants and storage facilities can lead to gas leaks. The Bhopal gas tragedy is an example of a catastrophic gas leak caused by inadequate safety measures and maintenance at a chemical plant.

**Lack of Regulation and Monitoring:** Weak enforcement of environmental regulations and insufficient monitoring of industries and government authorities can result in hazardous gasleaks. Insufficient oversight allows industries to operate without proper safety measures, thereby increasing the risk of gas leaks.

**Overcrowded Urban Areas:** The coexistence of factories and residential buildings in densely populated areas increases the risk of exposure to harmful gases. Inadequate urban planning and zoning regulations contribute to this problem, as seen in the Vizag gas leak incident.



**Infrastructure Failures:** Damaged or poorly maintained pipelines and storage tanks can lead to gas leaks. In some cases, ageing infrastructure and lack of proper maintenance can result in hazardous situations.

**Read more:** [On Bhopal Gas tragedy curative petition: Where did the constitutional sympathy for the victims vanish?](#)

#### **What are the government regulations for preventing neurotoxic gas leaks?**

The Indian government has enacted various regulations to prevent neurotoxic gas leaks, such as **Environmental Laws:** The government enforces environmental laws like the Water (Prevention and Control of Pollution) Act, 1974, and the Air (Prevention and Control of Pollution) Act, 1981, to regulate the discharge of pollutants and protect the environment.

**Hazardous Waste Management:** The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, govern the safe handling, storage, and disposal of hazardous waste to minimize the risk of toxic gas leaks.

**Factory Licensing and Inspection:** Factories handling hazardous chemicals must obtain licenses under the Factories Act, 1948,. Further, they are subject to regular inspections to ensure compliance with safety standards and regulations.

**Public Liability Insurance Act:** The Public Liability Insurance Act, 1991, requires industries dealing with hazardous substances to have insurance policies, providing compensation in case of accidents, including neurotoxic gas leaks.

**Chemical Accidents Rules:** The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, outline safety requirements and emergency response plans for industries handling hazardous chemicals.

**NDMA guidelines:** The NDMA has established clear guidelines on Chemical Disaster Management for various authorities in India. These guidelines promote a proactive and multi-disciplinary approach to chemical disaster preparedness and response.

NDMA has also suggested amendments to existing frameworks and is working to strengthen chemical safety by revamping the Chief Inspectorate of Factories.

Moreover, the finalized National Action Plan on Chemical Industrial Disaster Management (NAP-CIDM) will serve as a roadmap for managing chemical disasters in the country.

**Read more:** [Bhopal's Real Lesson - Attempts to get more out of Carbide for the gas tragedy are futile. India needs good law on civil liability](#)

#### **What are the challenges in preventing neurotoxic gas leaks?**

**Lack of awareness:** In the Bhopal gas tragedy (1984), insufficient knowledge of the hazards associated with methyl isocyanate led to inadequate safety measures, contributing to the devastating leak.

**Improper maintenance:** The Vizag gas leak (2020) at LG Polymers India's plant in Visakhapatnam occurred due to a technical glitch in the refrigeration unit, highlighting the importance of maintaining proper infrastructure.

**Rapid urbanization:** The Gopalapatnam area near the LG Polymers plant in Visakhapatnam was initially a deserted area, but as the city expanded, it became densely populated, increasing the risk of exposure to the styrene gas leak.

**Improper waste disposal:** The Surat toxic waste dumping incident (2022) led to six deaths, illustrating the dangers of illegal dumping and improper waste management.

**Lack of emergency preparedness:** In the Kochi garbage fire incident (2022), a mountain of waste caught fire and emitted toxic gases for over a week. This highlighted the need for better emergency preparedness to minimize harm to human health and the environment.

**Issues with India's legal framework:** These include inadequate and outdated laws, fragmented and overlapping regulations, inadequate penalties and deterrents, and insufficient focus on prevention, etc.

**Non-transparent operations of industries:** These include unauthorized activities, unsafe working conditions, and inadequate funding for maintenance all contribute to increased risks of industrial disasters in India.

**Read more:** [Bhopal tragedy compensation fund of ₹50cr unutilised: SC](#)

### What should be done?

**Enhance awareness:** Educate communities and industries about the hazards associated with neurotoxic gases, like the Bhopal gas tragedy, to minimize the risk of similar accidents.

**Strengthen monitoring and enforcement:** Increase inspections and enforce regulations to follow appropriate waste disposal methods to prevent illegal dumping that can cause toxic gas leaks.

**Enhance workplace safety:** Adopt strict safety measures in industries and formulate proper emergency preparedness plans to prevent accidents and protect workers from toxic gas exposure.

**Encourage research and technological innovation:** Support the development of advanced technologies and safer alternatives to hazardous chemicals. This can help minimize the risk of neurotoxic gas leaks and their impact on human health and the environment.

**Strengthen legal framework:** Review and update existing laws and regulations related to hazardous materials and industrial safety, ensuring they are comprehensive, effective, and in line with international standards.

India should adopt role models such as the European Union's Seveso Directive and REACH regulation, which impose stringent safety requirements and ensure responsible management of chemicals, which could help India strengthen its regulatory framework.

**Promote transparency and accountability:** Ensure that industries maintain accurate records of hazardous materials and report any incidents or accidents in a timely manner, fostering a culture of transparency and accountability.

**Implement better urban planning:** Create buffer zones between industrial facilities and residential areas, as seen in the Navi Mumbai area, to minimize the risk of human exposure to toxic gas leaks.

**Note:** In Navi Mumbai, designated industrial zones have been established away from residential areas, helping to minimize the potential impact of hazardous materials on nearby communities.

**Sources:** Indian Express ([Article 1](#) and [Article 2](#)), [Business Standard](#), The Hindu, [Livemint](#), [TOI](#)

**Syllabus:** GS – 3: Disaster Management: Disaster and disaster management.

## Virtual digital assets(VDAs) and India's stand on it- Explained, pointwise

### Introduction

India's approach to regulating virtual digital assets (VDAs) is measured and considers the challenges posed by emerging technologies. The government has extended anti-money laundering provisions to VDA businesses and service providers, requiring them to register with the Financial Intelligence Unit-India.

This move promotes transparency and aligns with global guidelines from organizations like the IMF and FATF. As India holds the G-20 presidency, it can play a key role in shaping global regulatory frameworks for VDAs while learning from other nations' experiences in regulating this emerging sector.

### What are Virtual digital assets?

Read here: [Virtual Digital Assets \(VDAs\): Challenges in Regulation – Explained, pointwise](#)

### How are Virtual Digital Assets different from Digital Currency?



Source: Techtargert

Virtual digital assets (VDAs) are a broad category of digital representations of value that can be traded, transferred, or stored electronically. They include various types of digital tokens, such as cryptocurrencies, utility tokens, and [non-fungible tokens \(NFTs\)](#).

Digital currency, on the other hand, is a subset of VDAs and refers specifically to digital forms of money, like cryptocurrencies. These currencies can be used as a medium of exchange, a unit of account, and a store of value. A digital currency can be defined as a currency when it is issued by a central bank.

In the case of India, the Reserve Bank of India (RBI) issued e-rupee. The government plans to tax profits made during transactions of these assets at 30 percent.

### Why India needs to regulate VDAs?

**Growing VDA adoption:** With an increasing number of Indian investors and businesses engaging in VDA transactions, it is essential to establish a regulatory framework to address potential risks and challenges.

**Market volatility:** The highly volatile nature of VDAs can lead to significant financial losses for investors. Regulation is needed to minimize the impact of such volatility and protect investors.

**Lack of consumer awareness:** Many Indian consumers may not fully understand the complexities of VDAs and could be vulnerable to misleading information. Regulation is needed to ensure transparency and accurate information dissemination.

**Fragmented regulatory landscape:** Currently, VDAs are subject to a patchwork of rules and regulations. A unified regulatory framework is necessary to bring consistency and clarity to the market.

**Cross-border transactions:** As VDAs facilitate cross-border transactions, it is important to have a regulatory framework in place to address potential issues related to foreign exchange management, taxation, and jurisdictional disputes.

#### How does the government define and regulate virtual digital assets?

The infographic features a blue background with the text 'UNION BUDGET 2022' in large white letters. On the left, there is a circular portrait of Nirmala Sitharaman, the Union Finance Minister, holding a red envelope. To the right, a yellow box titled 'KEY HIGHLIGHTS IN DIRECT TAXES' contains the following information:

**Measures for Revenue Mobilisation (Contd)**

Scheme for taxation of virtual digital assets proposed to be introduced.

- TDS on payment made in relation to transfer of virtual digital asset @1%
- Gift of virtual digital asset also proposed to be taxed in the hands of recipient.

At the bottom of the infographic, there are social media handles for @IncomeTaxIndia and Income Tax India, along with the website link incometaxindiaefiling.gov.in and the hashtag #AatmaNirbharBharatKaBudget #Budget2022.

**Source:** IT Dept

To regulate VDAs, the government typically: **(a)** Establishes a legal framework to classify and define VDAs, **(b)** Sets up licensing requirements for VDA service providers, **(c)** Implements anti-money laundering (AML) and combating the financing of terrorism (CFT) rules, **(d)** Enforces consumer protection and disclosure norms, **(e)** Mandates risk management and reporting standards, **(f)** Introduces taxation rules for VDA transactions, **(g)** Ensures transparent advertising and marketing practices.

These regulations help protect investors, maintain financial stability, and prevent illicit activities involving VDAs.

#### **In case of India:**

**The Indian government defines virtual digital assets (VDAs) under section 2(47A) of the Finance Act, 2022.** According to this definition, a VDA includes: **(a)** Any information or code or number or token (not being Indian currency or foreign currency) that meets specific conditions, **(b)** Non-fungible tokens (NFTs) or any other token of a similar nature, regardless of the name used, **(c)** Any other digital asset that the government may specify by notification.

The government also may exclude any asset from the definition of virtual digital asset by notification. The CBDT issued two notifications for the purpose of defining virtual digital asset under section 2(47A) of the Act—one excluding certain assets from the definition, and a second defining NFT for purposes of the section.

**Must read:** [Cryptocurrency tax: Budget 2022 unveils norms for virtual digital assets](#)

**What are the advantages of Virtual Digital Assets (VDAs)?**

**Accessibility:** VDAs are accessible to anyone with an internet connection, allowing more people to participate in the global economy. For example, people in developing countries can use VDAs to access financial services they may not have access to otherwise.

**Lower transaction costs:** VDAs often have lower transaction costs compared to traditional banking services. For instance, crossborder payments can be faster and cheaper with VDAs like Bitcoin.

**Enhanced privacy and security:** Using VDAs can provide a higher level of privacy and security compared to traditional financial systems. For example, blockchain-based VDAs can protect users from identity theft and fraud.

**Decentralization:** VDAs are decentralized, meaning no central authority controls them. This can reduce the risk of manipulation and censorship. For instance, cryptocurrencies like Bitcoin operate on a decentralized network of computers.

**Financial innovation:** VDAs can foster innovation in financial services, leading to the development of new products and platforms. For example, decentralized finance (DeFi) platforms built on Ethereum offer various financial services using smart contracts.

**Asset diversification:** VDAs provide an alternative asset class for investors, allowing for portfolio diversification. For instance, investors can allocate a portion of their investments to VDAs like Bitcoin to potentially hedge against economic uncertainty.

**Read More:** [Cryptocurrencies in India: Ban or Regulation? – Explained, pointwise](#)

**What are the challenges in controlling virtual digital assets?**

**Anonymity:** VDAs can provide a high level of anonymity, making it difficult for authorities to trace transactions. For example, privacy focused cryptocurrencies like Monero can be used to hide transaction details.

**Decentralization:** The decentralized nature of VDAs makes it challenging for governments to exert control over them. For instance, shutting down a single server won't affect the Bitcoin network since it operates on numerous computers worldwide.

**Regulatory complexity:** Creating and enforcing regulations for VDAs can be complex due to the rapidly evolving technology and varying legal frameworks across jurisdictions. For example, differing tax treatments for VDAs across countries can lead to confusion and compliance challenges.

**Volatility:** VDAs often experience significant price fluctuations, making them a risky investment and complicating their use as a stable means of payment. For instance, Bitcoin's value can change drastically within a short period, impacting investors and users.

**Cybersecurity risks:** VDAs are susceptible to cyberattacks, which can lead to theft, fraud, and loss of assets. For example, cryptocurrency exchanges have experienced security breaches, resulting in the loss of millions of dollars worth of VDAs.

**Illicit activities:** VDAs can be used for illegal activities, such as money laundering, terrorism financing, or purchasing illicit goods. For example, the anonymous nature of some VDAs can make it easier for criminals to conduct transactions without being traced.

**Read more:** [Finance Ministry brings crypto assets under Prevention of Money Laundering Act: What are the implications?](#)

**What should be done?**

**Establish clear regulations:** The government should create comprehensive and transparent regulations to guide the VDA market. For example, implementing licensing requirements for VDA service providers can ensure responsible operation and consumer protection.

**Harmonize international standards:** Global cooperation is essential to address VDA-related challenges. Countries can collaborate to establish standardized rules, such as in areas of anti-money laundering and taxation. For instance, the Financial Action Task Force (FATF) guidelines can serve as a starting point.

**Enhance cybersecurity measures:** VDA stakeholders, including governments and service providers, must prioritize cybersecurity to protect user assets. For example, implementing strict security protocols for cryptocurrency exchanges can reduce the risk of hacks and thefts.

**Promote education and awareness:** Public education campaigns can help users make informed decisions about VDAs and mitigate risks. For instance, providing resources on safe VDA practices, potential scams, and investment risks can empower individuals to navigate the digital asset landscape responsibly.

**Foster innovation:** The government should encourage the development of new VDA technologies and applications, which can drive economic growth and benefits. For example, supporting research and development in areas like blockchain technology can lead to innovative solutions in finance, supply chain management, and more.

**Monitor and adapt:** As the VDA market evolves, governments should continuously review and update regulations to stay current with emerging trends and challenges. For example, adjusting policies as needed to address new types of VDAs, such as stablecoins and decentralized finance platforms.

**Read more:** [Taking the lead on regulation of digital assets](#)

**Sources:** [Indian Express](#), [The Hindu](#), [Livemint](#), [Economic Times](#) and [ORF](#)

**Syllabus:** GS 3: Economic development – Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

## India's Evacuation Missions and challenges – Explained, pointwise

### Introduction

India's Evacuation Missions have become increasingly vital for safeguarding its citizens during global crises, as exemplified by the recent Sudan conflict in 2023. In this mission, India demonstrated its unwavering commitment to ensuring the safety and well-being of thousands of its nationals trapped in the African nation. However, these missions also present a myriad of challenges, including geopolitical complexities, operational difficulties, and resource constraints.

About India's present Evacuation Mission – Operation Kaveri

**Read here:** [India launches Operation Kaveri to evacuate stranded citizens from war-hit Sudan](#)

About India's Evacuation Missions in the Past

**Read here:** [Evacuation operations of India in various countries](#)

### Why there is a rising complexity in India's Evacuation Missions?

**Unstable Regions:** India's evacuation missions often involve unstable regions where the security situation can change rapidly, making it difficult to plan and execute safe evacuations. The recent rescue of Indians from Sudan highlights this complexity, as the IAF faced intelligence challenges and a rough landing environment.

**Global Crises:** Global crises like the COVID-19 pandemic and the recent conflict in Afghanistan have led to an increased need for evacuation missions in challenging circumstances. In the Kabul mission of August 2021, the pilots faced chaotic and uncontrolled airspace, emphasizing the complexity of such operations.

**Diverse Nationalities:** India's evacuation missions often involve not only Indian citizens but also foreign nationals, adding to the logistical challenges of coordinating with other governments and international organizations. During "Operation Raahat" in 2015, India evacuated over 4,600 Indians and 950 nationals from 41 countries amid the Yemen crisis.

**Coordination Challenges:** India's evacuation missions require close coordination between various government agencies, the armed forces, and international partners. This increases the complexity of such operations, as demonstrated by India's efforts to evacuate its citizens from Ukraine during the COVID-19 pandemic or from Iraq and Syria.

**Evolving Security Threats:** India's evacuation missions are becoming more complex due to evolving security threats, such as terrorism and cyberattacks. These threats can directly impact the safety and security of evacuees and the personnel involved in the missions, requiring robust planning and countermeasures to mitigate risks.

**Climate-Related Disasters:** Natural disasters caused by climate change, such as cyclones and floods, can hamper evacuation missions.

**Growing Indian Diaspora:** With an increasing number of Indians living, working, and studying abroad, the potential for India's evacuation missions to involve a more diverse group of people is growing. This can create additional complexities in terms of communication, cultural understanding, and logistical coordination during evacuation operations.

#### **What is the policy support provided by the government for India's Evacuation Missions?**

**Strong Political Commitment and Continuous Assessment:** India's Prime Minister's directive to prepare evacuation plans for Indian citizens in Sudan in 2023 and his emphasis on regular monitoring and assessment of their safety demonstrate the government's unwavering dedication to protect its nationals abroad.

**Interagency Coordination:** The high-level meeting chaired by India's PM to discuss the situation of Indians trapped, this was attended by officials from the Ministry of External Affairs, the Indian ambassador to Sudan, the Foreign Secretary, and high-level officials from the air force and navy, highlighting the importance of interagency coordination in evacuation missions.

**Diplomatic Efforts:** India's External Affairs Minister meeting with UN Secretary-General Antonio Guterres to discuss the situation, emphasizing the role of diplomacy in facilitating evacuation missions.

**Resource Allocation:** The Indian government's allocation of resources, such as the deployment of Indian Air Force C-130J Super Hercules aircraft for evacuation missions like the one in Sudan in 2023, demonstrates support for the missions.

**Public Communication:** The Ministry of External Affairs' cautionary statement to Indians in Sudan about active fighting near the Indian mission in Khartoum, emphasizing the role of effective public communication in ensuring the safety of citizens during evacuation missions.

**Specialized Training:** The specialized training provided to the IAF's special operations crew, like the C-130J squadrons, which helped in successful evacuation missions such as the ones in Afghanistan and Sudan.

**Coordination with Host Countries:** During the Vande Bharat Mission in 2020, India worked closely with host countries to ensure the safe repatriation of Indian citizens from various nations, emphasizing the importance of coordination with host countries for successful evacuation missions.

**Read more:** [Rescue service – The Sudan evacuation highlights challenges India faces in conflict](#)

#### **What are the operational challenges faced in India's Evacuation Missions?**

**Limited Intelligence:** Evacuation missions can face challenges due to insufficient information about local conditions, hindering effective planning and execution.

**Logistical Hurdles:** Coordinating transportation, navigating difficult terrain, and providing basic necessities like food and water can be challenging during evacuation missions. For instance, Indian citizens trapped in Sudan in 2023 faced difficulties due to a lack of electricity, food, and water, highlighting the logistical challenges in evacuation missions.

**Communication Barriers:** Language differences, poor communication infrastructure, and limited access to local authorities can complicate coordination and rescue efforts.

**Time Constraints:** In many evacuation scenarios, the situation on the ground can change rapidly, requiring flexibility and adaptability from the mission planners and the personnel involved. This adds another layer of complexity to India's evacuation missions, as decision-makers must quickly respond to new information and adjust their plans accordingly.

**Uncertainty in Evacuee Numbers:** Estimating the exact number of citizens who require evacuation can be difficult, leading to challenges in planning and executing evacuation missions.

**Navigating Political Sensitivities:** Evacuation missions may involve coordinating with foreign governments or navigating complex political situations, such as India maintaining contact with the U.S., Saudi Arabia, the U.K., and the UAE during the Sudan evacuation in 2023.

### What are the advantages associated with the success of India's Evacuation Missions?

**Enhanced National Reputation:** Successful evacuation missions, like the 2023 Sudan evacuation, demonstrate India's commitment to its citizens abroad and bolster the country's international standing.

**Improved Military Capabilities:** Complex operations help strengthen India's military expertise, particularly in the areas of special operations and logistics.

**Strong Diplomatic Relations:** Coordinating with multiple nations during evacuation missions, as India did with the U.S., Saudi Arabia, the U.K., and the UAE in the Sudan case, fosters international cooperation and strengthens diplomatic ties.

**Greater Public Confidence:** Successfully executing evacuation missions instils confidence in Indian citizens, both at home and abroad, that their government is committed to their safety and wellbeing.

**Showcase of Technological Advancements:** Successful evacuations, such as the Wadi Seidna mission, highlight the capabilities of advanced aircraft like the C-130J Super Hercules. This shows India's technological progress in the defence sector.

**Read more:** [India's evacuation diplomacy – Express View on Sudan crisis: Indian government's efforts to evacuate nationals are commendable](#)

### What should be done?

**Enhance Intelligence Gathering:** Collaborate with regional and global partners to improve intelligence collection and sharing for better situational awareness, like during the Yemen evacuation mission, which involved coordination with several countries.

**Strengthen Coordination Mechanisms:** Establish joint task forces with friendly countries to streamline coordination between different government agencies, foreign governments, and international organizations, similar to the collaboration during the Nepal earthquake relief operations. Invest in

**Advanced Technology:** Continue investing in cutting-edge technology, such as the C-130J Super Hercules and C-17 Globemaster aircraft, to enhance evacuation capabilities and ensure mission success, as seen in the Sudan evacuation.

**Train and Equip Special Forces:** Strengthen the training and capabilities of special forces like the Garud commandos, who participated in the Herat embassy evacuation mission, to guarantee the safety of Indian citizens abroad.



**Develop Contingency Plans:** Conduct regular simulations and exercises with regional partners to prepare comprehensive contingency plans for different scenarios, ensuring timely and effective responses in real-life situations.

**Maintain Diplomatic Engagement:** Actively participate in regional forums and establish joint mechanisms with countries in the region, as well as those with significant citizens in crisis zones. This will ensure smooth cooperation during evacuation missions.

**Sources:** The Hindu ([Article 1](#) and [Article 2](#)), [India Today](#), [Carnegie](#) and [Indian Express](#)

**Syllabus:** GS – 2: International Relations: Effect of policies and politics of developed and developing countries on India’s interests, Indian diaspora.

### Indian aviation industry: Potential and challenges – Explained, pointwise

#### Introduction

The Indian aviation industry has experienced significant growth in recent years, emerging as one of the fastest-growing sectors in the global market. With a vast population and increasing disposable incomes, the demand for air travel in India has skyrocketed, creating the immense potential for further expansion. However, the industry also faces numerous challenges, as highlighted by the recent insolvency of Go First Airlines.

#### What are the reasons behind Go Air’s insolvency?

**Engine Manufacturer Issues:** Go Air faced problems with Pratt & Whitney (P&W), the engine manufacturer, which led to an increasing number of failing engines. This resulted in a significant portion of Go Air’s fleet being grounded, causing operational challenges.

**Financial Difficulties:** With many aircraft grounded, Go Air’s market share declined, leading to financial stress.

**Dependence on International Suppliers:** Go Air’s reliance on a few international suppliers exposed the airline to risks. The difficulties with P&W highlighted the perils of this dependence.

**Insufficient Maintenance and Repair Facilities:** India’s lack of large-scale maintenance, repair, and overhaul (MRO) facilities contributed to Go Air’s struggles, as grounded aircraft couldn’t be quickly repaired and put back into service.

**Increasing Competition:** Go Air faced fierce competition from other airlines, such as IndiGo and SpiceJet, which captured a larger market share and put additional pressure on Go Air’s financial performance.

#### What will be the impact of Go Air’s insolvency on the Indian aviation Industry?

**Market Consolidation:** Go Air’s failure may lead to a more consolidated market, with fewer players dominating the industry. This could result in a duopolistic market structure, limiting consumer choice.

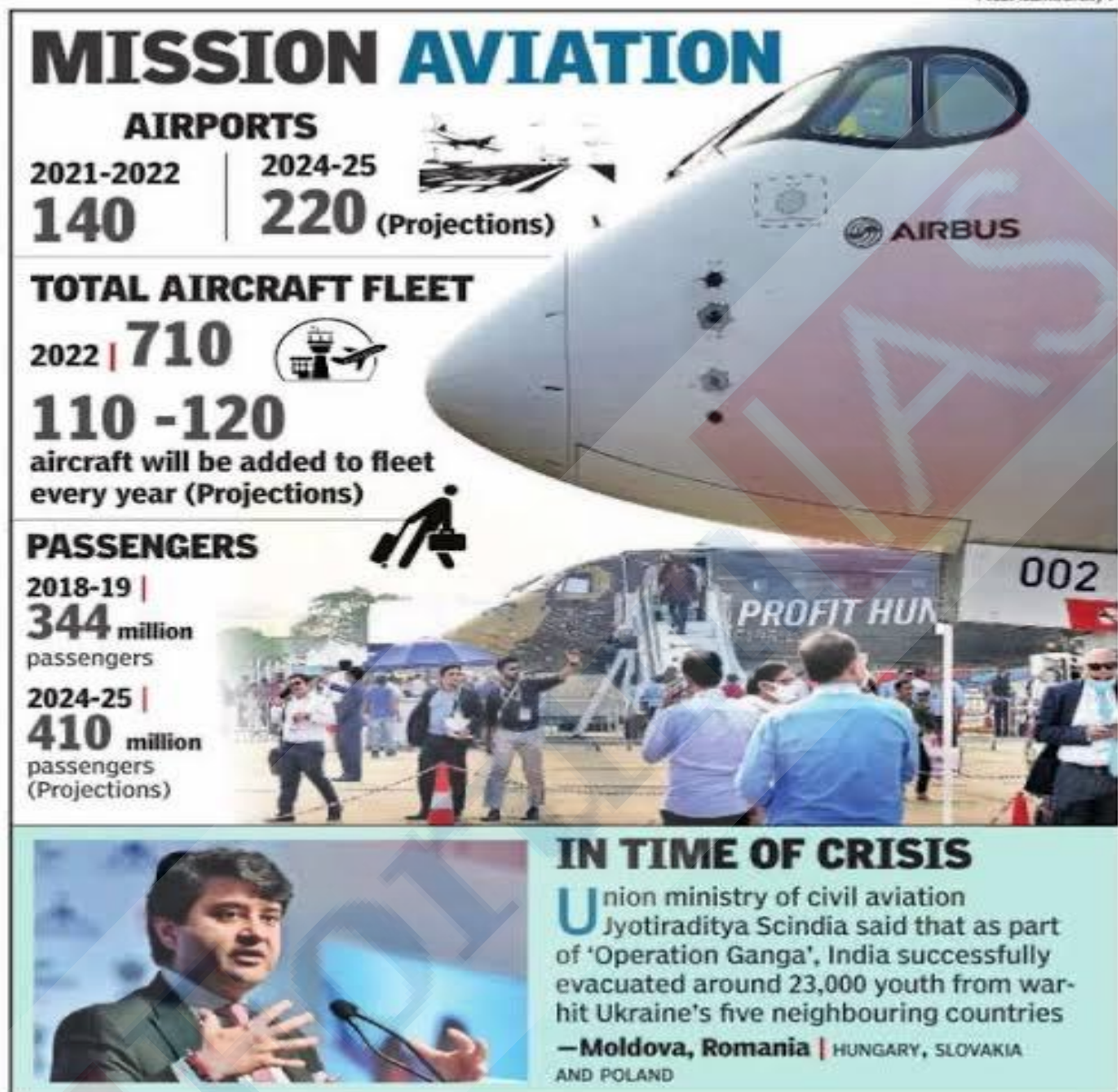
**Higher Airfares:** With less competition, the remaining airlines may increase airfares, negatively impacting consumer welfare and affordability of air travel.

**Opportunity for Competitors:** Go Air’s troubles may create opportunities for other carriers to expand their market share and capitalize on available passenger traffic.

**Emphasis on Self-reliance:** Go Air’s situation may push the Indian government and aviation industry to focus on enhancing domestic manufacturing, maintenance, and repair facilities, reducing dependence on foreign suppliers.

**Increased Importance of Financial Stability:** Go Air’s failure may prompt airlines and investors to prioritize financial stability and risk management, ensuring that companies are better prepared to handle potential challenges in the future.

## What is the potential of the Indian aviation Industry?



Source: TOI

**Rapid Growth:** India's aviation sector has witnessed significant growth in recent years, with domestic passenger traffic increasing at a Compound Annual Growth Rate (CAGR) of around 14.5% over the past six years.

For example, in the 2023-24 fiscal year, India's domestic passenger traffic is projected to rise to 16 crores (160 million) from an estimated 13.75 crores (137.5 million) in the previous fiscal year. By 2029-30, it is expected to reach 350 million. (source: CAPA India projections).

**Large Market Size:** India is currently the world's third-largest civil aviation market and is expected to surpass the United States and China in the coming decade, making it a lucrative market for airlines and related businesses.

**Low Penetration:** India's per capita penetration of domestic air travel (0.13 seats deployed per capita) remains significantly lower than countries like China (0.49) and Brazil (0.57), indicating untapped potential.

**Infrastructure Expansion:** India is investing heavily in aviation infrastructure, with plans to expand existing airports and build new ones, which will help accommodate the rising demand for air travel. Like, India is working on airport expansion projects in major metropolitan cities like Delhi, Bengaluru, Chennai, and Kolkata.

Additionally, greenfield airports such as Noida International Airport and Navi Mumbai International Airport are under development and expected to be operational by the end of next year.

**Demand for Skilled Workforce:** The growth of the Indian aviation industry will create a need for skilled professionals, including pilots, cabin crew, and maintenance staff, creating job opportunities and supporting the growth of the overall economy. For instance, Indian scheduled operators are likely to require 10,900 additional pilots by FY30.

**Boost to MRO and Manufacturing:** India's expanding aviation sector offers potential for the growth of maintenance, repair, and overhaul (MRO) facilities, as well as the development of a domestic aerospace manufacturing industry.

**Must read:** [Why it is said that Indian aviation has become 'the sick man of India'? What are the reforms required to tap the potential of aviation sector?](#)

**What are the government initiatives to boost India's aviation industry?**

**Must read:** [Aviation Sector in India: Status, Opportunities and Challenges – Explained, pointwise](#)

**What are the challenges associated with the Indian aviation Industry?**

**Grounded Aircraft:** Airlines like Air India, SpiceJet, GoAir, and IndiGo face issues with grounded aircraft due to maintenance, engine replacements, and supply chain challenges, impacting their financial performance.

**Supply Chain Disruptions:** Delays in aircraft deliveries, pilot and cabin crew shortages, and supply chain issues with original equipment manufacturers (OEMs) hinder the industry's capacity to meet growing demand.

**Financial Losses:** Indian airlines are projected to record a consolidated loss of \$1.6 to 1.8 billion in FY24, with full-service carriers incurring up to \$1.2 billion in losses.

**Insolvency Cases:** Go First Airline's recent insolvency filing due to mounting cashflow woes and grounded aircraft highlights the financial challenges faced by the industry.

**Insufficient Oversight:** Regulatory bodies like DGCA have faced criticism for not conducting thorough financial audits and ensuring safety and operational standards in the industry.

**Crew Shortages:** A lack of skilled pilots, engineers, and cabin crew members can lead to operational disruptions, affecting airlines' ability to maintain consistent schedules and services.

**Inflated Projections:** Airlines sometimes announce ambitious growth plans without adequate financial security, infrastructure, or personnel, leading to unrealistic expectations and potential failures.

**COVID-19 Impact:** The pandemic has severely affected the aviation industry, causing financial challenges, reduced demand for air travel, and disruptions in training and safety investments.

**Environmental Concerns:** The aviation industry faces increasing pressure to reduce its carbon footprint and adopt sustainable practices, posing a challenge for growth and expansion

**Read more:** [Fasten Your Seatbelt, India – Air India's huge order has multiple implications, for the airline, for civil aviation, for policy and for manufacturing. Here's a deep dive](#)

**What should be done?**

To overcome these challenges and boost the aircraft leasing industry, advisory firm Primus Partners released a report that suggests several reforms. These include,

**Financing aircraft leases indigenously:** Encourage domestic financing solutions to reduce dependency on international leasing markets and keep Indian funds within the country.

**Strengthening aircraft repossession:** Improve the implementation of regulations to facilitate faster repossession and redeployment of aircraft.

**Streamlining tax regulations:** Simplify and streamline tax regulations to make the leasing industry more attractive and competitive.

**The ripple effect on the maintenance, repair, and operations ecosystem in India:** Develop an ecosystem that caters to the leasing industry's maintenance and operations needs, creating a self-sufficient and robust industry within India.

**Read more:** [Explained: Why India has cut windfall tax on diesel, aviation fuel exports](#)

By addressing these challenges and implementing the suggested reforms, India can pave the way for a thriving aircraft leasing industry, making the country a global leasing hub and bolstering the aviation sector.

**Sources:** [The Hindu](#), Indian Express ([Article 1](#) and [Article 2](#)), Business Standard ([Article 1](#) and [Article 2](#)), [Livemint](#), [Financial Express](#), [Economic Times](#) and [Outlook](#)

**Syllabus:** GS 3: Economic development: Infrastructure: Energy, Ports, Roads, Airports, Railways etc.

### Manipur unrest and its impact on regional security – Explained, pointwise

**Introduction**

Manipur has been grappling with unrest and violent protests, recently witnessing the first direct clashes between the Kuki-Zomi tribals and the Meiteis in three decades. With a complex cultural geography divided into 'valley' and 'hill' districts, the state has experienced longstanding ethnic tensions. The Manipur unrest poses significant challenges to regional security, potentially destabilizing the fragile peace and affecting the broader geopolitical landscape of the region.

**What are the reasons behind the unrest in Manipur?****External factors**

**Myanmar crisis:** The military coup in Myanmar in 2021 and subsequent unrest have led to a continuous influx of Burmese refugees into Manipur. Thus complicating the ethnic balance in the state. Many of the refugees share kinship ties with Manipur's Kuki tribe.

**Drug trafficking and cross-border crime:** The proximity to the Golden Triangle and porous international borders make Manipur vulnerable to drug trafficking and other cross-border criminal activities. These illegal activities can fuel violence and social unrest in the region.

**Internal Factors**

**Demand for Scheduled Tribe status:** The Manipur high court recently asked the state government to send a recommendation to the Centre on the Meiteis' demand for Scheduled Tribe status, which has triggered protests by tribal groups fearing a loss of reservation benefits.

**Land issues:** The Meitei community, which is numerically in the majority, mainly inhabits the Imphal Valley, accounting for just a tenth of the state's total land area. The competition for land and resources has intensified tensions between the Meiteis and hill tribes.

**Historic tensions:** Longstanding tensions between hill tribes and Meiteis in Manipur have contributed to the unrest, as both communities vie for political representation, resources, and cultural recognition.

**Lack of economic development:** Economic underdevelopment in the region has exacerbated inter-ethnic tensions, as communities compete for scarce resources and opportunities.

**Governance issues:** The government's handling of the situation, such as the suspension of mobile internet and the application of the Armed Forces (Special Powers) Act (AFSPA), has been disruptive and has not effectively addressed the root causes of the unrest.

**Must read:** [What is behind Manipur's widespread unrest?](#)

#### **What will be the impact of Manipur unrest on regional security?**

**Border vulnerability:** The unrest in Manipur could lead to increased cross-border criminal activities such as smuggling, drug trafficking, and illegal arms trading. This could make the region's borders more vulnerable and affect overall security.

**Growth of militancy:** Prolonged unrest could provide fertile ground for militant groups to expand their influence and recruit more people, leading to a rise in extremist activities and further destabilizing the region.

**Strained relations with neighbouring countries:** The unrest in Manipur could have implications for India's relations with neighbouring countries like Myanmar, Bangladesh, and China. Increased refugee flows and cross-border crimes can strain relations and hinder diplomatic efforts in the region.

**Hindrance to economic development:** Persistent unrest could deter investment and hinder economic development in the region, leading to increased unemployment and poverty, which in turn could feed into more instability and security challenges.

**Challenges to India's Act East Policy:** The unrest in Manipur could impact India's Act East Policy, which aims to boost economic and strategic ties with Southeast Asia. Ensuring peace and stability in the Northeast region is essential for the success of this policy and for India's broader strategic interests.

**Internal displacement:** Unrest in Manipur may lead to the large-scale internal displacement of people, putting pressure on neighbouring states and resources. This could create additional tensions between various ethnic groups and communities, further complicating regional security.

**Human rights violations:** Prolonged unrest may result in human rights violations, attracting international attention and criticism. This could affect India's image and its ability to advocate for human rights and democratic values in the region and beyond.

**Impact on social cohesion:** The unrest in Manipur can deepen ethnic, religious, and social divisions, weakening social cohesion and harmony. This may lead to long-term challenges for regional security and peacebuilding efforts.

#### **What are the government initiatives to overcome Manipur unrest?**

**Political dialogue:** The government has initiated political dialogues with various ethnic groups and stakeholders to address their grievances and demands, aiming to build trust and find common ground for lasting peace.

For example, the Manipur government held peace talks with several insurgent groups like the United National Liberation Front and Kangleipak Communist Party. These peace talks aim to find a lasting political solution to the ongoing conflict in the state and create a more stable environment.

**Suspension of Operations (SoO) Pact:** The Manipur government has decided to withdraw from the Suspension of Operations (SoO) arrangement with two militant organisations, the Kuki

National Army (KNA) and the Zomi Revolutionary Army (ZRA), amid allegations of instigating discontent among forest encroachers.

**Note:** The SoO agreement with Kuki was signed in 2008 as a ceasefire deal between the Indian government and different Kuki terrorist organisations operating in Manipur and Nagaland. According to the agreement, the Kuki terrorist groups promised to cease their violent actions and report to designated camps that would be supervised by security authorities. In exchange, the Indian government promised to halt operations against Kuki tribes.

**Development initiatives:** The government has been promoting development initiatives in Manipur, focusing on infrastructure, education, and healthcare to improve living standards and economic opportunities for local communities. Like, the government has launched the Northeast Special Infrastructure Development Scheme (NESIDS) to improve infrastructure in the region, including Manipur.

**Act East Policy:** India's Act East Policy aims to strengthen economic and cultural ties with Southeast Asian countries, potentially benefiting Manipur and the Northeast region by increasing trade, investment, and connectivity. For instance, the India-Myanmar-Thailand Trilateral Highway project has been advancing, which will improve connectivity between Manipur and Southeast Asia, promoting trade and economic opportunities.

**Skill development programs:** The government has introduced skill development programs to provide better employment opportunities for the youth in Manipur, addressing some of the root causes of unrest. For example, the National Skill Development Corporation (NSDC) partnered with the Manipur State Rural Livelihoods Mission to train and provide employment opportunities to 5,000 youths from the state.

**Security measures:** The government has deployed additional security forces to maintain law and order and protect citizens from violence during periods of unrest.

**Counter-narcotics operations:** In recent years, the government of Manipur has intensified its efforts to combat drug trafficking and cultivation, which has been fueling instability in the region. For example, Manipur police destroyed illegal poppy plantations spread over 90 acres in the Tengnoupal district. Such operations aim to reduce the influence of criminal organizations and improve security in the region.

**Read more:** [Who are Meiteis: Protest against ST demand turns violent in Manipur, curfew imposed in entire state](#)

#### **What are the challenges associated with resolving unrest in Manipur?**

**Complex ethnic dynamics:** Manipur's diverse ethnic landscape, with multiple tribes and communities, makes it difficult to address the grievances of all parties. The ongoing tensions between Meiteis, Nagas, Kukis, and other tribes make it challenging to find a solution that satisfies everyone.

**Presence of armed groups:** Numerous armed groups operate in Manipur, each with its own objectives and demands. Their presence complicates the peace process and makes it difficult for the government to establish law and order in the region.

**External influences:** The unrest in Manipur is influenced by events in neighbouring countries like Myanmar, where the military coup and subsequent crackdown have led to an influx of refugees. These external factors add another layer of complexity to the situation in Manipur.

**Lack of development:** The Northeast region, including Manipur, faces significant developmental challenges, including poor infrastructure, limited access to resources, and high unemployment. These factors exacerbate existing tensions and make it harder to resolve unrest.

**Inadequate policy implementation:** Although the government has introduced various initiatives to address the issues in Manipur, the implementation of these policies often falls short,

limiting their impact on the ground. This has led to a lack of trust between the local population and the government, which hinders progress in resolving unrest.

**AFSPA:** The continued implementation of the Armed Forces (Special Powers) Act (AFSPA) in Manipur has been a contentious issue. While the government argues that it is necessary to maintain order, critics argue that the act has led to human rights abuses and fueled resentment among the local population.

**Read more:** [Cabinet approves continuation of Schemes of Ministry of Development of North Eastern Region](#)

#### What should be done?

**Inclusive dialogue:** Engage all stakeholders, including various ethnic groups, in a dialogue to understand their grievances and find common ground. The Mizoram Accord of 1986 between the Government of India and the Mizo National Front (MNF) serves as an example of successful engagement with all stakeholders.

**Strengthen governance:** Improve governance by addressing corruption, and inefficiency, and strengthening local administration. This can be modelled on the successful decentralization efforts in Kerala, which have empowered local communities and improved the delivery of public services.

**Promote economic development:** Invest in infrastructure, education, and job creation to foster economic development and reduce poverty. The success of the Gujarat model in India, which emphasizes industrialization and infrastructure development, can serve as a blueprint.

**Reevaluate AFSPA:** Review the implementation of the Armed Forces (Special Powers) Act and consider alternative security measures that protect human rights and promote trust between security forces and the local population. The withdrawal of AFSPA from Tripura in 2015 could serve as a model for a phased reduction of the act in Manipur.

**Address border issues:** Strengthen cooperation with neighboring countries, particularly Myanmar, to manage cross-border issues such as smuggling, infiltration, and refugee influx. The cooperation between India and Bangladesh on border management can serve as a model for enhancing security along the Manipur-Myanmar border.

**Encourage civil society involvement:** Empower civil society organizations to play an active role in conflict resolution and peacebuilding. The work of organizations like the Naga Mothers Association and the Northeast India Women Initiative for Peace in Manipur can be further supported and expanded.

**Cultural Exchange Programs:** Promote cultural exchange programs within Manipur and between the state and other regions of India to foster a better understanding and appreciation of diverse cultures. This can be inspired by the European Union's Erasmus+ program, which encourages cross-cultural learning and interaction among students and educators.

**Read more:** [Problems associated with North Eastern states: A more meaningful commitment to the Indian republic](#)

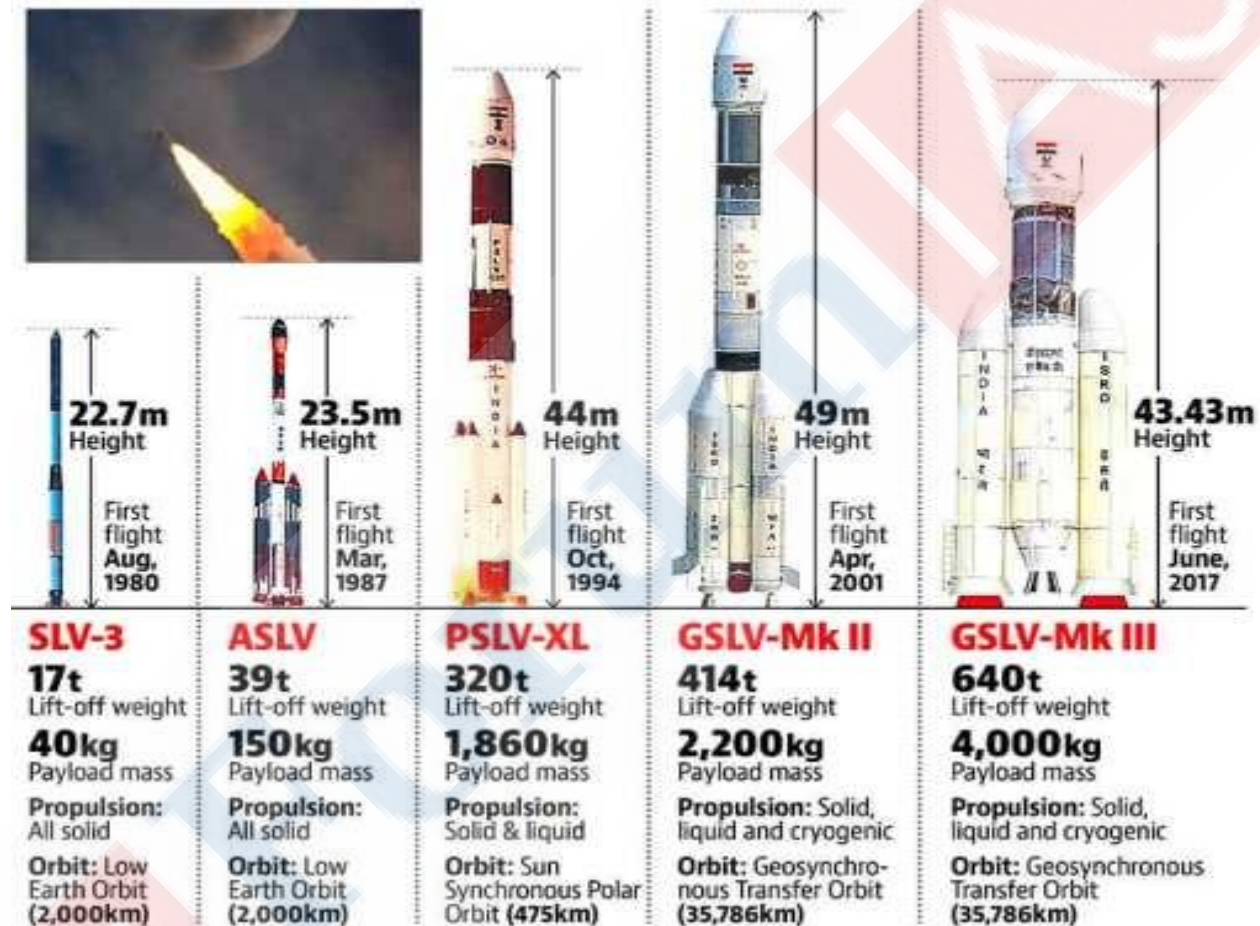
**Sources:** The Hindu ([Article 1](#), [Article 2](#) and [Article 3](#)), Indian Express ([Article 1](#) and [Article 2](#)), The Times of India ([Article 1](#) and [Article 2](#)).

**Syllabus:** GS 3: Security issues – Internal Security

## [Yojana May 2023 Summary] Innovation in Space Tech – Explained, pointwise

**Introduction**

Since its inception, the Indian Space Research Organisation (ISRO) has played a vital role in driving innovation in space technology across various domains. From its beginnings in Thumba to becoming a global player, ISRO's 53+ year journey has seen remarkable advancements. Especially in areas such as space transportation, infrastructure, science, applications, human exploration, robotics, artificial intelligence, and quantum technologies.

**How has Innovation in Space Tech Shaped the Evolution of India's Space Transportation System?**

Source: Hindustan Times

**From Sounding Rockets to SSLV:** India's journey in space transportation began with the development of solid-propulsion-based Sounding Rockets in the 1970s, followed by the first generation Satellite Launch Vehicles (SLV) and Augmented SLV (ASLV). The integration of solid and liquid propulsion technologies paved the way for the second-generation workhorse, the Polar Satellite Launch Vehicle (PSLV).

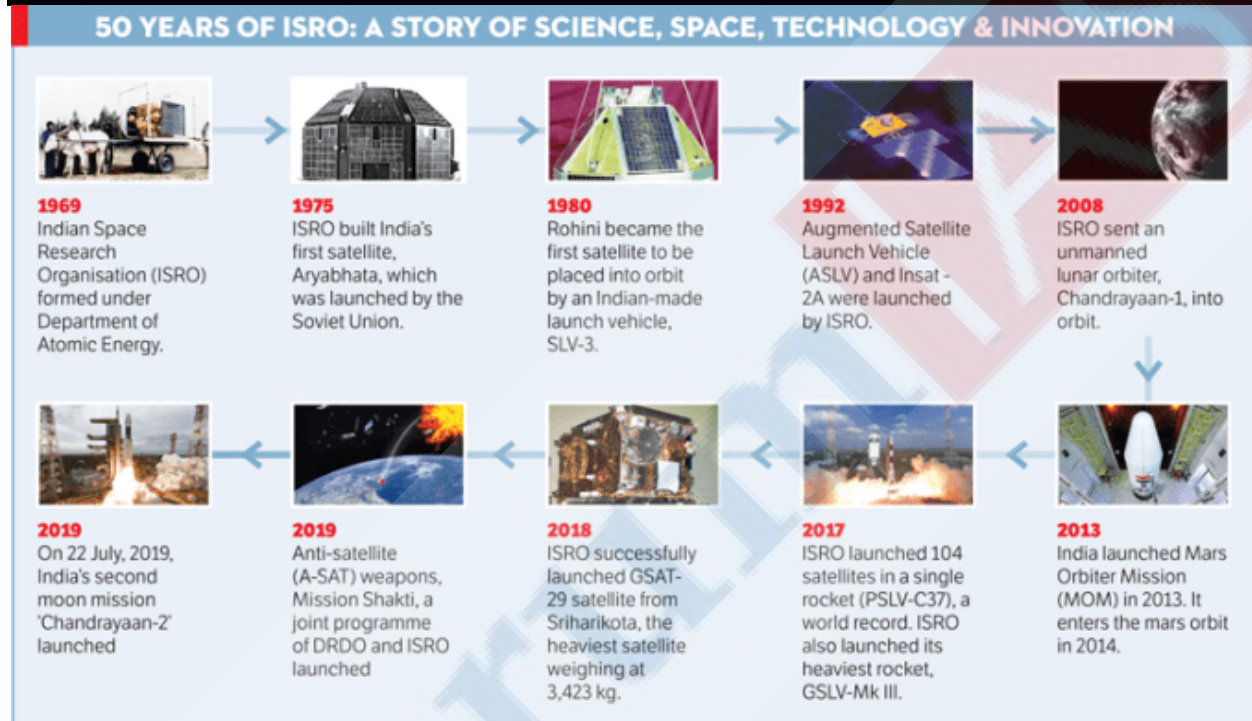
**Cryogenic Engine and GSLV Launch Vehicles:** The indigenous development of a cryogenic propulsive engine marked a significant leap in technology, leading to the creation of third-generation GSLV launch vehicles capable of placing a 2000 kg payload in Geo-Synchronous Transfer Orbit (GTO).



**Launch Vehicle MK3 (LVM3) and Heavy Payloads:** LVM3 was powered by the world's 3rd largest solid boosters and high-capacity engines. This advanced LVM3 was developed to launch high throughput communication satellites, with the capability of putting a 4000 kg payload in GTO.

**Small Satellite Launch Vehicle (SSLV) and Quick Turnaround:** The latest addition to ISRO's rocket family is the SSLV, a three-stage launch vehicle designed for quick turnaround and the ability to launch a 500 kg satellite into a 500 km planar orbit.

**How has Innovation in Space Tech Contributed to the growth of India's space infrastructure?**



**Source: SP Aviation**

**The Birth of India's Space Infrastructure:** In the early 1970s, ISRO laid the foundation for designing, building, and operating spacecraft. This led to the launch of India's first satellite, 'Aryabhata', on 19 April 1975, and subsequent experimental missions like Bhaskara and APPLE.

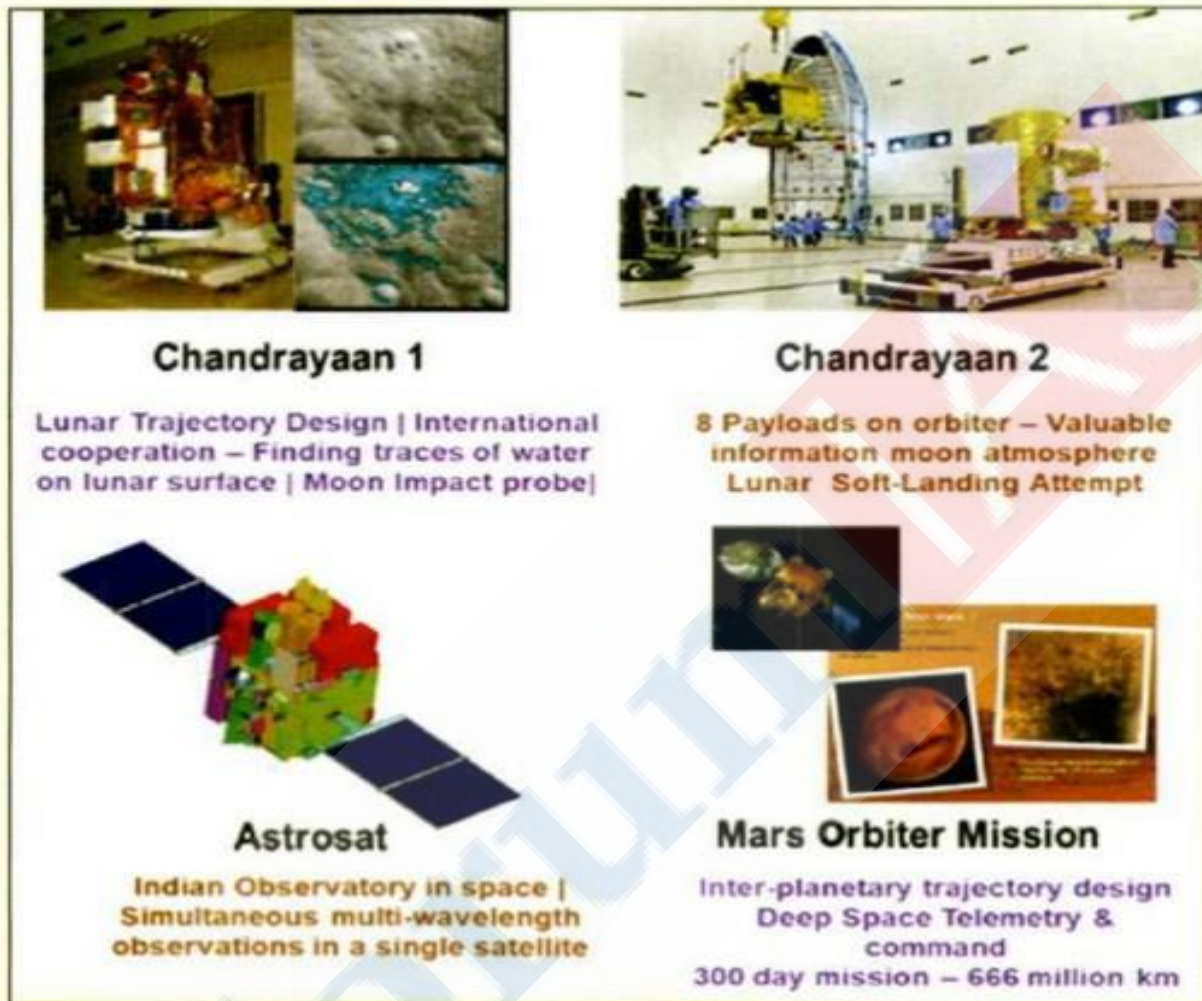
**Advancements in Key Spacecraft Technologies:** ISRO's self-reliance in spacecraft technology was bolstered by the indigenous development of advanced propulsion, power systems, thermal systems, deployable structures, space bus systems, communication systems, and more.

**Evolution of Remote Sensing and Communication Capabilities:** India's remote sensing capabilities have grown from a coarse 1 km resolution to a fine 28 cm resolution, with day & night and all-weather functionality. Communication transponders have also expanded from a single unit to 317 numbers.

**Expanding Space Infrastructure Portfolio:** Today, India's space infrastructure includes 25 Earth observation satellites, 22 communication satellites, 7 navigation satellites, 2 space science satellites, and various experimental, small, and student satellites.

**Read more: [\[Yojana January Summary\] India as a Space Power – Explained, pointwise](#)**

## How has innovation in space tech-enabled India's Space Science and Interplanetary Missions?



**Figure 3: Glimpses of ISRO's space science and planetary missions**

**Source:** Yojana

**Journey to the Moon and Beyond:** ISRO successfully reached the Moon and Mars, opening a new era of planetary exploration. Chandrayaan-1, India's first lunar orbiter mission, achieved the scientific breakthrough of discovering water on the Moon.

**Exploring Mars with Mangalyaan:** India's first interplanetary mission, Mars Orbiter Mission (MOM), made India the first Asian nation to reach Martian orbit and the first nation globally to do so on its maiden attempt. MOM explored Mars' surface, mineralogy, and atmosphere with five onboard scientific instruments.

**Developing Key Technologies for Interplanetary Missions:** During MOM, ISRO developed crucial technologies for designing, planning, management, and operations of interplanetary missions, such as orbit raising maneuvers, trans-Mars injection, trajectory correction maneuvers, and Mars orbit insertion.

**AstroSat's Multi-Wavelength Space Astronomy:** AstroSat, a multi-wavelength space astronomy mission, served astronomers from nearly 50 countries and made breakthrough

discoveries, such as detecting UV emissions from star formation in a galaxy 9.4 billion years away.

**Read more:** [Indian Space Association \(ISpA\) – Explained, pointwise](#)

### How has Innovation in Space Tech Revolutionized Space Applications for India?

**Meeting Diverse Earth Observation Needs:** ISRO's Earth Observation (EO) applications have been institutionalized across various sectors, including national security, agriculture, disaster management, and resource mapping, contributing to India's major flagship programs.

**Advancements in Ground Infrastructure and Imaging Technologies:** Significant development in ground technologies, such as multiobject tracking radar, polarimetric Doppler weather radar, and advanced ground stations, has facilitated uninterrupted satellite services usage.

**Innovative Imaging Technologies for Earth Observation:** Technological advancements in imaging, such as push-broom, stereo imaging, and synthetic aperture radar (SAR), have allowed ISRO to accomplish 47 missions with varying spatial, temporal, and spectral resolutions.

**Read more:** [India and Outer Space: Issues & Challenges – Explained, pointwise](#)

### How has Innovation in Space Tech contributed to Human Space Exploration in India?

**Gaganyaan – India's Maiden Human Spaceflight Mission:** ISRO's Gaganyaan mission is a complex project that aims to send astronauts to space and safely return them to Earth, involving the development of numerous technology elements.

**Key Technology Developments:** These include human-rated launch vehicles, crew escape systems, habitable orbital modules, life support systems, and crew management activities for onboard safety.

**Successful Tests and Progress:** ISRO has conducted successful tests such as the Crew Module Atmospheric Re-entry Experiment (CARE), pad abort test, and Integrated Main Parachute Airdrop Test (IMAT) for the Gaganyaan mission, which is now at an advanced stage of realization.

### What are the Latest Innovations in Space Tech and their applications in India?

**Reusable Launch Vehicles and Air Breathing Propulsion:** ISRO is developing reusable launch vehicles, air-breathing two-stage to-orbit vehicles, and scramjet engines for cost-effective future space transportation systems.

Recently, ISRO made a significant development in RV technologies with an RV landing experiment (RLV-LEX) demonstrating the autonomous landing of a winged vehicle on a runway. Its Current focus is on the development of critical technologies towards the realization of a vehicle-integrated scramjet engine called the Hypersonic Air Breathing Vehicle with Airframe integrated system (HAVA).

**PSLV Orbital Experimental Module (POEM):** ISRO has innovatively repurposed the spent 4th stage of PSLV for carrying out scientific experiments under the name POEM. It provides a microgravity platform for conducting various scientific experiments in space. The opportunities are open for academic institutions and industries to utilize this unique and cost-effective platform for conducting their experiments in a space environment.

**Space Robotics and 3D Printing:** ISRO has pursued research and development in space robotics, including Vyommitra (a humanoid robot), landers and rovers for the Chandrayaan-3 mission, and on-orbit satellite refuelling. Additionally, they are exploring 3D printing in space.

**Quantum Communication:** ISRO has demonstrated free-space quantum communication over a distance of 300 m, developing key technologies such as entangled-photon sources and polarization compensation techniques.

**Space Data Economy and Smart Cities:** Space data, combined with artificial intelligence and machine learning, contribute to smart city applications, smart manufacturing, and supply chain management.

**Societal Applications and Spin-offs:** Technological advancements in the space sector have led to societal applications, such as ventricular assist devices, microprocessor-controlled limbs, and medical ventilators.

**Growing Private Sector Participation:** Space sector reforms encourage the involvement of nongovernmental entities, fostering a thriving space ecosystem and driving scientific and technological progress.

**Read more:** [Space Industry in India: Potential and Challenges – Explained, Pointwise](#)

**Source:** Yojana

**Syllabus:** GS 3: Science and Technology – indigenization of technology and developing new technology.

### **Ad-hoc faculty recruitment system and their impact on higher education– Explained, pointwise**

#### **Introduction**

The incident of a Delhi University lecturer's death brings focus on the serious problems in India's ad-hoc faculty recruitment system. His unsuccessful attempt to secure tenure, despite five years of temporary teaching, shows the tough conditions faced by these educators and how it can affect the quality of our higher education.

About the procedure for the Ad-hoc faculty recruitment system

The ad-hoc faculty recruitment system is typically utilized in situations where there are vacant positions that need to be filled on a temporary basis, often due to faculty shortages.

The process begins with **the identification of a need for additional faculty**, often due to vacancies left by permanent staff. Once this need is identified, the university or institution advertises the open positions. These advertisements may occur periodically.

**Upon selection, ad-hoc teachers are hired on a temporary basis, often for a duration of 120 days.** After the initial period of 120 days, **there is a one-day notional break, after which their services can be renewed, again on a temporary basis.** This renewal is not guaranteed and is subject to the institution's requirements and the individual's performance.

It's important to note that the use of ad-hoc faculty is intended to be a temporary measure. According to UGC norms, non-permanent teachers should not exceed 10% of the total sanctioned posts. However, this limit is often surpassed in practice due to the ongoing faculty shortages.

**Read more:** [Delhi University ad hoc teacher suicide: Chronicle of a tragedy foretold](#)

#### **What is the need for Ad-hoc faculties in higher education institutes?**

**Filling Vacant Positions:** Ad-hoc faculty are often needed to fill vacant positions in higher education institutions. For instance, Delhi University had 900 vacancies, creating a significant shortage of faculty. Ad-hoc faculty can step in to fill these gaps and ensure that classes are taught and students' educational needs are met.

**Providing Flexibility:** Ad-hoc faculty provide a level of flexibility to educational institutions. They can be brought in to cover for permanent faculty who are on leave, or to handle increased enrolment in certain courses.

**Addressing Budget Constraints:** Budget constraints can also necessitate the use of ad-hoc faculty. Hiring full-time, permanent faculty can be a significant financial commitment for institutions. Adhoc faculty, who typically do not receive the same level of benefits as their permanent counterparts, can be a more budget-friendly option.

**Meeting Specialized Needs:** Sometimes, institutions need faculty with specialized knowledge for a limited period or for specific courses. In such cases, it might not be feasible to hire a full-time faculty member. Ad-hoc faculty with the required specialization can be brought in to meet these specific needs.

For example, if a university is offering a new course on a specific emerging technology, they might hire an ad-hoc faculty member who is an expert in that area to teach that course.

**Handling Academic Restructuring:** Academic restructuring can lead to a rise in the need for ad-hoc teachers. Changes in the academic system, like the shift from an annual system to a semester system, or the introduction of new programs, can create a temporary need for additional faculty, which can be filled by ad-hoc appointments.

What are the issues with the ad-hoc faculty recruitment system in higher education institutions?

**Over-reliance on Ad-hoc Faculty:** Universities often rely heavily on ad-hoc faculty due to persisting faculty vacancies, leading to an imbalance in the teaching ecosystem.

For instance, the proportion of ad-hoc teachers at Delhi University has surpassed 50% of the total teachers' strength, violating the permissible UGC norm of a maximum of 10% of the sanctioned posts through non-permanent teachers.

**Delayed or Irregular Recruitment Processes:** The recruitment process for permanent positions is often delayed or not conducted at all, leading to an increase in the hiring of ad-hoc faculty. Delhi University, for example, advertised teaching posts in 2015, 2017, and 2019 but failed to conduct interviews in the majority of the departments and colleges.

**Lack of Clear Pathway to Permanent Positions:** In the existing recruitment system, there seems to be no clear pathway for ad-hoc teachers to transition to permanent positions. This lack of a structured process for absorption into permanent roles results in ad-hoc teachers remaining in temporary positions for extended periods.

**Low Quality of Applicants:** The quality of applicants is sometimes seen as a reason for not filling vacancies with permanent hires, leading to increased reliance on ad-hoc teachers.

According to the former vice-chancellor of the University of Allahabad, poor training of PhD candidates and selection based on non-academic considerations like caste, religion or politics lead to a poor quality of applicants.

**Failure to Regularize Ad-hoc Faculty:** Despite ad-hoc faculty often meeting the same eligibility criteria as permanent professors, there is a marked difference in their service conditions. Even though they work full-time and in substantive posts, they are not absorbed into permanent positions.

**Read more:** [The ad-hoc epidemic - DU lecturer's suicide should occasion introspection on recruitments in universities and colleges. Government must regularise posts, fill vacancies](#)

#### **What are the challenges faced by ad-hoc faculties?**

**Denial of Benefits:** Ad-hoc teachers are deprived of several benefits that are available to their permanent counterparts. They do not receive annual increments, promotions, medical benefits, or maternity leaves. This disparity is evident despite these teachers working full-time on substantive posts.

**Fear of Displacement:** Ad-hoc faculty often live in fear of being replaced when permanent positions are finally filled. In the wake of recent faculty recruitments at Delhi University, about 70% of ad-hoc faculty were displaced, leading to increased anxiety among these temporary staffs.

**Low Pay and Delays in Payment:** The compensation for ad-hoc faculty is often significantly lower than for permanent staff. Furthermore, their pay is subject to delays and can be cut due

to holidays. A guest faculty at the University of Madras, for example, receives about 20,000 rupees per month, which can be subject to delays and cuts.

**Increased Workload:** With a shortage of permanent faculty, ad-hoc teachers often bear a larger workload, including teaching, curriculum development, admissions procedures, and other departmental activities. This increased burden can even double their teaching hours in some weeks.

**Limited Career Growth Opportunities:** Ad-hoc faculty have limited opportunities for career growth due to the temporary nature of their position. Without a clear pathway to permanent positions, these teachers may find their professional development stunted.

#### What should be done?

**One-Time Absorption Regulation:** The Delhi University Teachers' Association (DUTA) has called for a one-time bill or regulation to absorb ad-hoc teachers into permanent positions. This would provide job security and full benefits to thousands of teachers who have been serving in temporary roles.

**Increase in Budgetary Expenditure on Education:** To address the faculty shortage, some suggest increasing the budgetary expenditure on education. This could help in overcoming the faculty shortage problem and reduce the workload on current professors.

**Routine Recruitment:** There's a need for recruitment to be done on a routine basis. This would prevent a build-up of vacant positions and reduce the reliance on ad-hoc faculty.

**Better Treatment of Ad-hoc Teachers:** In the interim, it's important that ad-hoc teachers are treated with respect and are given fair compensation for their work. They should also be provided with better work conditions, including reasonable work hours and prompt payment.

**Improve Infrastructure and Location of Universities:** Universities located in remote areas often struggle to attract qualified faculty, leading to a greater need for ad-hoc faculty. Improving the infrastructure and location of universities could attract more qualified professors to permanent positions, reducing the need for ad-hoc faculty.

**Permanent Positions Filling:** The government and university authorities must focus on filling all vacant posts with permanent teachers. This would ensure students receive quality education and teachers engage in institution-building.

**Sources:** The Hindu ([Article 1](#) and [Article 2](#)), Indian Express ([Article 1](#) and [Article 2](#)), [Times of India](#), [Financial Express](#)

**Syllabus:** GS 2 – Social Justice: Issues relating to development and management of Social Sector/Services relating to Education

### Ban on diesel vehicles by 2027: Reasoning and Challenges – Explained, pointwise

#### Introduction

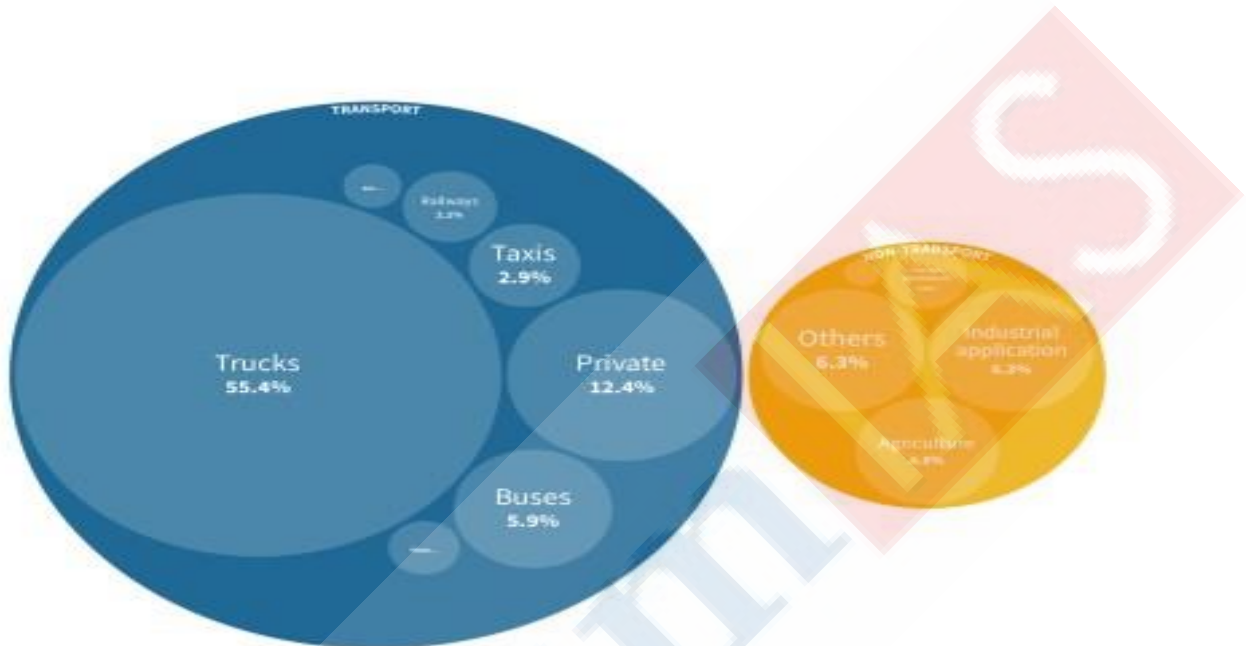
As environmental concerns take centre stage, India contemplates a significant shift in its automotive industry. A government panel, the Energy Transition Advisory Committee (ETAC), recommends a ban on diesel vehicles in cities with a population of over a million by 2027.

This bold step aims to curb emissions and promote a transition to electric and gas-fueled vehicles. However, the proposed ban brings its own set of challenges, from upsetting the automotive industry to disrupting public transport and logistics.

### What are the recommendations of the Indian government panel to Ban on diesel vehicles?

#### Diesel consumption (%) by sector (2021)

The transport sector consumes 80.7% of diesel as against the non-transport sector's 19.3%.



Source: The Green Shift, Ministry of Petroleum and Natural Gas • The Hindu Graphics

**Source:** The Hindu

**Ban on Diesel Vehicles in Major Cities:** The panel recommends banning the use of diesel-based four-wheeler vehicles by 2027 in cities with a population of over a million (10 lakh) and in polluted towns.

**Transition to Electric and Gas Vehicles:** They proposed a transition to electric and gas-fuelled vehicles in such places to reduce emissions.

**No New Diesel Buses:** The committee suggests that by 2030, no city buses should be added which are not electric, and diesel buses for city transport should not be added from 2024 onwards.

**Promotion of Electric Vehicles (EVs):** The panel advises the government to extend the incentives under the Faster Adoption and Manufacturing of Electric and Hybrid Vehicles scheme (FAME) beyond March 2024 to promote the use of EVs.

**Increase Use of Railways and Gas-Powered Trucks:** The panel also recommends ramping up the use of railways and gas-powered trucks for transporting cargo.

These recommendations aim to help the Indian government reach its goal of reducing greenhouse gas emissions and producing 40% of its electricity from renewables to meet its 2070 net zero goal.

**What is the rationale behind the recommendation to Ban on diesel vehicles?**

**Environmental Impact:** A shift to electric and gas-powered vehicles would likely result in significant reductions in greenhouse gas emissions and air pollution, which is a major issue in many Indian cities. This could improve public health and contribute to global efforts to combat climate change.

**Health Concerns:** Diesel vehicles contribute significantly to air pollution. They emit higher levels of particulate matter (PM) and noxious gases, which can lead to severe health issues like heart and lung diseases. For instance, the Automotive Research Association of India reported that the transport sector contributes up to 20% of the PM 2.5 emissions, a key air pollutant.

**Alignment with Global Trends:** Many countries are moving towards cleaner energy sources for transportation to meet their climate goals. Banning diesel vehicles aligns India with these global trends. For example, European countries like France and the UK have already announced plans to phase out diesel and petrol vehicles in the coming years.

**Fostering Clean Technology:** Banning diesel vehicles can stimulate the development and adoption of cleaner technologies, such as electric and hybrid vehicles. Such as, with a clear end date for diesel vehicles, automakers would be incentivized to invest more in developing and improving electric vehicle technology.

**Read more:** [India to work towards zero-emission cars by 2040](#)

**What are the other countries which are looking to ban diesel vehicles?**

Many countries around the world have announced plans to ban diesel vehicles in the coming years to combat air pollution and climate change. Here are a few:

**United Kingdom:** The United Kingdom has planned to ban the sale of new petrol- and diesel-engined cars by 2030, while all new cars and vans sold must be fully zero emission by 2035.

**France:** has pledged to stop selling fossil fuel cars by 2040.

**Germany:** German cities started putting restrictions on older diesel vehicles that emit larger amounts of pollutants in 2018.

**Norway:** wants to ditch fossil fuel-powered cars by 2025, much before other countries.

**Netherlands:** The Netherlands aims to have only emissions-free vehicles on its roads by 2030. United States: announced it would ban the sale of diesel and petrol cars by 2030.

**European Union:** European Parliament gave the green light to new legislation to ban the sale of petrol and diesel cars from 2035. Under the law, all cars and vans sold in the European Union must be zero-emission by 2035.

**Read more:** [Explained:How cars can run on hydrogen fuel Cell](#)

**What will be the impact of the Ban on diesel vehicles?****Impact on Environment**

**Reduction in Air Pollution:** With diesel vehicles off the roads, there will be a significant reduction in the emission of particulate matter and harmful gases. This will improve air quality, especially in cities.

**Lower Carbon Emissions:** As electric vehicles (EVs) replace diesel cars, CO2 emissions will decrease, helping India meet its climate change commitments and move towards a more sustainable future.

**Impact on Carmakers**

**Need for Technological Shift:** Car manufacturers will have to invest heavily in EV technology and other technology and associated infrastructure. This might prove to be challenging, especially for those heavily invested in diesel technology.

**Potential Financial Loss:** Companies that have recently invested in making their diesel engines compliant with new emission standards might face financial losses if a diesel ban is implemented.



### Impact on Consumers

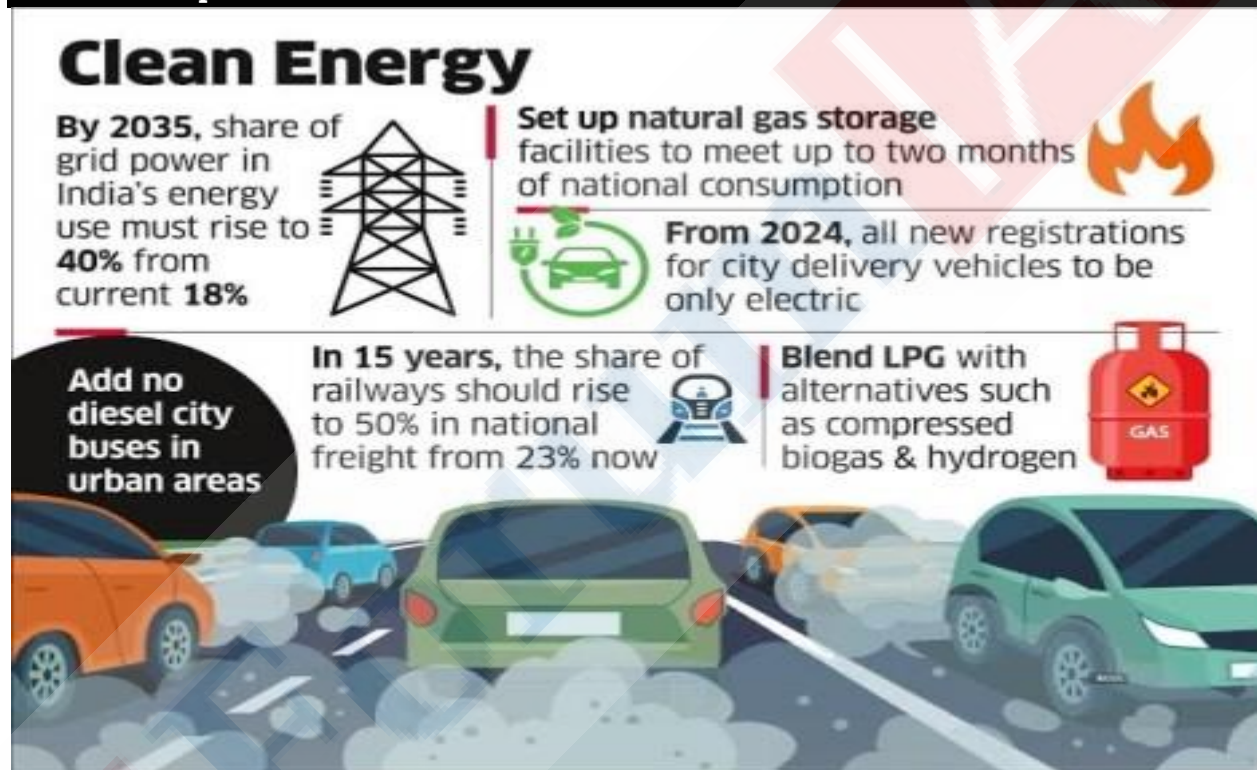
**Initial High Costs:** EVs typically have a higher upfront cost than diesel vehicles. This could make the transition difficult for some consumers, especially those in lower income brackets. Changes in

**Maintenance and Running Costs:** While the initial cost of EVs is high, they have lower running and maintenance costs compared to diesel vehicles. Over time, this can offset the initial investment.

**Need for Infrastructure:** The lack of adequate charging infrastructure might be a challenge for potential EV owners. However, with the government's push for EVs, infrastructure development is expected to improve.

Read more: [Why railways around the world are ditching diesel for hydrogen](#)

What are the potential alternatives to diesel vehicles?



Source: The Economic Times

**Electric vehicles (EV):** It is one that operates on an electric motor, instead of an internal-combustion engine that generates power by burning a mix of fuel and gases. However, The most significant disadvantage of electric vehicles is that they must be charged regularly.

**Compressed Natural Gas (CNG) Vehicles:** CNG vehicles use compressed natural gas, a cleaner-burning alternative to diesel. CNG vehicles produce fewer emissions and are often cheaper to run than diesel vehicles. However, the shortage of CNG stations and reduced storage space due to large CNG tanks are the major disadvantages of this vehicle.

**Fuel Cell Vehicles (FCVs):** FCVs use hydrogen gas to power an electric motor. They produce no tailpipe emissions, with water vapour being the only by-product. However, the infrastructure for hydrogen fueling is less developed compared to other alternatives.

**Biofuel Vehicles:** Biofuel vehicles run on fuels derived from organic materials, such as corn or sugarcane. These fuels can be used in traditional internal combustion engines and can help

reduce greenhouse gas emissions. However, there are concerns about the impact of large-scale biofuel production on food supply and prices.

**Liquefied Petroleum Gas (LPG) Vehicles:** LPG, also known as autogas, is a clean-burning fossil fuel that can be used in internal combustion engines. LPG vehicles produce fewer emissions than diesel vehicles and are often cheaper to run.

**Must read:** [Adoption of EVs: Challenges and Solutions – Explained, pointwise](#)

#### What are the challenges in executing the ban on diesel vehicles?

**Infrastructure for Alternatives:** One of the major challenges is establishing the infrastructure for alternative fuels or electric vehicles. For instance, electric vehicles require a network of charging stations, which are currently not as widely available as diesel refuelling stations.

**Investment Recovery:** Automakers have invested heavily in diesel technology to meet existing emission standards. The proposed ban could lead to significant financial losses for them.

**Transition of Commercial Vehicles:** Commercial vehicles, including trucks and buses, mostly run on diesel. Transitioning this sector to cleaner alternatives will be challenging due to the specific requirements of these vehicles, such as the need for high torque and long-range capabilities.

**Consumer Acceptance:** Changing consumer behaviour and preferences is always challenging. Consumers may have concerns about the cost, performance, and reliability of alternative vehicles.

**Read more:** [State-run oil marketing companies to buy biodiesel made from used cooking oil](#)

#### What should be done?

**Incentives for Clean Vehicles:** The government should provide incentives to consumers and manufacturers for adopting cleaner vehicles. This could be in the form of tax rebates, subsidies, or discounts on electric vehicles (EVs).

**Investment in Infrastructure:** Significant investment should be made in developing the necessary infrastructure for alternative vehicles, especially charging stations for EVs. For example, Public and private entities could collaborate to establish charging stations at convenient locations like shopping centers, public parking lots, and along major highways.

**Public Awareness Campaigns:** Public awareness campaigns should be conducted to educate consumers about the benefits of clean vehicles and the potential harm caused by diesel emissions.

**Support for Commercial Vehicles:** Specific programs should be implemented to support the transition of commercial vehicles from diesel to cleaner alternatives. For instance, subsidies could be offered to transport companies to offset the cost of replacing their diesel trucks with electric or hybrid models.

**Phased Implementation:** Instead of an abrupt ban, a phased implementation could be considered. This allows consumers and manufacturers time to adjust and plan accordingly. Such as the ban could start with major cities and gradually extend to smaller towns. It could also start with specific types of vehicles, like public buses or delivery vehicles, before expanding to all types of diesel vehicles.

**Research and Development:** Encourage research and development in cleaner technologies and alternative fuels. This can be done through government funding and by fostering partnerships between academia and industry. Like, a government-funded research program could be established to develop more efficient batteries for electric vehicles or more effective emission control technologies for biofuel vehicles.

Sources: [Indian Express](#), Times Now ([Article 1](#) and [Article 2](#)), [The Hindu](#), [Economic Times](#), [The Hindu Businessline](#)

Syllabus: GS – 3: Environment and Bio-diversity: Conservation

## India's nuclear doctrine after 25 years of Pokhran – Explained, pointwise

### Introduction

Marking 25 years since the Pokhran tests, India's nuclear doctrine has seen significant evolution. With noteworthy advancements such as the Agni-V missile and the S-4, India's third indigenous nuclear ballistic missile submarine, India has certainly bolstered its nuclear capabilities. However, it still grapples with challenges in securing the sea and air components of its nuclear triad and building a robust ballistic missile defence system. Furthermore, the swift expansion of China's nuclear arsenal presents a fresh set of challenges. This milestone is an opportune time to reflect on the doctrine's journey and its future direction in a shifting geopolitical landscape.

### What are the key features of India's Nuclear Doctrine?

Key features of India's Nuclear Doctrine are:

**No First Use (NFU):** India committed to not being the first to use nuclear weapons in a conflict but would retaliate if attacked with such weapons.

**Credible Minimum Deterrence:** India would maintain a sufficient number of nuclear weapons to deter a nuclear attack, but it would not seek to match other countries' arsenals in size.

**Non-use Against Non-Nuclear Weapon States:** India would not use or threaten to use nuclear weapons against countries that do not possess them.

**Retaliation to a Nuclear Attack:** If India is subject to a nuclear attack, it would retaliate, causing massive damage to the aggressor.

### What is the evolution of India's nuclear doctrine?

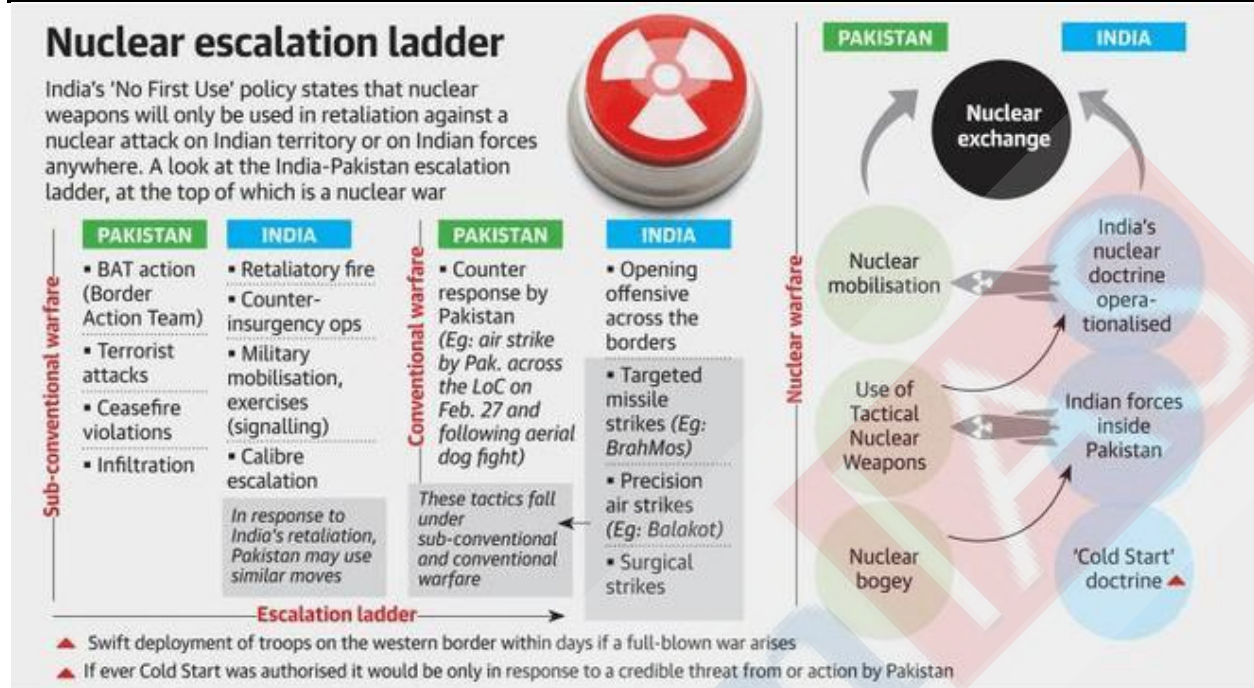
**Origin of India's Nuclear Doctrine:** India's nuclear doctrine originated in the years following its first nuclear test in 1974, which was termed as a 'peaceful nuclear explosion.' However, the real evolution of its nuclear doctrine began after the 1998 nuclear tests, when India declared itself a nuclear weapon state.

**Draft Nuclear Doctrine (1999):** Following the 1998 tests, the National Security Advisory Board (NSAB) of India released a Draft Nuclear Doctrine in 1999. This draft provided the basic framework of India's nuclear policy, emphasizing a policy of 'No First Use' (NFU) and asserting that nuclear weapons would only be used for retaliation against a nuclear attack.

**Official Nuclear Doctrine (2003):** In 2003, the Indian government reviewed and released the official nuclear doctrine. It retained the core principles of the 1999 draft but added more details. The 2003 doctrine emphasized "Credible Minimum Deterrence," reasserted the 'No First Use' policy, and stated that India would not use nuclear weapons against non-nuclear weapon states.

**Current Debates:** Given the evolving regional security environment, especially the growing nuclear capabilities of China and the persisting threat from Pakistan, there are ongoing debates in India about whether changes or clarifications to the nuclear doctrine are necessary. Some argue for a review of the 'No First Use' policy, while others believe that the principle of 'Credible Minimum Deterrence' might need to be reinterpreted in the face of new threats.

## What are the advantages of India's nuclear doctrine?



**Source:** The Hindu

**Credibility and Clarity:** India's nuclear doctrine provides a clear and credible stance on the country's position regarding the use of nuclear weapons. The "No First Use" policy clearly signals that India views nuclear weapons primarily as a deterrent and not as an offensive tool, which contributes to regional stability.

**Promotes peace and stability:** The doctrine, particularly the "No First Use" and "Non-use Against Non-Nuclear Weapon States" provisions, contributes to regional and global peace and stability. These principles assure non-nuclear weapon states that they will not be threatened or attacked with nuclear weapons by India.

**Supports Disarmament Goals:** The "Credible Minimum Deterrence" stance aligns India with global disarmament goals and reduces the chances of a costly arms race.

**Reinforces India's Responsible Image:** The doctrine's principles, especially the "No First Use" policy and "Non-use Against Non-Nuclear Weapon States", reinforce India's image as a responsible nuclear power. This has strategic benefits for India in terms of its international standing and relations with other countries.

**Mitigates the Risk of Accidental Nuclear War:** The doctrine's "No First Use" policy reduces the risk of an accidental nuclear war, as it removes the pressure for a rapid decision to launch in a crisis. This allows for a more measured response, potentially averting catastrophe.

## What are the challenges raised against India's nuclear doctrine?

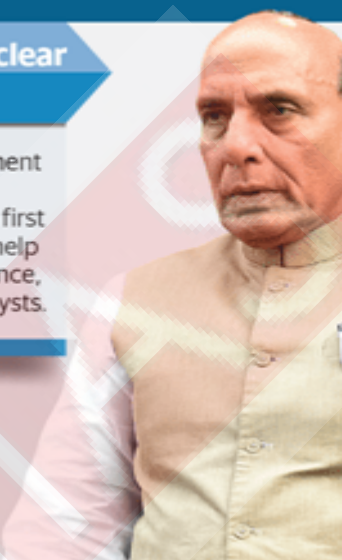
**MINT GRAPHITI**

### NUCLEAR REACTION

The Indian position	The Pakistani doctrine	The new nuclear option
<b>NEW DELHI</b> has held that it will not be the first to initiate a nuclear strike, but will retaliate should deterrence fail.	<b>ISLAMABAD</b> does not espouse a no-first use policy. It's doctrine promises 'massive retaliation' to any aggression.	<b>ADDING</b> an element of flexibility to unconditional no first use posture can help underpin deterrence, according to analysts.

Pokhran witnessed Atalji's firm resolve to make India a nuclear power and yet remain committed to the doctrine of 'no first use'. India has adhered to this. What happens in future depends on the circumstances.

**RAJNATH SINGH**, Defence minister



Source: Live Mint

**Changing Regional Dynamics:** India's nuclear doctrine is being tested by the rapidly changing security dynamics in its region. The modernization and expansion of China's nuclear capabilities pose a significant challenge to India's policy of minimum deterrence. This transformation in the nuclear landscape could potentially strain India's ability to respond effectively in a crisis.

**Pakistani Tactical Nuclear Weapons:** Pakistan's development of tactical nuclear weapons challenges India's NFU policy. The use of such weapons in a limited war scenario could potentially escalate the conflict, putting India in a difficult position given its NFU commitment.

**Credibility of No First Use Policy:** The NFU policy's credibility has also been questioned. Doubts arise about whether India would stick to its NFU commitment if it had reliable information about an imminent nuclear strike. This ambiguity could potentially undermine the doctrine's deterrence value.

**Credibility of Deterrence:** India's commitment to a "Minimum Credible Deterrence" raises questions about whether it possesses enough nuclear weapons to effectively deter potential aggressors, particularly given China's rapid military modernisation and nuclear expansion.

**Lack of Counter-Force Strategy:** India's nuclear doctrine does not explicitly mention a counter-force strategy, focusing on enemy military assets. Critics argue that this could potentially limit India's strategic options in the event of a nuclear conflict.

**Vulnerability to First Strike:** The "No First Use" policy potentially exposes India to a damaging first strike from an adversary. Critics argue that in such a case, India's ability to launch a retaliatory strike could be significantly compromised.

## What are the implications of shifting from the present nuclear doctrine?

**Elevated Regional Tensions:** If India were to abandon its "No First Use" policy, it could escalate tensions in the region, particularly with Pakistan and China, who might interpret such a move as a sign of increased aggression.

**Arms Race:** A shift in India's nuclear doctrine could potentially trigger an arms race, with neighbouring countries feeling the need to expand their own nuclear arsenals in response to India's perceived shift in stance.

**International Reputation:** India has traditionally been viewed as a responsible nuclear state, due in part to its “No First Use” policy and commitment to minimum credible deterrence. Altering this doctrine could tarnish that reputation and lead to international criticism.

**Destabilize the region:** The current doctrine contributes to strategic stability in the region by making it clear that India’s nuclear weapons are purely for deterrence and defensive purposes. A shift in this policy could destabilize the region by creating uncertainty around India’s intentions.

**Resource Allocation challenges:** A change in doctrine, particularly one leading to the expansion of India’s nuclear arsenal, would require substantial financial resources. This could divert funds from other critical areas like conventional military capabilities or economic development.

What should be done?

**Maintain Strategic Restraint:** India should continue to adhere to its current nuclear doctrine of “No First Use” and “Credible Minimum Deterrence”. These policies have served India well by maintaining regional stability and preserving its international reputation as a responsible nuclear state.

**Engage in Dialogue:** India should engage in regular strategic dialogues with its nuclear-armed neighbours, China and Pakistan. This can help in managing mutual concerns, reducing misunderstandings, and preventing potential conflicts.

**Strengthen Conventional Capabilities:** While maintaining a credible nuclear deterrent, India should also focus on strengthening its conventional military capabilities. This can help deter conventional conflicts that may escalate to the nuclear level.

**Promote Nuclear Disarmament:** India should continue advocating for global nuclear disarmament and non-proliferation. This includes supporting international treaties aimed at nuclear disarmament and urging other nuclear states to adopt “No First Use” policies.

**Enhance Crisis Management Mechanisms:** India should work with other regional actors to enhance crisis management mechanisms. This could include establishing hotlines, conducting joint military exercises, and agreeing on confidence-building measures to prevent accidental escalation during times of crisis.

**Invest in Missile Defense Systems:** To counter the growing threat from China’s modernizing nuclear arsenal, India should invest in developing and deploying advanced missile defense systems. This could offer an additional layer of protection against potential nuclear strikes.

**Cooperate with Allies:** India should continue to cooperate with its allies and partners, such as the United States, to deter potential aggressors. This could involve sharing intelligence, conducting joint military exercises, and coordinating on defence strategies.

**Sources:** Indian Express ([Article 1](#), [Article 2](#) and [Article 3](#)), [The Hindu](#), ORF ([Article 1](#) and [Article 2](#)), [Times of India](#) and [South Asian Voice](#)

**Syllabus:** GS 2: International Relations – India’s Nuclear Policy.

## Supreme Court ruling on administrative services in Delhi – Explained, pointwise

### Introduction

The Supreme Court of India, in a significant ruling, has affirmed the elected Delhi government’s control over administrative services in the National Capital Territory of Delhi (NCTD). The judgment clarifies a long-standing dispute between the Delhi government and the Centre, determining that the Lieutenant Governor (LG) of Delhi is bound by the advice of the Delhi government council in matters of legislative scope. The decision is expected to reshape the

dynamics of governance in the capital, making officers more accountable to the elected government. However, ambiguity remained due to the presence of the National Capital Territory of Delhi (Amendment) Act, 2021.

### **What are the issues with the functioning of administrative services in Delhi?**

**Control over Administrative Services:** One of the central issues has been the control over administrative services, such as the Indian Administrative Service (IAS). There has been a power tussle between the elected Delhi government and the Central government appointed LG over who holds the authority over these services. This tussle has often led to a deadlock in decision-making, affecting the smooth functioning of the administration. For example, the Delhi government's proposal for doorstep delivery of rations was stalled due to disagreement with the LG over who had the final say in implementing such policies.

**Division of Powers:** The Delhi government does not have full statehood and thus does not have complete control over the police, land, and public order. This division of powers has created operational issues. The Delhi government has often complained that it has limited powers to execute its policies effectively.

**Legislative Ambiguity:** The lack of clarity in the legislative text about the distribution of powers between the Delhi government and the LG has also created problems in the administration. The ambiguity in the reading of Article 239AA of the Constitution, which outlines the powers of the Delhi government, has often resulted in disagreements.

**Political Differences:** Political differences between the elected Delhi government and the Central government have also been a cause for administrative issues. When the two are led by different political parties, as has often been the case, conflicts tend to arise.

**The National Capital Territory of Delhi (Amendment) Act, 2021:** This Act passed by the Central government gave more powers to the LG, leading to power tussle and confusion over decision-making in Delhi's administration.

**Read more: [NCT of Delhi \(Amendment\) Bill, 2021 is against the Principle of Federalism](#)**

### **What are the viewpoints of the Centre and Delhi government regarding the administrative services in Delhi?**

#### **Centre's Viewpoint on Administrative Services in Delhi**

**Necessary to have control over administrative services:** The Centre has consistently maintained that Delhi, being the national capital, holds a special status that necessitates the Union having control over administrative services. The Centre argues that the absence of this control would impede its ability to discharge its national and international responsibilities effectively.

**Delhi's ministers have adequate powers:** The Centre also argues that the Delhi government already has sufficient control over the bureaucracy through the Transaction of Business Rules, 1993, which grants Delhi's ministers adequate powers to ensure supervisory and functional control over civil services.

**Delhi's status as a Union Territory:** The Centre further claims that the LG should retain considerable power due to Delhi's status as a Union Territory. The 2021 National Capital Territory of Delhi (Amendment) Act supports this viewpoint by giving the L-G more powers.

#### **Delhi Government's Viewpoint on Administrative Services in Delhi**

**Need power to implement their policies:** The Delhi government, argue that as an elected government, they should have the power to implement their policies effectively and hold civil servants accountable.

**Article 239AA :** They have contested the Centre's interpretation of the Constitution, stating that Article 239AA gives the Delhi government legislative and executive powers similar to other states, excluding matters of public order, police, and land.

**2021 Amendment Act- overreach by the Centre:** The Delhi government has also contested the 2021 Amendment Act, viewing it as an overreach by the Centre into the administrative affairs of Delhi, and an attempt to undermine the powers of the democratically elected government.

**Limiting LG power:** They believe that the LG should act on the 'aid and advice' of the Council of Ministers, as per the 2018 Supreme Court ruling, and that the L-G's power should not extend to matters within the legislative assembly's scope.

**Read more:** [GNCT of Delhi Amendment Bill 2021 and Supreme Court's Verdict](#)

**About SC ruling on administrative services in Delhi**

**'LG bound by ministers' aid, advice'**

**What the court said**

- 1 The elected government of Delhi has legislative power over the city's 'services' so that it can control officers executing its policies
- 2 It reiterated that the LG is bound by the aid, advice of the government's council of ministers except 'public order', 'police', and 'land'

**What it means**

The state government will be in control of appointing, transferring officers in the Delhi administration, a power so far exercised by the LG

**WHAT HAPPENS NOW**

- 1 Delhi CM Kejriwal has announced that there will be a bureaucratic reshuffle in the Capital. The services secretary was removed on Thursday evening itself.
- 2 Several projects on hold over the past four years or so are likely to now take off

**Source: Hindustan Times**

**Supreme Court's Ruling on Control of Services:** The Supreme Court has ruled that the Delhi government has legislative and executive power over all administrative services in the national capital, except those related to land, law and order, and the police. This means that the elected government in Delhi can now control the bureaucracy and hold civil servants accountable.

**Impact on the 2015 Notification:** The ruling partially overturns a 2015 notification by the Ministry of Home Affairs, which had given control of all services to the LG. This means the LG can no longer exercise unilateral control over all services.

**Role of the LG:** The court has reiterated that the LG is bound by the aid and advice of the Delhi government's council of ministers in matters within the legislative scope of the NCT).



**Enhancement of Democracy and Federalism:** The ruling upholds the principles of democracy and federalism by emphasizing the importance of elected governments and their role in serving the needs of their electorate.

**Read more:** [The Government of National Capital Territory of Delhi \(Amendment\) Act, 2021](#)

### What is the extent of the Delhi government's powers on administrative services?

The Delhi government has legislative and executive power over all administrative services in the NCTD, as per the Supreme Court's ruling. However, this power doesn't extend to matters related to land, law and order, and the police, which remain under the exclusive domain of the Centre. Here's what this means in more detail:

**Control Over Bureaucrats:** The Delhi government now has control over bureaucrats, including the Indian Administrative Service (IAS) officers serving in Delhi, and can hold them accountable for their performance. This includes powers over transfers, postings, and appraisals of these officers.

**Policy Implementation:** The elected government has the authority to direct civil servants in the implementation of its policies. This means that government schemes and initiatives can be executed more effectively.

### What are the implications of the SC ruling on administrative services in Delhi?

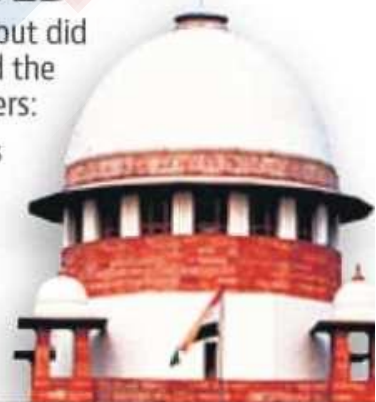
## CONTENTIOUS ISSUES YET TO BE DECIDED

The five-judge SC bench outlined broad constitutional contours but did not go into specifics on certain issues between the AAP govt and the LG. Here are 3 matters that will be tested separately, among others:

**1** MHA's notification that says the LG shall, in matters connected with 'services', exercise powers and discharge functions of the central government to the extent delegated to him

**2** MHA's notification that Delhi's anti-corruption branch shall not take any cognisance of offences against officers, employees and functionaries of Centre

**3** Delhi government's appointment of a commission of inquiry to investigate a CNG fitness scam. The move was declared illegal by the Delhi high court



<p>A big victory for the people of Delhi... a big victory for democracy...</p> <p>ARVIND KEJRIWAL, Delhi CM</p> 	<p>We welcome the decision of the Supreme Court and sincerely hope that better sense will prevail on both sides...</p> <p>RANDEEP SURJEWALA, Congress</p> 	<p>It's a good verdict by the Supreme Court. The LG and Delhi government have to work harmoniously. They can't always have confrontation.</p> <p>SOLI SORABJEE, Ex-attorney general</p> 
<p>If somebody is celebrating a win even after his loss, then his name is Kejriwal</p> <p>SAMBIT PATRA, BJP spokesperson</p> 		

**Source:** Hindustan Times

**Empowerment of the Elected Government:** The ruling affirms the power of the elected government in Delhi, enabling it to exercise greater control over the bureaucracy. This should, in theory, allow for more efficient and responsive governance, as the government can directly hold officials accountable.

**Greater accountability of officials:** With the elected government having control over administrative services, officials are expected to be more answerable to the government. This could lead to increased accountability and, potentially, better public service delivery.

**Potential for improved policy implementation:** The elected government's increased control over administrative services could lead to more effective implementation of its policies and schemes, as it now has the power to direct and manage the civil servants responsible for executing these initiatives.

**Continued legal and political debates:** Despite the clarity provided by the Supreme Court's ruling, the power dynamics between the Delhi government, the Lieutenant Governor, and the Central Government may continue to be a subject of legal and political contention, especially given the National Capital Territory of Delhi (Amendment) Act 2021 which gives more powers to the LG.

**Boost to Federalism:** By affirming the powers of the elected government in Delhi, the ruling strengthens the principle of federalism in India. It balances the power between the Centre and the states (or in this case, Union Territory), thereby upholding the spirit of cooperative federalism.

**Precedent for Other Union Territories:** While the ruling is specific to Delhi, it could set a precedent for other Union Territories with legislative assemblies, like Puducherry, potentially leading to a reassessment of the Centre-UT power dynamics.

**Read more:** [The NCT of Delhi Act, 2021 Enhances Cooperative Federalism](#)

#### What should be done?

**Effective Implementation of the Ruling:** All relevant parties, including the Delhi government, the Lieutenant Governor, and the Central Government, should respect and implement the Supreme Court's ruling. This includes empowering the elected government in Delhi to exercise its authority over administrative services.

**Cooperative Governance:** The Delhi government, the Lieutenant Governor, and the Central Government should work cooperatively to ensure smooth and efficient governance in the National Capital Territory. This includes respecting each other's roles and responsibilities as defined by the Constitution and the Supreme Court's ruling.

**Clarification of the NCT of Delhi (Amendment) Act, 2021:** Given the potential for conflict between the Supreme Court's ruling and the provisions of the National Capital Territory of Delhi (Amendment) Act, 2021, further legal clarification may be needed. This could be pursued through the courts or potentially through legislative amendments.

**Increased Accountability Measures:** With the elected government in Delhi now having greater control over administrative services, it should implement robust accountability measures to ensure that civil servants are effectively serving the public interest.

**Ongoing Review:** The implementation and impact of this ruling should be reviewed on an ongoing basis to ensure that it is promoting effective and accountable governance in the National Capital Territory of Delhi.

**Sources:** Indian Express ([Article 1](#), [Article 2](#) and [Article 3](#)), The Hindu ([Article 1](#) and [Article 2](#)), [Hindustan Times](#), [Times of India](#) and South Asian Voice

**Syllabus:** GS 2: Indian Constitution and Polity: Issues and challenges pertaining to the federal structure.

## [Yojana May 2023 Summary] Cybersecurity challenges in the 5G age – Explained, pointwise

### Introduction

The ultra-fast speed of 5G indeed holds the promise of revolutionary changes in communication and Internet consumption. The country is estimated to have over 150 million 5G users by the end of 2024 – a tiny fraction of the current 1.2 billion mobile phone users. This number will expand significantly once the 5G network is progressively deployed in tier-2 and tier-3 geographies. Along with the spread, the cybersecurity challenges in the 5G age will also increase many folds.

### What is 5G Technology?

Read here: [5G Technology](#)

Every few years, a new generation of mobile communications takes shape and is described as 1G, 2G, 3G, 4G networks, and so on. Each of these new generations brings higher data transfer speeds and lower latency rates.

The high speed and low latency of 5G will enable the connected devices to communicate in real-time, offering better and more reliable performance. This will benefit household purposes (such as IoT-enabled smart homes) and the industrial sector (for example, smart factories and automated manufacturing). According to one study, by 2035, 5G will enable USD 13.2 trillion of global economic output and support 22.3 million jobs.

5G will subsequently impact edtech, autonomous and robotic systems, telemedicine and precision agriculture.

### What are the benefits of 5G technology?

Must read: [5G Impact: Traffic To Teaching, Factories To Farming](#)

### What are the geopolitical fights associated with 5G technology?

**Commercial motives:** Leading tech-powered nations have strived to attain the ‘first mover’ advantage in 5G technology. So, major world telecom leaders may have taken the lead in developing 5G technology. For instance, Chinese telecom companies have been aggressively penetrating new markets by commercialising the technology and offering it at cheaper rates.

**The Chinese threat:** There are apprehensions that China might **weaponise 5G technology** by coercing the Chinese telecom companies to share their consumer data with the government or even force them to shut down 5G networks in times of geopolitical tumult.

Various instances and allegations of Chinese telecom companies **engaging in cyber espionage in many countries** have only reinforced these concerns. For example, the Australian government report on Papua New Guinea’s National Cyber Security Centre built by China said that the project had multiple cybersecurity issues, which exposed confidential government data.

**The US counter on China:** The United States has spearheaded a campaign to counter the Chinese telecom companies’ dominance in the 5G market. For instance, the US government has designated Huawei and ZTE as national security threats and also banned the sale and import of new communications equipment from five other Chinese companies. Further, the US has also persuaded its allies not to use Chinese equipment in their domestic 5G networks.

**Democratic states and authoritarian regime fight:** There have been efforts to bring together like-minded and leading democratic states to jointly tackle the tech challenge posed by authoritarian regimes such as China and Russia. For example,

–**The idea of D-10:** The former UK Prime Minister floated the idea of D-10, a coalition of ten democracies, to create an alternative supply chain for 5G and other emerging technologies.

-The **Quadrilateral Security Dialogue**, or the **Quad** has pledged to advance interoperability and security and work on 5G supplier diversification and Open RAN technology.

On the other hand, authoritarian regimes are pursuing emerging technologies beyond 5G.

**Read more: [5G technology in India – importance, challenges and solutions](#)**

**What are the potential cybersecurity challenges in the 5G?**



Source: Yojana

With 5G there will be an increased tendency among threat actors to target critical national infrastructure.

5G will play in a crucial role in national development and economic growth. So, it can undoubtedly be regarded as a critical infrastructure. Hence, 5G communication networks will represent a valuable target for cyberattacks, including sabotage.

Threat actors will exploit **several vulnerabilities of the 5G network** and ecosystem. Such as,

- a)** Due to the complexity of technology, there are **many moving parts in the 5G ecosystem**. This raises uncertainty about the resilience of each of those parts. For instance. If some systems in the network are not fully patched, they can potentially act as the weakest link in cyber defence.
- b)** Due to the higher speeds and enhanced capacity, 5G requires more access points and network edges, where the local network or device connects with the internet. This shifts much of the **core network functions closer to the end user**, making it challenging to enforce the requisite security compliance and ensure trusted third-party vendors.
- c)** There are **mixed types of networks** — 5G systems with legacy systems such as 4G. This also exposes the 5G network to the vulnerabilities of previous-generation networks.

d) Unlike 4G, 5G have a much smaller area of coverage. Hence, they require several smaller antennas and base stations. This can allow precise location tracking of mobile phone or internet users inside and outside, thereby **increasing privacy risks**.

e) The 5G network will bring about a wider proliferation of **IoT-enabled devices**. According to one estimate, by 2025, there will be approximately 27 billion connected IoT devices. This magnifies the threat canvas, as these devices will offer new malware and botnet distribution vectors.

These will bring increased avenues for attacks such as Distributed Denial-of-Service attacks or Man-in-the-Middle attacks. For example, in 2016, the Mirai botnet exploited unsecured IoT devices' vulnerabilities to disrupt the functioning of thousands of routers, security cameras, and digital video recorders.

f) 5G **inherits the vulnerability from previous generation protocols**, i.e., threat actors can get hold of the International Mobile Subscriber Identity (IMSI)

**Note:** *The IMSI number is used to identify and authenticate subscribers on the mobile network.*

By seizing the IMSI, threat actors can intercept mobile traffic in a defined area to monitor an individual user's activity, including tracking location and intercepting calls.

**Read more:** ["5G Technology" roll-out in India](#)

### What needs to be done to limit the cybersecurity challenges in the 5G?

5G will require an enhanced focus on the security of the connections, devices, and applications.

**Explore next-generation technologies:** Leading tech companies and global partnerships have already started exploring next-generation technologies. For instance, The **Quad countries** have announced plans to **collaborate on space-based 6G** to ensure that security-by-design and best cybersecurity practices are incorporated as the technology takes shape.

China is also formulating plans to advance research and innovation in 6G technologies.

**Formulate a cyber resilience plan:** 5G technology and network are not secure by design. So, countries adopting 5G, including India, must have a dedicated cyber resilience plan in place.

**Constant update of policies:** the cyber and information-security policies of the 5G network ecosystem must adopt adequate security protocols. This will need constant updating and upgrading since threat actors continue exploiting emerging vulnerabilities.

**Enhance awareness of end-user:** End users' cyber hygiene — their understanding of safe practices in cyberspace — can help them better tackle the threats and protect themselves. So, the government should take steps to increase awareness among end user.

**Source:** Yojana

**Syllabus:** GS 3: Security Issues: basics of cyber security.

### Tiger translocation project: Need and significance – Explained, pointwise

#### Introduction

The Tiger Translocation Project in India, the country's first interstate endeavour, aimed to bolster the tiger population in Odisha's Satkosia Tiger Reserve. This involved moving tigers from well-populated reserves in Madhya Pradesh, like Bandhavgarh and Kanha. However, the project faced significant hurdles, and the relocated tigers couldn't adapt to their new habitat. Despite these challenges, the project remains a crucial learning experience, emphasising the need for strategic conservation efforts to protect India's rich biodiversity.

**About the Tiger Translocation project**

Launched in 2018, the Tiger Relocation Project aimed to boost Odisha's Satkosia Tiger Reserve's tiger population. Two tigers, Mahavir from Kanha and Sundari from Bandhavgarh in Madhya Pradesh, were moved to Satkosia.

The project had two goals: **a)** to lessen territorial conflicts by reducing tiger numbers in overcrowded areas, and **b)** to reintroduce tigers in regions where their populations had dwindled. The project, titled "Augmentation and Recovery of Tiger Population in Satkosia Tiger Reserve," had a budget of Rs 19 crore. The plan was to move six tigers (three pairs) from various Madhya Pradesh reserves to Odisha. So far, the National Tiger Conservation Authority (NTCA) has spent Rs 8 crore of the total budget.

*Note: Recently, India has inked a memorandum of understanding with Cambodia "on biodiversity conservation with a special focus on tiger reintroduction in Cambodia."*

**Read more:** [Tiger – Endangered Species](#)

**What is the need for the Tiger translocation project?**

**Overpopulation:** The need for tiger translocation arises when certain tiger reserves face overpopulation. This overpopulation can lead to insufficient prey and territorial disputes among tigers, thus causing a threat to their survival. For example, in some reserves of Madhya Pradesh, the surplus population of tigers created a need for relocation.

**Declining Tiger Populations:** Tiger translocation is needed when certain regions experience a significant decline in their tiger populations due to reasons like poaching, habitat loss, and human-animal conflict. In such cases, introducing new tigers can help rebuild the population. This need was clearly seen in the case of the Satkosia Tiger Reserve in Odisha, where the tiger population had dwindled to only two by 2018.

**Rising Human-Tiger Conflicts:** In areas with high tiger density, instances of human-tiger conflicts often increase. This creates a need for tiger translocation to other areas with fewer tigers to reduce these conflicts and protect both human and tiger lives. This need was prevalent in areas like the Kanha Tiger Reserve in Madhya Pradesh, where high tiger populations led to increased human-tiger interactions.

**Ecosystem Imbalance:** One need for tiger translocation is to restore the balance within ecosystems. Tigers are apex predators, and their presence helps maintain the health of the entire ecosystem by regulating prey populations. Translocating tigers to areas with diminished populations can help restore the balance and prevent potential imbalances caused by overpopulation of prey species.

**Read more:** [Explained: How many tigers are too many](#)

**What are the reasons behind the failure of India's first tiger translocation project?**

The failure of India's first tiger relocation project, involving the translocation of tigers from Madhya Pradesh to the Satkosia Tiger Reserve in Odisha, was attributed to a number of factors:

**Lack of Community Engagement:** A key reason was the lack of effective engagement with local communities. The villagers living on the fringes of the reserve were not adequately consulted or informed prior to the translocation. This resulted in severe protests as villagers feared that the tigers would threaten their lives, livestock, and livelihoods.

**Inadequate Preparations and Planning:** The translocation was reportedly done in haste, without adequate preparation. The capacity for tiger monitoring was poor, and protection measures were not up to the mark. This left the relocated tigers vulnerable to threats like poaching and human-tiger conflict.

**Territorial Disputes:** The presence of an existing tigress in the Satkosia reserve led to territorial disputes. The new tigress, Sundari, was chased away from the core area of the reserve and ended up venturing into human habitation, leading to increased human-tiger conflict.

**Poaching and Human-Tiger Conflict:** Within months of the translocation, one of the relocated tigers, Mahavir, was found dead due to poaching. Sundari, the relocated tigress, allegedly mauled two villagers to death, leading to her tranquilization and eventual return to Madhya Pradesh.

**Relocation of Local Villages:** The translocation was also complicated by the displacement of local villagers from their homes within the reserve. This sparked opposition and led to additional conflicts between the reserve's management and the local communities.

**Read more:** [Tiger Reserves in India \(Updated 2023\)](#)

### What are the advantages of the Tiger translocation project?

**Preserving Genetic Diversity:** Translocation can also help maintain genetic diversity among tiger populations. Introducing new tigers into a different population can bring new genetic material, reducing the risks associated with inbreeding and helping to maintain a healthy and diverse tiger gene pool.

**Promoting Ecotourism:** Tigers are a major draw for ecotourism, which can bring significant economic benefits to local communities. By increasing tiger populations in certain areas through translocation, these projects can help boost local economies by attracting tourists.

**Educational Opportunities:** Such projects provide excellent opportunities for research and learning about tiger behaviour, ecology, and conservation needs, which can be useful for future conservation strategies.

**Inspiring Conservation Efforts:** Successful translocation projects can inspire and inform similar conservation efforts for other species, contributing to broader biodiversity conservation goals.

**Read more:** [What numbers do not reveal about tiger conservation](#)

### What are the lessons learnt from the Tiger translocation project?

**Engaging Local Communities is Essential:** The hostility of local communities to the relocated tigers was a significant factor in the failure of the Satkosia project. Future projects must prioritize building trust with local communities, clearly communicating the benefits of the project, and addressing their concerns.

**Robust Monitoring and Protection Measures are needed:** The death of Mahavir due to poaching underlines the need for strong protection and monitoring mechanisms. Future projects must ensure robust anti-poaching measures and continuous monitoring of the relocated tigers.

**Consideration of Tiger Behavior and Habitat Suitability:** The fact that Sundari shows that understanding tiger behaviour and careful selection of release sites is crucial. Future projects should prioritize areas that can sustain additional tigers and avoid human-tiger conflict.

**Preparedness of the Field Staff and Management:** Future projects must ensure that all involved parties are well-prepared and trained to handle the challenges of such a complex operation.

**Clear and Coordinated Inter-State Cooperation:** The prolonged process of relocating Sundari back to Madhya Pradesh due to lingering between the two states suggests that clear protocols and strong cooperation between states are required for the smooth execution of inter-state translocation projects.

### What should be done?

**Strengthening Monitoring and Protection Measures:** More robust measures need to be put in place to safeguard relocated tigers. These could include increased patrolling, the use of technology like GPS tracking collars, and stricter anti-poaching laws.

**Training Field Staff and Management:** Field staff and management need to be adequately trained to handle the challenges associated with tiger translocation. They should be prepared to monitor and protect the relocated tigers and manage any issues that arise.

**Prioritizing Voluntary Relocation of Villages:** Where possible, voluntary relocation of villages from core tiger habitats should be prioritized. This will help in creating inviolate spaces for tigers and reducing instances of human-tiger conflict.

**Read more:** [Increasing tiger population in India and government initiatives – Explained, pointwise](#)

**Sources:** [The Hindu](#), [Indian Express](#), [DTE](#), The Times of India ([Article 1](#) and [Article 2](#)), [Financial Express](#) and [Hindustan Times](#)

**Syllabus:** GS 3 – Environment and Bio-diversity: Conservation

### Shiv Sena case and SC judgement – Explained, pointwise

#### Introduction

The Supreme Court's landmark judgment on the split within Shiv Sena, a significant political entity in Maharashtra, has become a pivotal event in Indian politics. The dispute emerged between two factions within the party respectively. The SC's Shiv Sena case ruling, delivered by a five-judge Constitution bench, holds far-reaching implications not only for Maharashtra's political dynamics but also for the interpretation of constitutional norms in Indian politics.

About the Shiv Sena case

In June 2022, a group of Shiv Sena MLAs led by Eknath Shinde rebelled against the then Uddhav Thackeray. When it became evident that the rebel would call for a trust, the Shinde received disqualification notices from the then deputy speaker. The faction moved to the Supreme Court challenging the disqualification notices served on them by the Deputy Speaker. Thereafter, petitions were also filed by the Thackeray group challenging the then Maharashtra Governor's decision to call for a trust vote and the swearing-in of Mr Shinde as Chief Minister. The election of the new Speaker was also challenged.

#### What is the SC ruling on the Shiv Sena case?

**Must read:** [SC verdict on the Shiv Sena case: Key takeaways from Supreme Court's Maharashtra verdict](#)

#### What are the key legal questions arising out of the Shiv Sena case?

**Role and impartiality of the Speaker:** The case brings into question the role and neutrality of the Speaker in handling intra-party disputes, particularly related to disqualification petitions.

**Definition of 'Political Party':** There's a question about the correct interpretation of 'political party' in the context of the Tenth Schedule of the Indian Constitution. Prior to the ruling, the distinction between a 'political party' and a 'legislative party' wasn't explicitly defined, leading to potential confusion in its application.

**Anti-Defection law:** The case questions how the Anti-Defection Law (Tenth Schedule) applies when a political party splits into factions, and how defection should be defined and identified in such scenarios.

**The interplay between Anti-Defection laws and freedom of speech:** During the Shiv Sena case, some members argued that the anti-defection law was curtailing their freedom of speech and judgment.

**Governor's role in floor test:** The role of the Governor and the constitutionality of demanding a floor test, as well as accepting the resignation of a Chief Minister, have been questioned.



What is the SC judgment on key legal questions in the Shiv Sena case?

**The interplay between Anti-Defection laws and freedom of speech:** The court stated that the issue of disqualification should be decided by the Speaker of the Legislative Assembly as per established procedures in law.

**Definition of 'Political Party':** As per provisions of the Representation of the People Act, an association of individuals calling itself a political party has to be registered with the EC. The Speaker must recognise only the whip and leader who are duly recognised by the political party.

**Appointment of the whip:** The Speaker should have conducted an independent inquiry to verify the decision of the political party regarding the appointment of the whip.

**Governor's role in the floor test:** The Governor can call for the floor test only if he has objective material before him to reach the conclusion.

#### What are the significances of the Shiv Sena case judgement?

Read here: [SC verdict on Maharashtra political crisis: The apex court draws red lines](#)

#### What are the implications of the SC's Shiv Sena case judgment on Indian federalism?

**Party Control over legislators:** The judgment, by defining a 'political party' to include the central organization, gives more control to the party's high command over legislators, which can impact the balance of power between the central leadership and state units.

**Governor's role:** The judgment's critique of the Governor's actions could influence future interactions between state governments and Governors, impacting the dynamics of federalism.

**Preserving the stability of state governments:** The clarification of the Anti-Defection Law in the context of party splits could significantly impact state politics, as it could discourage splits and defections, thereby preserving the stability of state governments.

**Ensure legislative independence:** The judgment's upholding of the Speaker's role and authority in disqualification cases can ensure legislative independence in handling intra-party disputes, a vital aspect of federalism.

#### What should be done to strengthen the Federalism further?

**Adherence to the SC judgment:** Parties and legislators should strictly adhere to the Supreme Court's judgment to uphold the spirit of democracy. This means respecting the rights of political parties as entities beyond just the legislature and honouring the authority of the party leadership.

**Speaker's role in disqualification:** The Speaker, in his capacity, should handle disqualification petitions judiciously, guided by the principles laid down in the judgment. He must act impartially, considering the constitution of the party, the rules and regulations of party leadership, and not merely the majority in the Legislative Assembly.

**Navigating party splits:** In case of a party split, members should respect the court's decision and not claim to be the original party to avoid disqualification. They should understand that the larger interest of the party and democratic principles stand above personal or factional interests.

**Strengthening Anti-Defection laws:** To deter defections and uphold the principles of democracy, it might be worthwhile to further strengthen anti-defection laws. By ensuring strict penalties for defections, the stability of the government and the integrity of elected representatives can be maintained.

**Sources:** [Subhash Desai v. Principal Secretary, Governor of Maharashtra And Ors](#), Live law ([Article 1](#), [Article 2](#) and [Article 3](#)), The Hindu ([Article 1](#) and [Article 2](#)), [Indian Express](#), [Hindustan Times](#), [The Quint](#) and [Outlook India](#)

**Syllabus:** GS – 2: Indian Constitution and Polity: Issues and challenges pertaining to the federal structure.

## Indian Space Policy 2023 and its significance – Explained, pointwise

### Introduction

The recently approved Indian Space Policy 2023 is a landmark development for India's space program. This is welcomed by the industry as it offers an opportunity to build upon past achievements and harness the potential of the evolving space sector. However, to unlock its full potential, it requires supportive legislation and clear rules.

Thus, the significance of the Indian Space Policy extends beyond its immediate impact, offering a roadmap for India's future in space exploration and technology. It set the stage for the country to reach new heights in the realm of space.

### What is the need for the Indian Space Policy 2023?

**Unclear regulatory framework:** Without a clear-cut space policy, it was challenging to regulate and supervise the activities of various stakeholders in the space sector.

**Untapped potential:** The Indian space sector had previously been dominated by the government, with limited participation from private entities. The policy was needed to tap into the potential of the private sector and startups, which could contribute to technological advancements and economic growth.

**National security and growth:** With the strategic and security importance of the space sector, there was a need for a policy that could ensure India's interests while still allowing for innovation and progress. The 2023 policy addresses this need by establishing IN-SPaCe as the authorizing body for all space activities.

**Increasing global competitiveness:** In the global context, India's share in the space market was relatively small. The policy was required to increase the competitiveness of Indian space companies on the global stage and position them as viable alternatives to existing players.

**Economic implications:** The space sector is capital-intensive and comes with high economic risks. There was a need for a policy that could guide investments, ensure profitability, and manage the economic implications of space activities, all of which the Indian Space Policy 2023 addresses.

**Read more:** [Space Economy in India – Explained, pointwise](#)

### What are the key provisions of the Indian Space Policy 2023?

**Must read:** [Union Cabinet gives nod to Indian Space Policy 2023](#)

### What are the advantages of the Indian Space Policy 2023?

**Provides clarity:** The Indian Space Policy 2023 establishes a single regulatory body, IN-SPaCe, to streamline the process and provide clarity to all involved parties.

**Fostering innovation:** The Indian Space Policy 2023 encourages private sector participation, which brings new ideas, innovation, and competition into the Indian space sector. This could lead to the development of more advanced technologies and efficient processes, driving the overall growth of the sector.

**Economic growth and job creation:** As the private sector and startups gain more share in the space sector, it's expected to lead to economic growth and job creation. The policy could spur investments, create high-tech jobs, and contribute significantly to the Indian economy.

**Accessible and affordable space technology:** With increased competition, space technology and services could become more accessible and affordable, benefiting various sectors like communication, navigation, earth observation, and more.

**Encouraging entrepreneurship:** The policy creates an encouraging environment for space startups, fostering entrepreneurship and innovation in the country. It provides a clear path for entrepreneurs to enter the space sector, contributing to the startup ecosystem's growth.

**Streamlining regulations:** By creating a single-window clearance system, the policy streamlines the regulatory process for space activities. This makes it easier for businesses to navigate the regulatory landscape and encourages more entities to participate in space activities.

**Must read:** [\[Yojana May 2023 Summary\] Innovation in Space Tech – Explained, pointwise](#)

### What are the challenges in the implementing Indian Space Policy?

**Balancing security and growth:** Striking a balance between encouraging private sector involvement and ensuring national security is a significant challenge.

**Funding and investment:** Attracting adequate funding and investment for private space ventures could be a challenge, particularly for capital-intensive projects that may not have immediate revenue generation potential. Investors might be hesitant to support projects with long gestation periods and uncertain returns.

**Competition from global players:** Indian space startups and private companies will face intense competition from established global players like SpaceX and Blue Origin. Competing with these giants in terms of technology and resources could be a significant challenge for new entrants.

**Developing skilled workforce:** The space sector requires highly skilled professionals with specialized expertise in various fields. Developing and retaining a skilled workforce could be a challenge, especially given the competition for talent from established global space companies.

**Regulatory challenges:** Creating a comprehensive regulatory framework that is efficient, transparent, and accommodates the evolving needs of the space sector is a complex task. Streamlining regulations and ensuring a smooth clearance process could be challenging as the sector grows and diversifies.

**Infrastructure development:** Developing the necessary infrastructure for private companies to operate, such as launch pads, ground stations, and testing facilities, requires significant investment and planning. Ensuring that these resources are readily available and accessible to private players is a challenge.

**Technology transfer:** Establishing a smooth technology transfer process between ISRO and private entities could be challenging. The government must create an environment that encourages collaboration and sharing of resources, expertise, and technology while protecting intellectual property rights.

**International collaboration and compliance:** Navigating international treaties, agreements, and regulations in the space sector can be challenging for private companies. Ensuring compliance with international norms and fostering collaboration with global partners will be crucial to India's success in the space sector.

**Must read:** [A ground view of the Indian Space Policy 2023](#)

### What should be done?

**Establish a robust regulatory framework:** A clear, comprehensive, and efficient regulatory framework needs to be established. This will help streamline the approval process for private companies, encourage compliance, and ensure security concerns are adequately addressed.

The government must ensure that sensitive information and technologies do not fall into the wrong hands while promoting innovation and growth.

**Facilitate access to funding:** The government should facilitate access to funding for private players in the space sector. This could involve setting up dedicated funds, tax incentives, or other financial support mechanisms.

**Cultivate a space ecosystem:** Efforts should be made to cultivate a vibrant space ecosystem in India, encouraging the growth of startups and established companies alike. This could involve hosting space technology events, fostering mentorship programs, and encouraging collaboration between different players in the space sector.

**Invest in research and development:** Increased investment in research and development is necessary for the growth of the space sector. This could involve providing grants for innovative research and encouraging private companies to invest in their own research and development initiatives.

**Public awareness and education:** Increasing public awareness and education about the space sector can help foster a culture of innovation and interest in space activities. This could involve creating educational programs about space for schools, hosting public events, and promoting the achievements of Indian space companies and ISRO.

**Sources:** The Hindu ([Article 1](#) and [Article 2](#)), [The Hindu Businessline](#), [ISRO](#), [Economic Times](#) and [The Times of India](#)

**Syllabus:** GS – 3: Science and Technology: Indigenization of technology and developing new technology.

### [Kurukshetra May 2023 Summary] Potential of rural handicrafts and rural tourism – Explained, pointwise

#### Introduction

India's abundant rural crafts and traditions are passed down through generations. They present significant potential for the nation's rural tourism sector. These crafts, the livelihood of numerous rural communities, offer unique attractions for tourists, contributing to the local economy, employment, and skill development. The government's role in promoting these crafts, conservation efforts, ecotourism, and infrastructure development enhances this potential. Thus, rural tourism in India holds the promise of not only preserving the rich cultural and natural heritage but also boosting local incomes and job opportunities, making it a vital sector for India's overall growth.

#### What are the significances of rural handicrafts and rural tourism?

**Cultural preservation:** Rural tourism allows visitors to experience and appreciate the rich, diverse cultural heritage that rural areas offer. For example, Pochampally Village in Telangana is famous for its distinctive handloom industry and Ikat sarees. Thereby providing tourists with an authentic cultural experience.

**Economic development:** Rural tourism can generate income and employment for local communities. For instance, the [One District One Product \(ODOP\) program](#) has helped artisans increase their income by promoting their unique crafts. Rural tourism can provide incentives for homestays and eco-tourism, local communities can showcase their crafts directly to tourists, creating a unique cultural experience and generating income.

**Sustainability:** Rural tourism can support sustainable development by promoting eco-tourism and traditional, environmentally-friendly crafts. A good example is the 'Linking Textile with Tourism' initiative that promotes eco-friendly local crafts.

**Preventing Rural-Urban migration:** By providing job opportunities and stimulating local economies, rural tourism can reduce the need for people to move to cities for work. This is clearly seen in craft villages that have become tourist hotspots, generating local employment.

**Promoting peaceful co-existence:** By fostering understanding and appreciation between urban and rural communities, rural tourism promotes peaceful co-existence and social harmony. The 'Ek Bharat Shrestha Bharat' philosophy, emphasizing intercultural exchange, is a testament to this.

**Read more:** [Tourism Sector in India – Explained, pointwise](#)

What are the Governmental initiatives for promoting rural handicrafts and rural tourism?

The eight craft villages that have been selected under Linking Textile with Tourism initiative are as follows:

1. Raghurajpur (Odisha)
2. Tirupati (Andhra Pradesh)
3. Vadaj (Gujarat)
4. Naini (Uttar Pradesh)
5. Anegundi (Karnataka)
6. Mahabalipuram (Tamil Nadu)
7. Taj Ganj (Uttar Pradesh)
8. Amer (Rajasthan)

Source: Kurukshetra

**One District One Product (ODOP):** This initiative aims to promote traditional industries and handicrafts in each district of India, thereby creating employment opportunities and preserving traditional crafts.

**Linking textile with tourism:** Under this initiative, eight craft villages have been identified nationwide to encourage tourism and crafts in a single location, further contributing to the local economy.

**Pochampally handloom park:** Established in Telangana, the park is a tourist attraction that showcases the rich history and development of the Pochampally handloom industry.

**Ekta mall:** Located in Gujarat, the Ekta Mall offers local artisans a platform to showcase and sell their crafts, promoting local culture, and boosting tourism.

**PM Vishwakarma Kaushal Samman:** This webinar series highlights the importance of traditional Indian crafts and their potential in promoting tourism and generating employment in rural areas.

[Handloom Village at Moirang.](#)

[National Technical Textiles Mission.](#)

**Global recognition and trade fairs:** The government participates in international trade fairs and exhibitions, providing financial assistance to artisans, and setting up export promotion councils to enhance handicraft exports. For example, as per the Annual Report 2020-21 released by the Ministry of Textiles, the exports of handicrafts from India have been growing steadily, with a rise from Rs. 19,171 crore in FY 2019-20 to Rs. 20,151 crore in FY 2020-21, despite the COVID-19 pandemic.

**Read more:** [2021- A Year of Game Changing Reforms for Ministry of Textiles](#)

**How do rural handicrafts and rural tourism act as a solution to curb migration?**

**Creating employment opportunities:** Rural handicraft industries provide jobs in rural areas, helping residents earn a livelihood locally instead of migrating to urban areas.

**Fostering entrepreneurship:** Rural craft businesses offer opportunities for locals to become entrepreneurs and reach broader markets, reducing the need for migration.

**Attracting tourism:** Local culture and arts, including rural crafts, attract tourists, creating more economic opportunities in rural areas and thereby reducing migration.

**Income diversification:** Rural crafts provide an alternative source of income, helping rural residents become less reliant on traditional livelihoods such as agriculture, and reducing the need for migration for economic reasons.

**Read more:** [\[Kurukshetra August Summary\] Agribusiness and Rural Industries - Explained, pointwise](#)

**What is the role of G20 in promoting Indian rural handicrafts and rural tourism?**

**Improving international market access:** By reducing trade barriers and simplifying customs procedures, the G20 can help Indian handicrafts reach international markets.

**Financial assistance:** The G20 can provide financial aid in the form of loans, grants, or subsidies, assisting Indian artisans with capital to expand their businesses.

**Investment in skill development:** The G20 can contribute to skill development programs for Indian artisans, improving the quality and range of their products.

**Strengthen intellectual property laws:** In collaboration with the Indian government, the G20 can help strengthen intellectual property laws to protect the designs and techniques of Indian artisans.

**Global promotion:** By leveraging its influence, the G20 can help promote Indian handicrafts globally, increasing their recognition and marketability.

**Read more:** [\[Yojana December Summary\] GI Tagging of Rural Products - Explained, pointwise](#)

**What can be done to promote rural handicrafts and rural tourism?**

**Enhance skill development and training:** Providing adequate training and skill development programs can help artisans enhance their craftsmanship, learn new techniques, and adapt to modern market trends. These programs could be conducted by governmental agencies, NGOs, or craft councils, and should aim at bridging the gap between traditional skills and modern requirements.

**Improving market access and exposure:** Efforts should be made to improve rural artisans' access to national and international markets. This can be done by organizing local and national

craft fairs, supporting online sales platforms, and promoting participation in international trade fairs and exhibitions.

**Creating financial support systems:** Government and financial institutions should provide easy access to loans, grants, and other financial aids for rural artisans to invest in tools, materials, and marketing. This support would enable them to enhance production and reach a wider market.

**Strengthening infrastructure:** Upgradation of infrastructure, like roads, electricity, and internet connectivity in rural areas, can aid in the growth of the rural craft sector. With better infrastructure, artisans can reach out to customers more efficiently, and tourists can access these rural areas with greater ease.

**Protecting intellectual property:** Strengthening laws related to intellectual property rights can help protect the unique designs and techniques of rural artisans. This would prevent exploitation and encourage innovation in the craft sector.

**Leveraging technology:** Integrating technology into the rural handicraft industry can make a significant difference. From e-commerce platforms to social media marketing, technology can provide artisans with new avenues to showcase and sell their products to a global audience.

**Incentivizing innovation:** Innovation should be incentivized in the handicraft sector to make the products more appealing to a global audience. This could include product diversification, modern design integration, and the use of eco-friendly materials.

**Building global partnerships:** Engaging in partnerships with international organizations and countries can help promote Indian rural crafts on a global platform, increase their market reach, and offer opportunities for collaboration and learning.

**Enhancing branding and promotion:** Effective branding and promotional campaigns can play a vital role in showcasing the unique characteristics and cultural significance of rural handicrafts, making them more appealing to both domestic and international markets.

**Read more:** [\[Kurukshestra June Summary\] Rural Tourism: India an Incredible Tourism Destination – Explained, pointwise](#)

**Source:** Kurukshestra

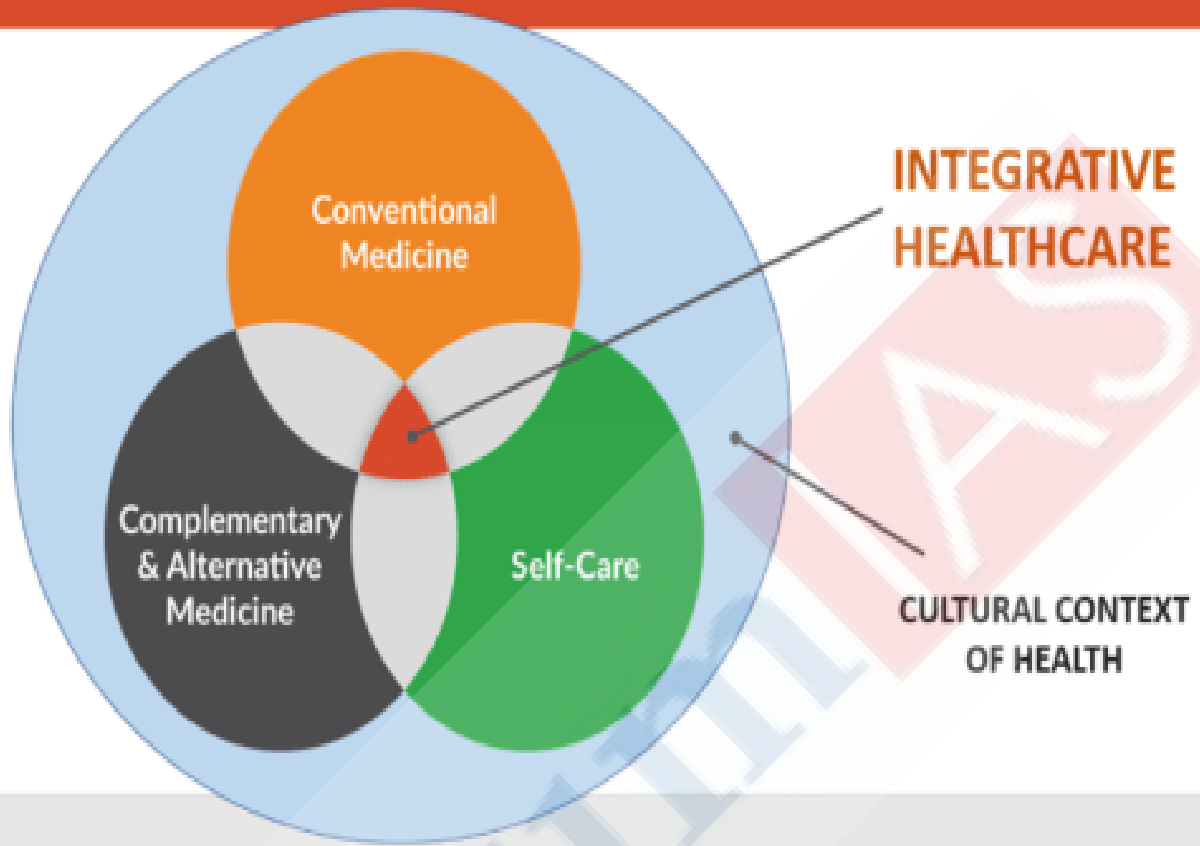
**Syllabus:** GS 3: Economic development: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

### **Integrated system of medicine: Need and significance – Explained, pointwise**

#### **Introduction**

The Integrated System of Medicine offers promising prospects for comprehensive patient care. This system has gained significance as the Ministry of AYUSH and the ICMR partner to conduct human clinical trials, seeking scientific validation of the benefits of such integration in treating nationally important diseases.

This groundbreaking initiative marks a crucial step towards understanding the effectiveness of combined therapies. Thus, underscoring the urgent need for an integrative, evidence-based approach to healthcare.

**What is the integrated system of medicine?**

**Source:** Research Gate

An integrated system of medicine combines different healthcare practices to provide the most effective treatment for the patient. This approach blends “Western” medicine, with alternative or traditional practices such as Ayurveda, acupuncture, yoga, or naturopathy.

The aim of an integrated system is to treat the whole person – mind, body, and spirit, rather than just focusing on a single disease or symptom. This can result in more personalized, comprehensive care.

Furthermore, an integrated system emphasizes prevention and healthy lifestyle habits, in addition to treating illnesses. The inclusion of different medical systems in an integrated approach allows for more options, enabling physicians and patients to choose the treatments that work best for their unique circumstances.



## What is the need for an Integrated system of medicine?

# Major push

TO START OP AND IP SERVICES  
IN INTEGRATED MEDICINE

- Patients will be able to access combination of modern and traditional medicine
- Ayush enters into MoU with ICMR for research
- In China, integrative medicine is very popular
- MBBS students in China are taught both modern and traditional Chinese medicine
- India too is integrating super-specialties with Ayurveda and Yoga



**All AIIMS in  
India to have  
a integrative  
medicine  
departments**

**Source:** Telangana today

**Widespread use and increasing demand:** Alternative medicine, encompassing Ayurveda, Yoga, Naturopathy, Unani, Siddha, and Homeopathy (AYUSH), has a significant presence in India. The country is seeing a surge in demand for AYUSH and alternative medicines, driven by increasing public awareness, the effectiveness of traditional systems, government backing, and expanding research and development.

**Global exporter of alternative medicines:** India is one of the top exporters of alternative medicines worldwide, positioning itself as a global leader. Major export destinations include the United States, Germany, and France. The significant usage of Ayurvedic medications in the country is expected to increase by an astounding 50% over the next five years.

**Increased use during Covid-19:** The Covid-19 pandemic led to a dramatic shift towards alternative medicines in India. Fear and uncertainty, combined with changing treatment protocols and shortages of conventional medicines, led many people to turn to herbal and Ayurvedic remedies.

Immunity-boosting effects and lack of side effects were key factors in this shift. As a result, the demand for various Ayurvedic products skyrocketed – for instance, demand for honey, chyawanprash, and turmeric in Ayurvedic stores increased by 45%, 85%, and 40%, respectively.

**The future of alternative medicine in India:** The prevalence of alternative medicine in India will continue to rise. The WHO Traditional Medicine Strategy 2014-2023 emphasizes the integration of traditional and complementary medicine in universal healthcare. Apart from this, the AYUSH system in India is anticipated to grow at a Compound Annual Growth Rate (CAGR) of 8.6% from 2022 to 2027.

**What are the government initiatives to boost the Integrated system of Medicine?**

The Indian government has initiated several measures to boost the integrated system of medicine in the country:

**AYUSH ministry:** The creation of the Ministry of AYUSH is a significant step in promoting traditional and alternative systems of medicine. This Ministry was established to develop, educate, and research these systems, creating a structure to integrate them into mainstream healthcare.

**Partnership with ICMR:** The AYUSH Ministry and the Indian Council of Medical Research (ICMR) have partnered to conduct quality human clinical trials. The aim is to generate evidence on the benefits of using Ayurveda along with modern medicine (evidence-based medicine) in treating certain disease conditions of national importance.

**AIIMS research:** The All India Institute of Medical Sciences (AIIMS) has been conducting clinical trials for years to assess the impact of Yoga and other traditional practices on various health conditions. Their findings contribute to the evidence supporting the integrated system of medicine.

**Centre for Integrative Medicine & Research (CIMR):** Established within AIIMS, this center is the first of its kind in the country to conduct proper scientific research on yoga. It plays a crucial role in developing guidelines to combine mainstream and alternative medicines and therapies.

**One Nation, One Health System Policy:** This is an ambitious policy that aims to integrate traditional practices like Ayurveda, homoeopathy, and yoga into mainstream healthcare by 2030.

**What are the advantages of an Integrated system of Medicine?**

**Holistic approach:** An integrated system of medicine allows for a holistic approach to patient care, considering the complete physical, mental, and emotional well-being of the person, rather than focusing solely on disease treatment.

**Complementary treatments:** Traditional practices like Ayurveda and yoga can be used as adjunctive therapies in conjunction with modern medicine, potentially enhancing treatment outcomes. For example, yoga can aid in treating conditions like migraine headaches and recurrent vasovagal syncope when used alongside conventional therapies.

**Cost-effective:** Traditional therapies can often be more cost-effective than modern ones. Practices such as yoga require minimal resources and can be performed virtually anywhere, making them accessible and affordable healthcare options.

**Enhanced patient satisfaction:** Integrating traditional and modern medicines may provide more comprehensive care, potentially leading to improved patient satisfaction. It may allow patients to feel more involved and in control of their healthcare.

**Preventive care:** Many traditional medical systems, like Ayurveda and yoga, emphasize the prevention of diseases through a balanced lifestyle, diet, and regular exercise. This can help reduce the incidence of chronic diseases and improve overall health.

**Reduced side effects:** Many traditional practices are known for having fewer side effects compared to modern medicine. Yoga, for instance, generally does not have adverse effects, unlike many pharmaceutical treatments.

**Supports the 'One Health' approach:** The Integrated System of Medicine supports the 'One Health' approach, which enables coordinated action across human, animal, and agricultural sectors for judicious antibiotic use. It provides a multidisciplinary platform that holistically addresses antibiotic utilization, thereby contributing to better health outcomes.

**Must read:** [One Health Approach](#)

### What are the challenges faced in expanding the Integrated system of Medicine?

Despite its potential benefits, expanding the integrated system of medicine faces several challenges:

**Scientific validation:** The most significant challenge is the lack of rigorous, evidence-based clinical trials validating the efficacy of many traditional interventions. For acceptance by the wider medical community and to ensure safe, effective treatments, these therapies must be subjected to scientific scrutiny.

**Regulation and quality control:** Ensuring consistent quality and safety standards across traditional medicines can be a significant challenge, particularly given the diversity of therapies, practitioners, and products.

**Lack of trained practitioners:** There can be a shortage of healthcare professionals who are adequately trained in both traditional and modern systems of medicine. This could limit the availability and effectiveness of integrated care.

**Integration into existing health systems:** It can be challenging to incorporate traditional practices into existing healthcare infrastructures, including issues with the compatibility of electronic health records, billing systems, and coordination of care.

**Research funding:** Research in traditional medicine often struggles to attract funding compared to biomedicine. This lack of funding can impede the conduct of large-scale, high-quality studies required for scientific validation.

### What should be done?

**Scientific validation of traditional therapies:** Collaborations between traditional medicine experts and scientific research organizations, like the partnership between the Ministry of AYUSH and the ICMR, should be encouraged. This can facilitate rigorous, evidence-based clinical trials to ascertain the effectiveness and safety of traditional therapies.

**Policy development and implementation:** The government could take a more active role in developing and implementing policies that promote the integration of traditional and modern medicine. This could involve creating a regulatory framework that recognizes and supports the use of traditional medicine alongside modern medicine.

**Education and training:** Medical practitioners should be educated and trained in both traditional and modern systems of medicine to allow for the effective delivery of integrated care. This could involve changes to medical school curriculums, or the development of specialized postgraduate courses.

**Global collaboration:** There should be a greater emphasis on global collaboration, sharing of best practices, and collective learning in this area. Partnerships with international organizations, like the World Health Organization, could be instrumental in achieving this.

**Public awareness:** There should be efforts to raise public awareness about the potential benefits and limitations of integrated medicine. This could include educational campaigns to dispel misconceptions about traditional medicine, as well as promoting an understanding of the potential benefits of an integrated approach.

**Sources:** The Hindu ([Article 1](#), [Article 2](#), [Article 3](#) and [Article 4](#)), [Live Law](#), [Hindustan Times](#), [India Today](#) and [The Times of India](#)

**Syllabus:** GS 2: Social Justice: Issues relating to development and management of Social Sector/Services relating to Health.

## Tax on international credit card transactions: rationale and challenges – Explained, pointwise

### Introduction

The recent imposition of tax on international credit card transactions has stirred discussions. This new policy aims to address the disparity between debit and credit card transactions abroad and prevent bypassing of [Liberalised Remittance Scheme \(LRS\)](#) limits.

However, it brings with it certain complexities. While aiming to enhance transparency and ensure prudent foreign exchange management, the tax also raises concerns about the increased financial burden on consumers and potential implications for cash flow. This makes it imperative to explore the rationale behind this move and the challenges it poses.

### What is the rationale behind the Tax on international credit card transactions?

**High foreign exchange outflows:** International credit card transactions result in an outflow of foreign exchange from the home country. If this spending is high or uncontrolled, it could potentially strain the country's foreign exchange reserves. By imposing a tax, the government aims to discourage excessive spending, helping to manage foreign exchange resources effectively.

**Tax evasion:** A tax on international credit card transactions helps ensure tax compliance and prevent tax evasion. Prior to this, there was a potential loophole where individuals could make large purchases abroad, which were not counted towards their taxable income in their home country.

**Inequality between debit and credit card transactions:** International transactions made through debit cards were already accounted for under the Liberalised Remittance Scheme (LRS) limit. However, the use of international credit cards for expenses abroad enjoyed an exemption and was not counted under the LRS limit. This created a disparity in the treatment of debit and credit card transactions. The introduction of the tax on international credit card transactions aims to address this differential treatment.

**Fiscal Inequity:** By levying taxes on international credit card transactions, governments aim to ensure fiscal equity, meaning all types of income (including gains from foreign transactions) are taxed similarly.

### About Tax on international credit card transactions

**On overseas transactions**

**WHAT IS THE 20% CREDIT CARD LEVY RULE?**

- 1 Credit card spends overseas have been brought under the \$250,000 LRS limit for foreign remittances
- 2 This means that most spends overseas will incur a 20% tax collected at source (TCS) that can be refunded later

**HOW EXPERTS HAVE RESPONDED**

According to experts, this move...

- 1 Is a "compliance nightmare"
- 2 Will discourage people from overseas online transactions
- 3 May push people to buy forex in cash
- 4 Could spur the use of illegal hawala routes

Source: Hindustan Times

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**Introduction to Tax on international credit card transactions:** The government has imposed a tax on international credit card transactions. This tax is known as the Tax Collected at Source (TCS) and it applies when spending through credit cards crosses certain limits under the Reserve Bank of India's Liberalised Remittance Scheme (LRS).

**Liberalised remittance scheme (LRS):** Under the LRS, resident individuals can freely remit up to USD 250,000 per financial year for permissible transactions. Previously, international credit card spending was not accounted for under this limit. However, recent changes now bring this spending under the scope of LRS, effectively creating parity between the usage of debit and credit cards abroad.

**Changes in the Tax rate:** Now TCS rate will be 20% on foreign remittances that exceed the annual LRS limit of USD 250,000. This is an increase from the previous TCS rate of 5%.

**Exemptions from the Tax:** Notably, the new provisions do not apply to payments for 'education' and 'medical' purposes and do not affect the use of international credit cards by residents while in India. IT sector workers travelling on business trips will not be affected by the new provisions. What are the expert's opinions about imposing Tax on international credit card transactions?

**Read here:** [International credit card spends outside India will attract 20% TCS: How cardholders may be impacted](#)

#### **What are the advantages of imposing Tax on international credit card transactions?**

**Promoting financial transparency:** The imposition of tax on international credit card transactions under the Liberalised Remittance Scheme (LRS) promotes financial transparency. This is because all transactions exceeding the annual limit of USD 250,000 now have to be reported and taxed.

**Elimination of disproportionate spending:** The measure aims to prevent disproportionate overseas spending through credit cards when compared to an individual's disclosed income. It helps in keeping a check on disproportionate high spending that is not in line with the income disclosed by the users.

**Enhanced revenue for the government:** By taxing these transactions, the government can generate additional revenue. The increase in Tax Collected at Source (TCS) from 5% to 20% potentially provides a substantial increase in government revenue.

**Preventing misuse of foreign exchange:** The tax on international credit card transactions aids in the prudent management of foreign exchange by discouraging unnecessary or excessive foreign transactions. It prevents individuals from bypassing the LRS limits and potentially misusing foreign exchange.

**Encouraging responsible spending:** The tax imposition encourages individuals to be more responsible and judicious about their overseas spending using credit cards. It might incentivize some individuals to reduce unnecessary overseas transactions and manage their finances more effectively.

**Read more:** [Tax waived on annual forex spends up to ₹7 lakh: FinMin](#)

#### **What are the challenges faced in imposing Tax on international credit card transactions?**

**An additional burden on users:** Imposing taxes on international credit card transactions adds an additional financial burden on card users. The Tax Collected at Source (TCS) increase can substantially add to the costs of overseas transactions.

**Complicated compliance process:** The implementation of these tax rules may make the compliance process more complicated for both the users and the financial institutions. Capturing and reporting all such transactions could be a complex process, particularly when it involves international transactions.

**Risk of reduced spending:** The increased tax burden may discourage individuals from spending overseas or using international credit cards. This could have an impact on the revenue of credit card companies and banks, and potentially affect the overall spending in the economy.

**Unclear guidelines:** Currently, the guidelines regarding the tax on international credit card transactions are still being developed. There may be some ambiguity and confusion among card users and financial institutions until clear and detailed guidelines are released.

### What should be done?

**Detailed guidelines:** The Reserve Bank of India (RBI) and other relevant authorities should provide detailed guidelines and clarifications about the tax rules on international credit card transactions. This will help in the effective implementation of the rules and alleviate any confusion or ambiguity.

**Incorporation of technology:** Financial institutions can incorporate technology to automate the process of capturing and reporting transactions subject to the new tax rules. This can help in the efficient implementation of the rules and also ease the compliance burden on the institutions.

**Clear communication and education:** The government and financial institutions should communicate these changes effectively to all stakeholders, especially cardholders. They should explain the new rules, the rationale behind them, and how they will affect the users' transactions.

**Review and feedback:** The government should regularly review the impact of these tax rules and consider feedback from stakeholders. If the rules are causing significant inconvenience or financial burden, then necessary adjustments should be made.

**Strategic planning:** Users of international credit cards should strategically plan their expenses and usage to ensure that they stay within the permissible limit of the LRS. They should also factor in the additional tax burden while planning their international spending.

**Sources:** [Business Standard](#), [Indian Express](#), Livemint ([Article 1](#) and [Article 2](#)), [Finshots](#), [Outlook India](#), [The Hindu Businessline](#), [Hindustan Times](#) and [Economic Times](#)

**Syllabus:** GS 3: Economic development: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

## WMO's State of the Global Climate Report – Explained, pointwise

### Introduction

The World Meteorological Organization (WMO) has recently issued a new update to its “State of the Global Climate Report.” The report warns of a surge in global temperatures to record levels within the next five years. It predicts a 66% chance that annual average temperatures will exceed 1.5 °C above pre-industrial levels for at least one year between 2023 and 2027.

The forecast combines the effects of human-induced climate change and the expected development of a warming El Niño event. It highlights the urgency of preparedness for the far-reaching impacts on health, food security, water management, and the environment.

### About WMO's State of the Global Climate Report

**Overview:** The State of the Global Climate Report 2022 focuses on key climate indicators – greenhouse gases, temperatures, sea level rise, ocean heat and acidification, sea ice and glaciers. It provides scientific evidence of the changing climate and its impact on global weather patterns, ecosystems, and human societies.

### Key Findings in 2022

A series of climate records fell over in 2022, the report showed.

- **Global mean temperature rising:** The global mean temperature in 2022 was 1.15°C, ranging from 1.02°C to 1.28°C above the 1850–1900 average. This was the highest on record for the past eight years. The value is about 0.2°C higher than the statistic before 2015. The pre-industrialisation era is considered a benchmark as there was no significant anthropogenic emission at the time.
- **Record melting of Antarctica ice:** Sea ice in Antarctica dropped to an all-time low, 1.92 million square kilometres, on February 25, 2022. This was almost a million sq km below the mean of the last three decades till 2020.
- **Greenhouse gases surged:** The levels of three major greenhouse gases – carbon dioxide, methane, and nitrous oxide – continued to increase in 2022. The data shows that growth rates of all three gases have increased around 20 per cent compared to 2011-15 levels.
- **Sea level rise doubled:** Global mean sea level continued to rise in 2022. It has doubled to 4.62 millimetres per year during 2013–2022 from 2.27 mm recorded in the first decade of the satellite record (1993–2002). The rate of increase quickened after 2015. Ocean heat content, which measures this gain in energy, reached a new observed record.
- **Record thinning of glaciers:** Long-term observational data is available for glaciers, which were found to have thinned over 1.3 metres between October 2021 and October 2022. The loss is much larger than before. The cumulative thickness loss since 1970 amounts to almost 30 metres.
- **More than half of the oceans saw marine heatwaves in 2022:** Despite continuing La Nina conditions, 58 per cent of the ocean surface experienced at least one marine heatwave during 2022.
- **Heatwaves killed 15,000 in Europe:** Record-breaking heatwaves affected China and Europe during the summer, with excess deaths associated with the heat in Europe exceeding 15000. Casualties were reported across Spain, Germany, the United Kingdom, France and Portugal.
- **1,600 suffered deaths from weather extremes in India:** India suffered from significant flooding at various stages during monsoon, particularly in the northeast in June, with over 700 deaths reported from flooding and landslides and a further 900 from lightning.

Source: DTE

### What are the warnings highlighted by the State of the Global Climate Report?

**Accelerated sea-level rise:** The report warns that the rate of global mean sea-level rise has doubled between the first decade of the satellite record (1993- 2002) and the last (2022). This rise is attributed to ocean warming, ice loss from glaciers and ice sheets, and changes in land water storage. This acceleration could cause drastic changes in land cover and potentially increase social disparities in coastal areas.

**More frequent and intense extreme weather events:** The report indicates that rising global temperatures contribute to more frequent and intense extreme weather events, including heatwaves, droughts, wildfires, and severe storms. China, for instance, experienced its most extensive and long-lasting heatwave on record in 2022.

**Drought conditions and decreased agricultural yield:** The frequency and intensity of droughts are increasing. This results in decreased agricultural yield, negatively impacting food security. An example of this is seen in India and Pakistan, where 2022's heatwaves reduced wheat crop yield significantly, leading the Indian government to ban wheat exports.

**Anticipated further climate change impacts:** The report also anticipates further impacts of climate change, such as an increase in greenhouse gas emissions and the possibility of an El Niño event, which can exacerbate the current climate crisis.

Read more: [State of the Global Climate 2022: The threat of rising sea levels](#)

## What will be the consequences of increased temperature?

### KEY MESSAGES ON CLIMATE INDICATORS

#### GLOBAL

##### Temperature

- > Global mean average temperature in 2022 was **1.15 (1.02 to 1.28) degree C** above the 1850-1900 average
- > 2015 to 2022 were the eight warmest years on record
- > 2022 was the 5th or 6th warmest year



##### Glaciers and ice

- > **Average thickness loss: -1.3 metres** between October 2021 and October 2022
- > This loss is much larger than the average of the last decade
- > The cumulative thickness loss since 1970 amounts to almost 30 m
- > The Greenland Ice Sheet ended with a negative total mass balance for the 26th year in a row
- > Antarctic sea ice falls to lowest extent on record
- > Europe shatters records for glacier melt



##### Sea level rise

- > Global mean sea level has **risen by an estimated 3.4 ± 0.3 mm per year** over the 30 years (1993-2022)
- > The rate has doubled between 1993-2002 and 2013-2022
- > The acceleration is due to increasing ice melt
- > Sea level and ocean heat are at record levels – and this trend will continue for many centuries



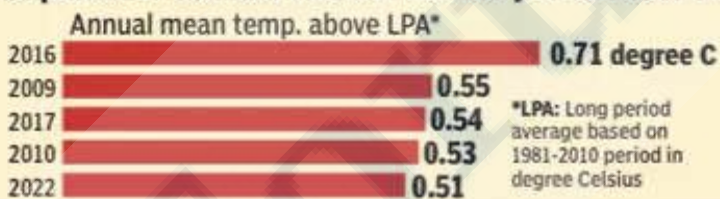
##### Emission

- > Concentrations of the three main GHG - carbon dioxide, methane, and nitrous oxide – reached record observed highs in 2021
- > The annual increase in methane concentration from 2020 to 2021 was the highest on record
- > Real-time data from specific locations show levels of the three GHG continuing to increase in 2022



#### INDIA

##### Temperature: Year 2022 was fifth warmest year on record since 1901



\*LPA: Long period average based on 1981-2010 period in degree Celsius

- > 11 out of 15 warmest years were during 2008-2022
- > Past decade (2012-2021 or 2013-2022) was the warmest decade on record

SOURCE: WMO, IMD

Source: TOI

**Sea-level rise:** Global warming is causing sea levels to rise at an unprecedented rate. For instance, the rate of global mean sea-level rise doubled between the first decade of the satellite record and the last, contributing to a potential loss of coastal land and greater risk for coastal communities.

**Increased extreme weather events:** Increased global temperatures contribute to more frequent and intense extreme weather events, such as cyclones, heavy rain, flooding, and other extreme storms. For example, Nigeria experienced exacerbated flooding during the rainy season due to very heavy rainfall, causing hundreds of deaths.

**Effect on Agriculture:** Increased temperatures can have a considerable impact on agricultural yields. For example, in 2021, a heatwave in the Pacific Northwest of the United States led to reduced yields in vital crops such as apples, cherries, and wheat. These events can have a ripple effect on global food markets and security.



**Greater social disparities:** As a result of land loss due to sea-level rise, there could be an increase in social disparities. Those who are better off will be able to cope better than marginalized groups, leading to social inequalities among people living in coastal areas.

**Record temperatures in Antarctica:** Extreme temperatures are not limited to regions traditionally associated with heat. Antarctica recorded exceptionally high temperatures in March 2022, with two sites measuring 35 °C above the average for March and 15 °C above previous record years.

**Marine heatwaves and impacts on sea life:** Marine heatwaves, caused by increased ocean temperatures, can have disastrous impacts on marine life and ecosystems. The Mediterranean Sea, for instance, suffered from marine heatwaves from March to December 2022, potentially threatening marine biodiversity.

**Increased wildfires:** Increased temperatures and droughts can lead to a rise in wildfires. While the report did not specifically mention wildfires, global trends show that higher temperatures are often associated with an increased risk of wildfires, which can cause the destruction of ecosystems, homes, and human lives.

**Read more:** [Global Sea Level Rise: WMO Report – Explained, pointwise](#)

### **What are the challenges in limiting the impacts of climate change?**

**Challenges in policy enactment and enforcement:** Despite extensive data on climate change, policies and laws aren't keeping up with the rapidly changing conditions. For example, faster sea-level rises can cause major changes in coastal ecosystems before rehabilitative policies have a chance to mitigate the impacts.

**“Common but Differentiated Responsibilities”:** This principle can create challenges, particularly in balancing fairness and efficiency in distributing responsibilities and resources to combat climate change. Negotiations often become complex as countries debate their respective obligations to reduce emissions or finance climate change mitigation and adaptation efforts.

For example, developed nations like the US and EU have historically contributed more to global warming but emerging economies like China and India are now significant contributors too. Balancing this dynamic while achieving consensus on climate policies is a substantial challenge.

**Managing extreme weather events:** With climate change leading to more frequent and extreme weather events, managing these disasters poses a significant challenge. For instance, Madagascar was battered by three consecutive tropical storm systems in early 2022, causing extensive damage and loss of life. The ability to predict, prepare for, and respond to these events is a huge challenge.

**Economic and social disruption:** Climate change impacts can lead to significant social and economic disruptions, especially in vulnerable communities. As an example, the intense droughts in the Horn of Africa led to poor crop yields, triggering food shortages, and socio-economic instability. Balancing economic growth with sustainability efforts is a significant challenge, especially for developing countries.

**Managing resource scarcity:** Climate change can also exacerbate resource scarcity. Rising sea levels can increase groundwater salinity, thereby affecting agriculture and worsening water crises in coastal areas. For instance, as the Global Mean Sea-Level continues to rise, more seawater could seep into the ground, leading to groundwater turning saline and exacerbating water crises in coastal areas.

**Read more:** [Climate Justice: Meaning, Challenges and Way Forward – Explained, pointwise](#)

**What should be done to limit the impacts of climate change?**

**Cutting greenhouse gas emissions:** One of the most crucial steps to limit climate change is cutting greenhouse gas emissions significantly. With human-emitted greenhouse gases at a record high, countries should transition to more sustainable, low-carbon energy sources and promote energy efficiency in various sectors.

**Improving climate adaptation and resilience:** To deal with climate change's impacts, it is important to invest in and implement adaptation measures to increase resilience against extreme weather events. This includes developing early warning systems, better infrastructure, and implementing climate-smart agriculture.

**Promoting sustainable practices:** Governments, businesses, and individuals should promote sustainable practices in their daily operations and routines. This can range from waste management, and water conservation, to the promotion of circular economies that reduce waste and overconsumption.

**Global cooperation and commitment:** Addressing climate change requires global cooperation. All countries should commit to ambitious climate goals in line with the Paris Agreement and ensure these commitments are met. Wealthier nations should also provide support to developing nations, particularly those most affected by climate change, to enable them to adapt and transition to a low-carbon economy.

**Investing in climate research and innovation:** There's a need to continually invest in climate science research to better understand the impacts of climate change and develop innovative solutions. Research institutions and governments should support advancements in clean energy technologies, carbon capture techniques, and other breakthroughs that can mitigate climate change.

**Education and awareness:** Raising awareness about the impacts of climate change and educating the public about sustainable living practices can also play a significant role in mitigating climate change. Individuals can make a difference by adopting more environmentally-friendly lifestyles and advocating for climate action.

**Read more:** [Express View on new climate change report](#)

**Source:** [Livemint](#), [UNFCCC](#), Down To Earth ([Article 1](#) and [Article 2](#)), [Outlook India](#), [Indian Express](#), [ORF](#) and [The Hindu](#)

**Syllabus:** GS 3: Environment and Bio-diversity: Conservation

**Withdrawal of currencies: need and challenges – Explained, pointwise****Introduction**

The Reserve Bank of India (RBI) recently announced the withdrawal of 2000 currency notes from circulation, while emphasizing that they will remain legal tender. This move aims to address various concerns and align with the RBI's Clean Note Policy.

## About the recent withdrawal of currencies

## KEY TAKEAWAYS FROM RBI'S DECISION ON RS 2,000 BANK NOTES

- 2,000-rupee bank notes to be withdrawn from circulation
- Even after withdrawal from circulation, the 2,000-rupee denomination will continue to be legal tender
- Banks advised to stop issuing 2,000-rupee notes "with immediate effect"
- Those holding 2,000-rupee notes should deposit/exchange them from banks by September 30, 2023
- Exchange facility for 2,000-rupee bank notes capped at Rs 20,000 at a time

moneycontrol



Source: Money Control

**Background and objectives:** The 2,000 rupee note was introduced in November 2016, following the demonetization of 500 and 1,000 rupee notes, to meet the urgent currency requirements of the economy. The objective was to expedite the process of replacing the invalidated notes and ensure smooth transactions. However, as the availability of smaller denomination notes improved over time, the need for the 2,000 rupee notes diminished.

**Legal framework:** The RBI, as the central bank of India, has the authority to issue and withdraw currency under the provisions of the RBI Act, 1934. The withdrawal of ₹2000 currencies falls within the purview of the RBI's mandate and its objective to ensure a robust monetary system.

**Continued legal tender:** Despite the withdrawal, ₹2000 currencies will remain legal tender. This means that individuals can still use these notes for transactions and receive them as payment until further notice.

**Exchange and deposit Options:** Individuals have the option to exchange or deposit their ₹2000 notes at any bank branch. They can exchange them for smaller denominations or deposit them into their bank accounts.

**Compliance and deadlines:** The RBI has set a deadline of September 30, 2023, for individuals to exchange or deposit their ₹2000 currencies. It is important for individuals to comply with the guidelines and complete the necessary transactions within the given timeframe.

**Legal consequences of non-compliance:** The specific legal consequences for non-compliance with the withdrawal directive have not been explicitly stated by the RBI. However, it is advisable

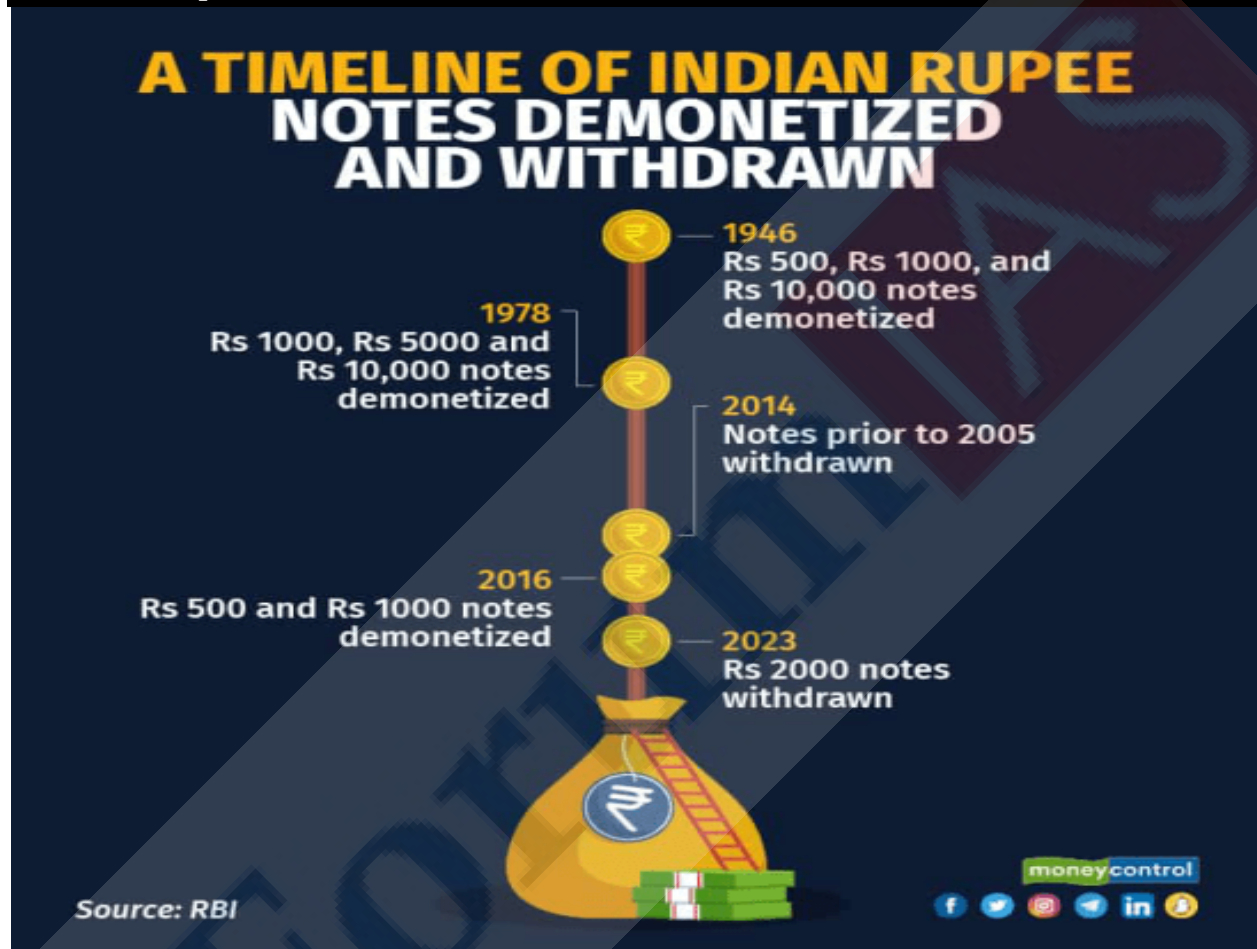
for individuals to adhere to the withdrawal process and complete the necessary transactions to avoid any potential issues.

Read more: [How demonetisation affected the Indian economy, in 10 charts](#)

What are the reasons for the withdrawal of currencies?

Read here: [Why has the RBI withdrawn Rs 2,000 notes?](#)

What are the previous instances of withdrawal of currencies in India?



Source: Moneycontrol

There have been several instances in the past where currencies were withdrawn or demonetized in India. Here are some notable examples:

**1946:** In January 1946, the British government, in consultation with the Reserve Bank of India, demonetized high-denomination banknotes. Notes of Rs 500, Rs 1,000, and Rs 10,000 denominations were no longer considered legal tender. This move was prompted by the aftermath of World War II and the need to combat black market activities.

**1978:** In January 1978, the Indian government, demonetized banknotes of Rs 1,000, Rs 5,000, and Rs 10,000 denominations. This decision was aimed at curbing the circulation of black money and illegal transactions.

**2014:** In 2014, the Reserve Bank of India announced the withdrawal of all banknotes issued before 2005 from circulation. The public was required to exchange these notes at banks, as the older currency lacked advanced security features present in the newer notes.

**2016:** In 2016, the Indian government, announced the demonetization of Rs 500 and Rs 1,000 banknotes. These notes were rendered invalid and ceased to be legal tender. The move aimed to curb black money, counterfeit currency, and corruption.

**Read more:** [RBI's Demonetization data report](#)

### What are the various advantages of the withdrawal of currencies?

Here are some common benefits associated with the withdrawal of currencies:

**Curbing black money:** By invalidating certain currency notes, the government can make it difficult for individuals holding black money to convert their illicit wealth into legal tender.

**Countering counterfeit currency:** By replacing older notes with new ones that incorporate advanced security features, the government can make it harder for counterfeiters to produce fake currency. This helps in preserving the integrity of the monetary system and protecting the public from financial fraud.

**Encouraging digital transactions:** With the limited availability of cash, individuals are incentivized to use electronic payment systems, mobile wallets, and online banking, leading to a more transparent and efficient financial ecosystem. Increased digital transactions can also reduce the circulation of unaccounted cash and facilitate better monitoring of financial activities.

**Enhancing financial inclusion:** Currency withdrawal can be an opportunity to promote financial inclusion by encouraging individuals to open bank accounts and participate in the formal banking system. The exchange of old currency notes for new ones often requires individuals to provide identification and complete KYC (Know Your Customer) processes, which can help bring unbanked populations into the formal financial sector.

**Boosting government revenue:** When individuals exchange or deposit their old notes, it provides an opportunity for authorities to track and tax previously undisclosed income or assets. This can contribute to increased tax compliance and generate additional government revenue.

**Improving monetary policy transmission:** Withdrawal of specific currency denominations can enable better control and management of monetary policy. It allows central banks to adjust the money supply, interest rates, and liquidity in a more effective manner, thereby facilitating macroeconomic stability and addressing inflationary pressures.

### What are the challenges faced while withdrawing currencies?

**Disruption to daily transactions:** Currency withdrawal can cause inconvenience and disruption to daily transactions, especially for individuals who heavily rely on cash-based transactions. For example, if a large denomination note is suddenly withdrawn, people may face difficulties in making purchases or conducting routine business transactions until they can obtain smaller denominations or alternative payment methods.

**Cash shortages and long queues:** During the initial phase of currency withdrawal, there is a risk of cash shortages in banks and ATMs. This can lead to long queues and wait times as people rush to exchange their old notes for new ones or withdraw cash for essential needs. The situation can be particularly challenging in areas with limited banking infrastructure or remote regions.

**Impact on informal economy:** Currency withdrawal can have a significant impact on the informal or cash-based economy. Many small businesses and individuals operating in the informal sector rely heavily on cash transactions. If their preferred currency notes are withdrawn, it can disrupt their business operations and financial stability.

**Counterfeit currency adaptation:** In some cases, counterfeiters may adapt to currency withdrawal measures by producing fake versions of the newly introduced notes or by shifting their operations to target alternative currencies. This challenges the objective of curbing counterfeit currency and requires continued vigilance from authorities.

**Conversion of black money:** Despite efforts to curb black money, individuals holding illicit wealth may find ways to convert their unaccounted cash into alternative assets or currencies. This poses a challenge to the effectiveness of currency withdrawal in tackling the issue of unreported income and illegal financial activities.

**Economic slowdown:** Sudden currency withdrawal can temporarily disrupt economic activity, especially if it leads to a significant decrease in liquidity or a decline in consumer spending. Businesses may face challenges in managing their cash flow, and consumer sentiment can be affected, potentially leading to a slowdown in economic growth.

**Diminish the RBI's image:** RBI's 'clean note' policy is ambiguous. For instance, even today, lower-value bills issued at least as far back as 2013 are being used far more frequently in everyday transactions and they continue to remain in circulation. This raises doubt about the withdrawal of Rs. 2000 notes. RBI's administrative flip flops and lack of transparency diminish the trust in RBI's "promise to pay the bearer" at the note's face value.

**Read more:** [Why2k Question – Will withdrawing ₹2,000 notes smoke out the crooked? Unlikely. The crooked economy's much more inventive](#)

#### What should be done?

**Sufficient availability of alternative currency:** To prevent cash shortages and long queues, it is essential to ensure sufficient availability of alternative currency denominations, especially smaller notes and coins, before initiating the withdrawal. This requires effective coordination between the central bank, commercial banks, and other financial institutions.

**Efficient banking infrastructure:** Strengthening the banking infrastructure, particularly in remote areas, is vital to handle the increased demand for currency exchange and withdrawals. A sufficient cash supply should be maintained in ATMs and bank branches to meet the needs of the public during the transition period.

**Extended exchange period:** Providing an extended period for exchanging or depositing the withdrawn currency can alleviate the challenges faced by individuals. This allows people more time to complete the necessary transactions without feeling rushed or overwhelmed.

**Facilitating digital payment alternatives:** Promoting and facilitating digital payment alternatives can help mitigate the impact of currency withdrawal. Encouraging the use of mobile payment apps, online banking, and other electronic payment methods can provide individuals and businesses with viable alternatives to cash transactions.

**Monitoring and evaluation:** Continuous monitoring and evaluation of the currency withdrawal process can help identify any challenges or issues that arise and allow for timely corrective measures.

Feedback from the public and stakeholders should be considered to address concerns and improve the effectiveness of the withdrawal strategy.

**Adequate public awareness:** To mitigate the challenges of currency withdrawal, it is crucial to ensure widespread public awareness well in advance. Clear and timely communication should be provided to educate people about the withdrawal, its purpose, and the steps they need to take to exchange or deposit their old currency notes.

**Read more:** [Farmers badly hit by demonetisation, admits Agriculture Ministry](#)

**Sources:** Live Mint ([Article 1](#) and [Article 2](#)), [Hindustan Times](#), [India Today](#), The Hindu ([Article 1](#) and [Article 2](#)) and [Forbes](#)

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

## Population Census: Significance and Challenges – Explained, pointwise

### Introduction

The Population Census is a crucial exercise that provides accurate data on the population of a country. It plays a significant role in planning and policy-making. However, the 2021 Census in India was postponed due to the Covid pandemic, resulting in delays.

This delay is concerning as India is projected to become the world's most populous country. The completion of the Census is essential for obtaining accurate population numbers, which are crucial for effective governance and resource allocation.

About Population Census

Read here: [Census 2021](#)

### About the history of Population Census in India

**Population data 10 years old**

Last Census was conducted in Feb-March 2011

Latest Census was to be completed by March 2021, but was postponed due to Covid

According to 2011 Census, India's population was about 121 crore

Census is done in two phases – house-to-house survey and population enumeration

Census is the most credible source of information on demography, education, housing and household amenities, urbanisation, fertility, etc

Programmes and policies for food distribution, education, sample selection for housing etc are based on Census data

Source: The New Indian Express

### Pre-Independence period:

**1872 census:** The first population census in India was conducted in 1872 by (Lord Mayo), the British government. It aimed to gather demographic data for administrative and revenue purposes.

**Regular census:** Following the inaugural census, India conducted decennial population censuses from 1881 (Lord Ripon) onwards. These censuses were conducted by the British administration to gather information about the population, housing, and socioeconomic conditions.

### Post-Independence Period:

**Constitutional recognition:** After India gained independence in 1947, the Census Act of 1948 was enacted to provide a legal framework for conducting population censuses. The Act established the Office of the Registrar General and Census Commissioner as the authority responsible for conducting the census.

**Census as a constitutional mandate:** The importance of population census was recognized in the Indian Constitution. Under **Article 82**, the Parliament enacts a Delimitation Act after every

Census. Under **Article 170**, States also get divided into territorial constituencies as per Delimitation Act after every Census.

**Article 246** empowers both the central and state governments to legislate on matters related to the census. Additionally, **Article 280** provides for the appointment of a Finance Commission to determine the distribution of resources based on population data.

**Evolving legal framework:** Over the years, the Census Act has been amended to incorporate changes in data collection methods, privacy protection, and technological advancements. For instance, in 2022, amendments were made to allow for self-enumeration and electronic data capture.

**Regular decennial censuses:** Since independence, India has continued to conduct decennial population censuses(except 2021), capturing data on various socio-demographic factors such as population size, age, sex, education, occupation, religion, and language.

**Digital transformation:** With advancements in technology, recent censuses have embraced digital methods for data collection, utilizing mobile devices and online portals to improve efficiency and accuracy.

**Read more:** [The delay in the decennial Census](#)

### What is the rationale behind conducting a Population Census?

**Constitutional mandate:** Many countries, including India, have constitutional provisions that require the conduct of a population census at regular intervals. It ensures compliance with legal requirements and safeguards the rights of citizens.

**Data for governance:** A population census provides the government with accurate and comprehensive data on various demographic, social, and economic aspects. It serves as a fundamental data source for evidence-based policymaking, governance, and public administration.

**Statistical foundation:** Census data serves as the foundation for statistical systems and surveys. It provides a benchmark and sampling frame for conducting other surveys and data collection exercises, enabling representative and reliable sampling methods.

**Historical continuity:** Population censuses have a long-standing tradition and historical significance. Conducting regular censuses allows for comparisons and analysis of demographic changes, societal trends, and historical patterns over time.

**National identity and documentation:** Census data helps in establishing and maintaining national identity by documenting the characteristics, diversity, and composition of the population. It aids in understanding the nation's social fabric, cultural diversity, and linguistic patterns.

**Read more:** [Avoid further delay in conducting the Census](#)

### What are the advantages associated with the Population Census data?

**Policy planning and decision-making:** Census data provides policymakers and decision-makers with accurate and reliable information about the population, enabling them to formulate effective policies, allocate resources, and plan for various sectors such as education, healthcare, infrastructure, and social welfare.

**Resource allocation:** Census data helps in the equitable distribution of resources and services based on population size and demographic characteristics. It assists in determining the allocation of funds for public services like schools, hospitals, roads, and other essential facilities.

**Socioeconomic analysis:** Census data enables researchers, academics, and analysts to study demographic trends, population distribution, migration patterns, and socioeconomic characteristics. It helps in understanding social dynamics, identifying disparities, and developing strategies to address social and economic issues.



**Electoral representation:** Census data plays a vital role in determining the number of seats and boundaries for electoral constituencies. It ensures fair representation and proportional allocation of political power based on population size and distribution.

**Monitoring population changes:** Regular population censuses provide a comprehensive and up-to-date snapshot of the population. They help monitor changes in population growth, fertility rates, mortality rates, migration trends, and other demographic indicators over time.

**Read more:** [Avoid further delay in conducting the Census](#)

### What are the challenges associated with Population Census data collection?

**Large and diverse population:** Collecting data from a vast and diverse population poses significant challenges. In countries like India, with over 1.3 billion people and diverse geographic regions, ensuring comprehensive coverage and accuracy becomes a complex task.

For example, reaching remote and inaccessible areas, such as tribal communities residing in remote forests or nomadic populations, can be challenging due to logistical difficulties and a lack of infrastructure.

**Limited awareness and cooperation:** Lack of awareness and understanding among the population about the importance of census data can hinder data collection efforts. Some individuals may be reluctant to participate or provide accurate information, leading to incomplete or biased data.

**Language and cultural barriers:** Language diversity and cultural variations pose challenges in effectively communicating and collecting data from diverse linguistic and cultural groups. Language barriers can result in misinterpretation or miscommunication of questions, leading to inaccurate responses.

**Privacy and confidentiality concerns:** Ensuring the privacy and confidentiality of respondents' information is crucial to gain their trust and cooperation. Concerns about data misuse, identity theft, or violation of privacy rights can affect the willingness of individuals to provide accurate information.

**Rapid urbanization and migration:** The increasing pace of urbanization and internal migration adds complexity to data collection efforts. Population movement and transient populations make it challenging to accurately count and track individuals in urban areas or populations that frequently move.

**Technological and infrastructure limitations:** Inadequate technological infrastructure, limited access to digital devices, and connectivity issues can hinder the adoption of digital data collection methods. In remote or resource-constrained areas, reliance on paper-based surveys may be necessary.

**Read more:** [The Census of India not only helps understand the perils of British rule but also flags the roadblocks lying ahead](#)

### What should be done?

**Prompt commencement:** The government should prioritize and expedite the start of the Census, ensuring that all necessary preparations, including house-listing activities, are initiated at the earliest possible time. By promptly commencing the Census, the government can avoid further delays and ensure that the data collection process is completed in a timely manner.

**Increased public awareness:** Launching awareness campaigns and community outreach programs to educate the public about the importance of the Census and dispel any misconceptions or fears surrounding data collection. Engaging with local leaders, community organizations, and media platforms can help generate interest and promote active participation.

**Enhancing data collection methods:** Leveraging technology and digital tools to streamline data collection processes, improve accuracy, and minimize errors. Mobile applications, online portals,

and self-enumeration options should be further developed and utilized effectively to enhance data quality and efficiency.

**Addressing language and cultural barriers:** Ensuring adequate language support and cultural sensitivity during data collection by training enumerators in local languages and customs. Providing clear instructions and utilizing visual aids can aid in effective communication and encourage participation.

**Privacy and confidentiality measures:** Implementing robust data protection measures, including strict protocols for data storage, access, and anonymization. Transparent communication about the confidentiality of information collected can help build trust and alleviate privacy concerns among respondents.

**Focus on marginalized communities:** Special attention should be given to marginalized communities, such as tribal populations, migrants, and remote areas, to ensure their inclusion and accurate representation in the Census. Targeted outreach strategies and the engagement of community leaders can facilitate their participation.

**Strengthening infrastructure:** Investing in necessary technological infrastructure and connectivity in remote and underserved areas to facilitate digital data collection methods. Where infrastructure limitations persist, alternative approaches, such as paper-based surveys, should be employed to ensure comprehensive coverage.

**Interagency coordination:** Foster collaboration between relevant government departments, statistical agencies, and local authorities to ensure seamless coordination, resource allocation, and timely sharing of data for effective planning and policy formulation.

**Read more:** [The importance of the decennially conducted census cannot be overstated. The undue delay in the Census's commencement will severely affect the availability of vital information on the population](#)

**Sources:** [Census](#), The Hindu ([Article 1](#), [Article 2](#) and [Article 3](#)), [Hindustan Times](#), India Today ([Article 1](#) and [Article 2](#)), [Indian Express](#) and [Front Line](#).

**Syllabus:** GS 1: Indian Society: Population and associated issues.

### [Yojana May 2023 Summary] AI Chatbots: their future and challenges – Explained, pointwise

#### Introduction

The future of AI chatbots presents a transformative landscape with the potential to revolutionize industries and enhance human interactions with technology. As they continue to advance, AI chatbots hold the promise of collaboration between digital and human intelligence, advancements in conversational search, and the ability to showcase creative and analytical capabilities. However, alongside these exciting possibilities, challenges and considerations also arise.

#### What is AI Chatbot?

A chatbot is a computer program that uses artificial intelligence (AI) and natural language processing (NLP) to understand customer questions and automate responses to them, simulating human conversation.

**Must read:** [AI chatbot, my future colleague](#)

#### About the evolution of AI chatbots

**Early chatbots:** Chatbots initially had limited capabilities, serving as basic assistants with pre-defined responses and a restricted knowledge base. They primarily interacted through text-based interfaces on websites.

**Advancements in AI and NLP:** With advancements in AI and NLP, chatbots underwent a transformation. They began simulating human-like conversations by leveraging machine learning and deep learning algorithms. This enabled them to understand user input and provide more accurate responses. Their knowledge base expanded, allowing them to learn from interactions and predict user requirements over time.

**Transition to voice-based interactions:** To enhance user experiences, chatbots evolved to support voice-based interactions. This enabled them to engage users in a manner that closely resembled human conversations. By incorporating speech recognition and natural language understanding, chatbots became capable of conversing through spoken language.

**Context-aware and self-learning chatbots:** Chatbots evolved into more sophisticated and context-aware agents. Through machine learning and deep learning techniques, they continuously improved their knowledge base and adapted to user preferences. This advancement allowed chatbots to better understand complex queries and provide more accurate and relevant responses.

**Integration of generative AI:** The integration of generative AI technology empowered chatbots to automate tasks across various applications. They could now generate drafts, summarize conversations, and assist in content creation. This collaboration between AI and human intelligence opened up new possibilities and transformed the future of work.

**Conversational Internet search:** Chatbots expanded their capabilities to handle conversational Internet searches. Users could now interact with search engines using natural language queries, making information retrieval more intuitive and user-friendly.

Read more: [What is OpenAI's ChatGPT chatbot, why it has become a viral sensation](#)

### What is the impact of AI Chatbots across industries?

**Revolutionizing customer service and support:** Chatbots integrated into digital channels provide immediate assistance and support to customers. For example, customer service chatbots on websites and mobile apps resolve common inquiries, provide product information, and guide users through processes.

**Transforming recruitment and human resources:** AI chatbots assist in screening candidates and matching skills to job requirements. Like, chatbots analyze resumes, score candidates, and recommend suitable job openings within a company.

**Enhancing healthcare accessibility and assistance:** Chatbots act as virtual aides, offering 24/7 accessibility to basic healthcare information and assistance. For instance, healthcare chatbots provide symptom analysis, medication information, appointment scheduling, and mental health support.

**Improving E-commerce experiences and sales:** Chatbots help customers locate products, provide personalized recommendations, and assist in order processes. For example, E-commerce chatbots ask questions about preferences to show relevant products and simplify the shopping experience.

**Empowering education with personalized learning:** Chatbots assist in content creation, provide learning recommendations, and answer academic queries. Such as, Educational chatbots offering personalized study resources, language translations, and administrative support for students and institutions.

**Streamlining banking services and customer interactions:** Chatbots handle customer queries, assist in banking transactions, and provide basic financial information. Like, Banking chatbots offer balance inquiries, fund transfers, and bill payments, and address common customer concerns.

**Creative and analytical capabilities:** AI chatbots will showcase creative and analytical abilities, expanding their roles in media, arts, literature, and productivity. For example, chatbots can assist in content creation, generate artwork, analyze trends, and provide data-driven insights for decision-making.

**Read more:** [LaMDA: Can the new Google chatbot be sentient?](#)

#### What is the future of AI chatbots?

**Can collaborate between digital and human intelligence:** AI chatbots will continue to collaborate with human intelligence, working together to achieve outcomes beyond imagination. Such as integration of generative AI into chatbots enables the automation of tasks, such as generating drafts, summarizing conversations, and creating data visualizations, saving time and enhancing productivity.

**Can create advancements in conversational internet search:** Chatbots will further enhance conversational internet search capabilities, allowing users to interact with search engines using natural language queries. Like, users can ask chatbots questions like, “What are the best restaurants near me?” and receive personalized recommendations based on their preferences.

**Continued development and innovations:** The field of AI chatbots will witness ongoing development and exciting innovations, shaping the future of work and human-computer interactions. For instance, companies of all sizes are launching AI chatbots, and the technology will continue to evolve with new functionalities and applications.

**Responsible development and considerations:** As AI chatbots progress, responsible development and considerations become essential to address challenges and ethical concerns. Like, as striking a balance between technological advancement and human well-being, ensuring privacy, and avoiding over-dependence on technology.

**Read more:** [Generative AI \(Artificial Intelligence\): Benefits and Challenges – Explained, pointwise](#)

#### What are the challenges and considerations in the era of AI chatbots?

**Job displacement and employment concerns:** The increasing use of AI chatbots raises concerns about job displacement as AI gains capabilities to match human output and intelligence.

**Improper responses and misunderstandings:** AI chatbots can provide incorrect or inappropriate responses due to misunderstandings or limitations in their understanding of complex queries. For example, chatbots may misinterpret user input and provide inaccurate information, leading to frustration and potential misinformation.

**Lack of emotional intelligence and empathy:** AI chatbots lack emotional intelligence and empathy, which can result in a lack of personalized and empathetic responses to user needs. For instance, chatbots may struggle to understand and address the emotional context of a user’s query or provide appropriate emotional support.

**Privacy and security concerns:** The use of AI chatbots raises privacy concerns as they interact with and collect personal data from users. Such as, chatbots must ensure the secure handling and protection of user data, adhering to privacy regulations and preventing unauthorized access.

**Ethical considerations and bias:** AI chatbots may exhibit biases in their responses and decision-making processes, reflecting the biases present in the data they are trained on. Like, chatbots may unintentionally perpetuate gender, racial, or cultural biases, impacting the fairness and inclusivity of their interactions.

**Over-dependence on technology:** Excessive reliance on AI chatbots can lead to a decreased reliance on human problem-solving skills and critical thinking. For instance, over-dependence

on chatbots for decision-making may limit human judgment and creativity, potentially affecting personal growth and development

**Read more:** [Artificial Intelligence in Agripreneurship \(AI in Agriculture\) – Explained, pointwise](#)

#### What should be done?

**Responsible development and regulation:** Responsible AI Chatbot development practices and regulatory frameworks should be implemented. This includes establishing ethical guidelines, ensuring data privacy protections, and promoting transparency in algorithmic decision-making.

**Integration of human oversight:** This ensures that human agents are available to review and intervene when necessary, especially in complex or sensitive situations, to provide appropriate responses and empathetic interactions.

**Transparency and explainability:** Users should be informed about the functionality and limitations of AI chatbots, as well as when they are interacting with a chatbot rather than a human. Clear explanations of how chatbots operate will help manage user expectations.

**Responsible transition and job creation:** Facilitating a responsible transition in industries is necessary. This involves identifying opportunities for upskilling and retraining individuals affected by AI-driven automation. Creating new jobs and roles that leverage human skills alongside AI chatbot capabilities will help mitigate job displacement concerns.

**Education and training:** Education and training initiatives are important to help users effectively interact with AI chatbots. Providing guidance on how to obtain desired outcomes and understanding the purpose of chatbots will improve user engagement and satisfaction.

**Read more:** [Artificial Intelligence and Machine Learning – Explained, pointwise](#)

**Source:** Yojana

**Syllabus:** GS 3: Science and Technology- Developments and their applications and effects in everyday life.

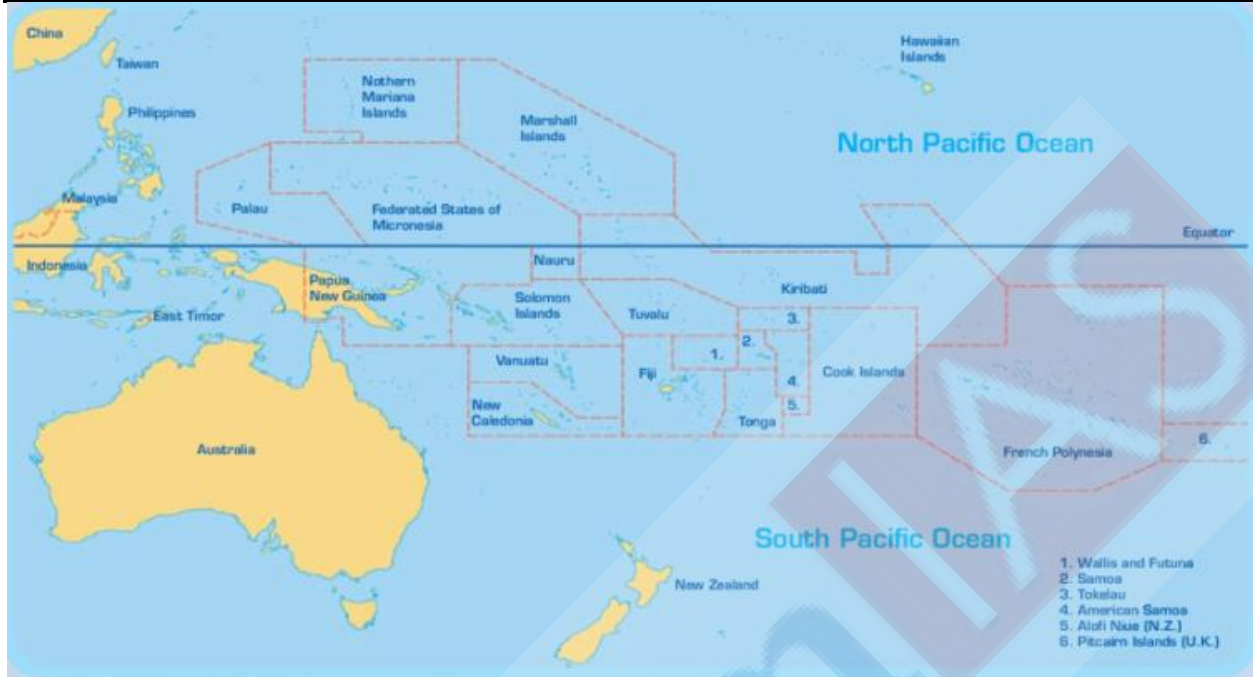
### India – Pacific Islands relations: Significance and Challenges – Explained, pointwise

#### Introduction

India-Pacific Islands relations have become increasingly important in today's geopolitical landscape. These relations are characterised by mutual respect, shared cultural links, and a commitment to sustainable development. The strategic significance of this relationship is defined by India's Act East Policy, the Indo-Pacific Vision, and bolstered by the Forum for India-Pacific Islands Cooperation (FIPIC).

However, the engagement faces challenges, notably the increasing influence of global powers like China and the US in the region. Balancing geopolitical interests with the islands' development needs and maintaining consistent outreach amidst geographical distances constitute key aspects of the evolving relationship. This complex dynamic underlines the significance and challenges of India-Pacific Islands relations.

### About Pacific Islands



**Source:** Research gate

The Pacific Islands, also known as Pacific Island Countries (PICs), consist of 14 member nations including Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. With unique challenges such as climate change and water scarcity, the PICs are nonetheless rich in culture and natural beauty. Currently, they have become a strategic region with increased attention from global powers, including India, the US, and China, each vying for influence through security, economic, and developmental partnerships.

**Must read:** [Pacific Small Islands Developing States \(PSIDS\)](#)

#### What are the historic ties between India – Pacific Islands relations?

**Historical background:** Historically, the relationship between India and the Pacific Island countries (PICs) has been relatively low-key, but cordial. There has been little direct interaction, largely due to the vast geographical distance and lack of significant strategic or economic interests.

**Shared commonwealth history:** Several Pacific Island nations, including Fiji, Papua New Guinea, and the Solomon Islands, share a history with India as former British colonies. This shared history as part of the British Empire has created commonalities in governmental, legal, and educational systems, and has also resulted in English being a widely spoken language in these countries.

**Indian diaspora in the Pacific Islands:** Significant Indian diaspora communities, especially in Fiji, have played a role in building people-to-people ties. The Indian community in Fiji, mostly descendants of indentured labourers brought to the islands by the British in the late 19th and early 20th centuries, constitutes a significant portion of the country's population.

**“Forum for India-Pacific Islands Cooperation” (FIPIC):** In recent years, the relationship between India and the PICs has become more active, notably with the establishment of the Forum for India-Pacific Islands Cooperation (FIPIC) in 2014. Initiated by India, FIPIC aims to enhance India's engagement with the Pacific Island countries.

Read more: [What is the FIPIC summit that PM Modi attended in Papua New Guinea?](#)

How India aims to strengthen India – Pacific Islands relations?

**Prime Minister's 12-step Action Plan to Strengthen India-Pacific Island Countries Partnership**

- > A 100-bed regional super speciality hospital in Fiji
- > Set up Regional IT and Cyber Security Training Hub in Papua New Guinea
- > Sagar Amrut Scholarships - 1000 scholarships in the next 5 years
- > Jaipur Foot Camp in Papua New Guinea in 2023. Thereafter, two camps annually in other PICs
- > FIPIC SME Development Project
- > Solar project for Government buildings
- > Provide desalination units for drinking water
- > Supply sea ambulances
- > Set up dialysis units
- > Set up of 24x7 emergency helpline
- > Set up of Jan Aushadi Kendras
- > Set up Yoga centres

**Source:** United news of India

India unveiled a 12-point action plan during the third Forum for India-Pacific Islands Cooperation Summit. This highlights the areas of cooperation between India and the Pacific Islands. The steps in the action plan include:

**Healthcare infrastructure development:** India pledged to boost healthcare infrastructure in the islands, with a particular focus on building a 100-bed regional super-speciality hospital in Fiji.

**Regional IT and cyber security training hub:** To address the growing challenges in the digital realm, India plans to establish a regional IT and cybersecurity training hub in Papua New Guinea.

**Jaipur foot camps:** India promises to organize Jaipur Foot Camps in the region every year, helping provide prosthetic limbs to those in need.

**Solar projects:** Acknowledging the potential of renewable energy, India intends to implement solar projects to assist these nations in their energy requirements.

**Desalination units:** To combat water scarcity issues in these islands, India has committed to providing desalination units.

**Sea ambulances:** Aiming to improve emergency medical services, India plans to provide sea ambulances for all 14 Pacific Island countries.

**Dialysis units:** As part of healthcare infrastructure improvement, India plans to establish dialysis units to help address kidney-related health issues in the region.

**Round-the-clock helpline:** To provide immediate assistance and support, India promises to establish a 24/7 helpline service.

Apart from this, India involves a commitment to human-centric development, addressing climate change, enhancing trade relations, and facilitating capacity building in these nations.

Read more: [India-US teaming up on Pacific Islands will trouble China. That's welcome](#)

**What is the significance of India to Pacific Islands and vice versa?****Significance of India to Pacific Islands:**

**Development partner:** India is a crucial development partner for the Pacific Island nations. With its human-centric approach, India offers support in critical sectors such as healthcare, IT, and climate change. The country's recent commitment to providing a range of services, from setting up a regional super-speciality hospital to the establishment of IT and cybersecurity hubs, underlines its important role in facilitating development in these nations.

**Non-indebted aid:** India's approach to providing developmental aid is based on not increasing the indebtedness of these nations. This model of cooperation is significant for Pacific Island countries, especially given concerns about debt traps associated with some forms of international aid.

**Diplomatic balance:** India's increasing engagement with Pacific Island nations helps provide a diplomatic balance in the region, particularly given the strategic competition between other major powers.

**Significance of Pacific Islands to India**

**Strategic positioning:** The Pacific Islands hold strategic significance for India due to their location. An enhanced presence and improved relations in the region can help India extend its influence, especially within the context of the Indo-Pacific discourse.

**Counterbalance to China:** With China also actively engaged in the region, India's involvement can serve as a counterbalance. Building stronger ties with the Pacific Islands can help India challenge China's growing influence.

**Partnership in global forums:** Pacific Island nations appreciate India for voicing the concerns of the Global South at international forums. They can be valuable partners for India in multilateral forums, supporting each other on issues of common concern.

**Economic opportunities:** The Pacific Islands can offer significant economic opportunities for Indian businesses, particularly in sectors such as healthcare, IT, renewable energy, and infrastructure development.

**Read more:** [Explained: What is the US-led 'Partners in the Blue Pacific' initiative to counter China?](#)

**What are the challenges faced in India – Pacific Islands relations?**

**Geographical distance:** One of the key challenges faced in India – Pacific Islands relations is the significant geographical distance between them. This can lead to complacency and make consistent engagement difficult.

**China's influence:** China's expanding influence in the Pacific region poses a major challenge to India. Beijing, with its deep pockets and the world's largest navy, has been investing heavily in the region, which may put India at a disadvantage. It can also lead to strategic security concerns for India, particularly if China succeeds in establishing a strong foothold in these islands.

**The approach of the USA:** The geopolitical tension between the US and Russia could potentially influence India-Pacific Islands relations. The recent US defence and maritime surveillance agreement with Papua New Guinea show the US's intent to counterbalance China in the region. This complicates the dynamics of India's engagement with the Pacific Islands, as it must navigate these geopolitical differences while pursuing its own interests.

**Other strategic competitions:** The Pacific Islands are becoming a strategic battleground for major powers, which could put these nations in a difficult position and potentially strain their relations with India. It could turn their attention from developmental issues to power politics, which could hinder India's human-centric approach.



**Sustainability of projects:** Ensuring the sustainability of development projects is another challenge. Given the small size and often remote locations of these islands, ensuring efficient implementation and long-term operation of projects can be difficult.

**Must read:** [The strategic significance of Indo-Pacific region for India](#)

### What should be done to strengthen India – Pacific Islands relations?

**Consistent outreach and engagement:** To strengthen relations, India needs to ensure consistent and proactive engagement with the Pacific Island Countries (PICs). Regular high-level exchanges, both bilaterally and through multilateral forums like the Forum for India Pacific Islands Cooperation, should be maintained.

**Follow-through on promises:** India needs to deliver on the commitments made to PICs. The 12-step action plan must be implemented effectively and within specified timelines.

**Economic engagement:** India should look to increase its economic engagement with the PICs. It can include enhancing trade, investment, and aid, as well as encouraging Indian businesses to explore opportunities in the PICs.

**People-to-people ties:** Enhancing people-to-people connections can go a long way in strengthening the relationship. This can involve exchanges in culture, education, science and technology, sports, and more.

**Maritime capacity building:** India should also consider helping PICs build their maritime capacity, given their geographical nature. This could involve assisting in areas like maritime surveillance, disaster management, and protection of Exclusive Economic Zones.

**Cooperation with other major powers:** India could consider collaborating with like-minded countries, like the US, Australia, and Japan, in their engagement with PICs. This can help present a balanced alternative to China's influence in the region. However, this needs to be done carefully, ensuring that the primary interests of PICs are not overshadowed by the strategic interests of these major powers.

**Sources:** Times of India ([Article 1](#) and [Article 2](#)), Hindustan Times ([Article 1](#) and [Article 2](#)), [Indian Express](#), [Eurasian Times](#), [Deccan Herald](#) and [Telegraph India](#).

**Syllabus:** GS 2: International Relations: Effect of policies and politics of developed and developing countries on India's interests.

## Sengol: History and relevance – Explained, pointwise

### Introduction

The Sengol, a sacred sceptre, traces its roots back to the ancient Chola dynasty in Tamil Nadu, where it served as a potent symbol of royal power transfer. However, its significance extends beyond mere political authority, representing the ethical-spiritual authority or 'Dharma Danda' in Indian civilisational tradition.

Today, its relevance is reignited as the Indian government plans to install the Sengol in the new Parliament building, leading to heated debates about its history, authenticity, and symbolism it carries in modern India.

What is Sengol?

# THE LESSER-KNOWN FACTS ABOUT THE SENGOL

1.

During the Chola Era, the 'Sengol' (sceptre) was considered a sacred symbol of authority.

Nandi bull  
symbolizing justice  
and strength

3.

Thanks to the efforts of Rajaji, the Sengol symbolised the transfer of power from British to Indian control in 1947

2.

It embodied the Chola Kings' might, legitimacy & control over their realm.



4.

Designed by a jeweller in Madras, the Sengol was ceremonially handed over by Lord Mountbatten to Nehru to mark India's independence



## THE SENGOL THUS CONNECTS THE INDIA OF TODAY WITH THE BHARATIYA CIVILISATION OF THE PAST

Source: India Unravelled

Read here: [‘Sengol’ to be installed in the new parliament: Significance of the sceptre, first given to Nehru](#)

**What is the significance of Sengol in Indian history?**

## What is the 'Sengol'?

Union Home Minister Amit Shah announced that Prime Minister Shri Narendra Modi will install the sacred Sengol in the New Parliament on 28th May 2023



Historically, '**Sengol**' is a staff or wand held in the hand by a ruling monarch as an item of royal or imperial insignia, signifying sovereign authority.

The sacred Sengol symbolises governance with righteousness

It was kept at a museum in Allahabad, and it will be moved to the new Parliament building

This Sengol became a symbol of the transfer of power.



In 1947, Tamil Nadu's *Thiruvaduthurai Aadheenam*, one of India's oldest mutts, was given the job of making a sceptre to symbolise the transfer of power from British to India.

Around 10.45 pm on August 14, 1947, Pandit Nehru received this Sengol from Tamil Nadu, and in the presence of several senior leaders, he accepted this as a symbol of achieving independence.



**Source:** News9

**Symbol of royal power transfer:** In the history of the Chola dynasty the Sengol played a crucial role as a symbolic instrument for the transfer of power from one king to another. This practice

was carried out by the Rajaguru, or the court priest, signifying divine approval for the new monarch.

**Spiritual authority:** In Indian culture, kings and queens were not considered as the ultimate authority. The Sengol, symbolizing the Dharma Danda, was used to remind the monarchs that the highest authority was Dharma, the ethical and spiritual order. During coronation rituals, the priest would use the Sengol to assert that Dharma, not the king, held the ultimate power to punish.

**The historical symbol of independence:** The Sengol held a special place in the history of India's independence. In 1947, it was used in a ceremony to symbolize the transfer of power from the British to the first Prime Minister of India, Jawaharlal Nehru. The act signified the beginning of self-governance and the transfer of power to the people of India.

**Present-day significance:** Today, the Sengol continues to hold relevance in the political symbolism of India. The recent decision of the Indian government to install the Sengol in the new Parliament building underlines its continued importance as a representation of India's ethical and spiritual governance. This is seen as a reflection of the value India places on Dharma and the principles it stands for.

#### **What are the arguments supporting the installation of Sengol in Parliament?**

**Symbol of democratic power transfer:** One of the arguments supporting the installation of the Sengol in Parliament is its historical symbolism of power transfer. The installation of this symbol in Parliament is seen as a continuation of this tradition, signifying the democratic power transition that happens in Parliament.

**Representation of Indian civilizational tradition:** The Sengol is also representative of Indian civilizational tradition, wherein it signified the Dharma Danda, the ethical-spiritual authority. Installing it in Parliament could serve as a constant reminder to lawmakers of their duty to uphold Dharma, or ethical righteousness, in their service to the nation.

**Assertion of the prime minister's authority:** India's decision to install the Sengol is seen as an assertion of the Prime Minister's authority, who represents not just his political party but the entire nation. The Sengol, symbolizing power, reinforces the Prime Minister's role as the country's leader.

**Historical continuity and national pride:** The installation of Sengol in Parliament can also be viewed as an act of historical continuity and a reaffirmation of national pride. The Sengol's presence in the Parliament building would serve as a link to India's past, reminding present and future generations of India's rich cultural and historical heritage.

#### **What are the arguments of critics against the installation of Sengol in Parliament?**

**Questioning the prime minister's authority:** The opposition members have argued that the Prime Minister has no authority to inaugurate the new parliament and thereby question the decision to install the Sengol. They suggest that this act might be perceived as a unilateral decision rather than a democratic one.

**Disputes over the Sengol's historicity:** Some regional political party members have raised questions about the authenticity of the story surrounding the Sengol. They contend that before making such a significant decision, the historicity of the Sengol should be thoroughly vetted and agreed upon.

**Possible misinterpretation of symbolism:** There's a concern that the Sengol, which historically represents the transfer of power and Dharma, might be misinterpreted or exploited for political purposes. Critics argue that its sacred symbolism could be diminished or altered when installed in a political environment like Parliament.

**Disagreement over religious symbolism in secular spaces:** Given the Sengol's religious connotations and India's status as a secular nation, some critics oppose its installation in

Parliament. They suggest that it might blur the lines between religion and state, potentially conflicting with the principle of secularism.

### What are similar global and local examples like Sengol and their reasons behind it?

**Royal sceptres in Western monarchies:** In Western civilizations, especially in countries like Norway, Sweden, and the UK, the sceptre has been a part of royal regalia dating back to the times of the Greek and Mesopotamian civilizations. It represents the sovereignty and authority of the monarch. An example was seen as recently as in September 2022, when a sceptre was placed on the coffin of Queen Elizabeth II, and again at the coronation of King Charles.

### Local Indian examples of similar symbols

**Dharma Danda:** This is another example of a symbolic sceptre used in Indian tradition. During coronation rituals, the king, after formally ascending the throne, would proclaim his impunity, to which the priest would respond by patting the king's crown with the Dharma Danda, signifying that Dharma, the ethical-spiritual order, has the power to punish the king. The Sengol represented this tradition of the Dharma Danda.

**Symbols of power in other Indian kingdoms:** There are numerous examples of symbols of power and authority used in other Indian kingdoms. For instance, the Pallavas and Pandyas had their own unique symbols of power, though these might not have been identical to the Sengol. These symbols served a similar purpose, representing the transfer of power and the authority of the ruler.

### What should be done?

**Understanding the symbolism:** It is crucial to comprehend the Sengol's significance as a symbol of the Dharma Danda or the ethical-spiritual authority, rather than viewing it merely as a relic or a symbol of political authority. The narrative should pivot around the Sengol's rich heritage and its significance in the civilisational tradition.

**Respect for democratic processes:** The objections raised by opposition parties should be addressed within the democratic framework, respecting all opinions. After all, the Parliament is a representative body, and any significant decision like this should ideally be taken in a democratic manner.

**Public awareness and engagement:** Lastly, the public should be educated about the history and significance of the Sengol. This will ensure an informed discussion around its installation in the Parliament, leading to a decision that respects the sentiments of the majority while upholding the historical and cultural heritage of the country.

**Sources:** Indian Express ([Article 1](#), [Article 2](#) and [Article 3](#)), The Times of India ([Article 1](#) and [Article 2](#)), The Hindu ([Article 1](#) and [Article 2](#)), [News 18](#), [Hindustan Times](#) and [The Wire](#)

**Syllabus:** GS 1: Art & Culture: Salient aspects of Art Forms, literature and Architecture from ancient to modern times.

## New Parliament building – Explained, pointwise

### Introduction

The recently inaugurated new Parliament building is a remarkable achievement and a symbol of the nation's progress. It stands alongside the old Parliament House, embodying the aspirations and pride of the Indian people.

With increased seating capacity, advanced technology, and a blend of modernity and cultural heritage, the new building reflects India's commitment to democracy and sustainability. It showcases impressive artwork, green building practices, and accessibility for all. This architectural marvel signifies a new era in India's legislative journey.

**About the history of the New Parliament building**

**July 2012:** The need for a new Parliament building is proposed by the office of the then Lok Sabha Speaker, Meira Kumar. The existing building is deemed inadequate to meet the requirements of a growing democracy.

**2020:** The [Central Vista redevelopment project](#), which includes the construction of a new Parliament building, is approved by the government. The project aims to revitalize the central administrative area of New Delhi.

**In 2020:** A petition was filed in the Delhi High Court challenging the Central Vista Redevelopment Project. Later, the Supreme Court transferred to itself the case from the Delhi High Court in “larger public interest”.

**Dec 2020:** The foundation stone for the new Parliament building is laid by Prime Minister.

**In January 2021:** A SC bench, by 2:1 majority, [upheld the approvals and clearances granted for the Central Vista Project](#).

**May 2023:** The new Parliament building is completed and dedicated to the nation by Prime Minister. The inauguration ceremony takes place, marking the 75th year of India’s Independence.

**What is the need for the New Parliament building?**

**Insufficient seating space for MPs:** The current Parliament House was not designed to accommodate a bicameral legislature for a full-fledged democracy. The Central Hall can only seat 440 persons, which becomes a significant issue during Joint Sessions. Inadequate space for movement also poses a security risk.

**Distressed infrastructure:** Over time, modifications and additions to the existing building have led to issues such as water seepage, impacting aesthetics. The inclusion of services like water supply, sewer lines, air conditioning, fire safety equipment, and CCTV cameras has created challenges. Fire safety, in particular, is a major concern.

**Outdated communication structures:** The communication infrastructure and technology in the current Parliament House are outdated. Additionally, the acoustics of the halls require improvement.

**Safety concerns:** The current Parliament building was constructed when Delhi was in Seismic Zone-II. However, it is now located in Seismic Zone-IV, raising structural safety concerns.

**Inadequate workspace for employees:** Inner service corridors have been converted into offices over the years, resulting in poor-quality workspaces. Some of these workspaces have been further divided to accommodate additional workers, making them even smaller.

What are the main features of the New Parliament building?

# India's New Parliament Building



## 1,224

Is the seating capacity of the New Parliament. The new building will be a four-storey structure.



**\$130 million**  
Expected cost of the project



**64,500 sqm**  
Area in which new building will be built



**1,000**  
small offices to be built on two plots

**Source:** Gulf News

**Constitutional Hall:** The building includes a state-of-the-art Constitutional Hall, emphasizing the importance of Indian citizens in the democratic process.

**Modern facilities:** The new building offers secure and efficient office spaces equipped with the latest communication technology. It features large committee rooms with advanced audio-visual equipment and provides an enhanced library experience.

**Environmentally sustainable:** The new Parliament building is designed as a "Platinum-rated Green Building," demonstrating India's commitment to environmental sustainability.

**Reflecting Indian heritage:** The building showcases the vibrance and diversity of modern India by incorporating cultural and regional arts and crafts, serving as an embodiment of Indian heritage.

**What are the arguments supporting the development of the New Parliament building?**

<p><b>THEME OF INTERIORS</b></p> <p><b>Lok Sabha</b> Peacock (National bird)</p> <hr/> <p><b>Rajya Sabha</b> Lotus (National flower)</p> <hr/> <p><b>Central Lounge</b> Banyan (National tree)</p>
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**Source:** Gulf News

**Infrastructure and technological upgrades:** The new Parliament building addresses issues of inadequate seating capacity, office space, and outdated infrastructure in the old building. It incorporates state-of-the-art facilities, advanced communication systems, and electronic surveillance for improved functionality and efficiency.

**Enhanced legislative proceedings:** The new building provides well-engineered acoustics, a digitized voting system, and modern audiovisual systems to facilitate effective legislative proceedings. It ensures a more conducive environment for debates, discussions, and decision-making on matters of national importance.

**Increased seating capacity:** The new Parliament building can accommodate a larger number of Members of Parliament (MPs) and offers expanded seating capacity in both the Lok Sabha and Rajya Sabha chambers. This allows for a future increase in the number of MPs after the delimitation process.

**Safety and security:** The new building addresses safety concerns, particularly related to seismic safety and fire safety, ensuring the well-being of MPs and staff. It incorporates modern safety measures and infrastructure to mitigate risks and provide a secure environment for parliamentary activities.

**Improved workspace and amenities:** The new Parliament building offers improved workspaces for MPs, with well-designed offices and facilities. It provides better amenities, including comfortable seating, technological advancements, and dedicated spaces for meetings, committees, and libraries.

**Symbolic and cultural significance:** The new building represents the aspirations, pride, and culture of the Indian nation, embodying a sense of civilizational continuity. It showcases artwork, installations, and murals that celebrate India's heritage, diversity, and achievements.

**National pride and symbolism:** The development of the new Parliament building is seen as a matter of national pride and a representation of India's progress in the 21st century. It signifies India's determination, resilience, and its commitment to democratic values and good governance.

**Read more:** [Functioning of Parliament: Challenges and way forward – Explained, pointwise](#)

**What are critics' arguments against the construction of the New Parliament building?**

**Cost and allocation of resources:** Critics raise concerns about the substantial cost associated with constructing the new Parliament building, including expenses for interior decoration and



artwork. They argue that these funds could have been utilized for more pressing needs, such as healthcare, education, or infrastructure development.

**Lack of public consultation:** The opposition express discontent over the lack of public consultation or involvement in the decision-making process regarding the construction of the new Parliament building. They argue that such a significant project should have involved broader discussions and considerations of public opinion.

**Symbolism and controversial dates:** Political analysts criticize the choice of the date and occasion for the inauguration of the new Parliament building, citing concerns about symbolism and the perceived prioritization of specific ideologies. They contend that a more inclusive and secular approach should have been taken to avoid potential controversies and division.

**Superstition and cultural appropriateness:** A well-known architect questions the decision-making process based on superstitious beliefs, such as adherence to Vastu regulations or the choice of an auspicious date, rather than pragmatic considerations. They argue that such decisions should be guided by practicality, inclusivity, and respect for diverse perspectives.

**Public access and transparency:** Some critics express concerns about limited public access to the new Parliament building and suggest that it could have been inaugurated as an open house, allowing citizens to explore and engage with the democratic institution.

**Legacy and significance of the old building:** Critics emphasize the historical and cultural significance of the old Parliament House and argue that its retirement to secondary functions diminishes its legacy. They contend that preserving the old building as a symbol of India's democratic journey would have been a more appropriate approach.

#### **What are the advantages associated with the development process of the New Parliament building?**

**Economic Boost:** The construction of the new Parliament building contributes to economic growth by stimulating the construction industry. It boosted local and national economies.

**Infrastructure Development:** The new Parliament building is a significant addition to India's infrastructure. It showcases the country's commitment to modernity and progress, attracting attention and potential investments from domestic and international stakeholders. It serves as an iconic landmark that enhances the overall image and reputation of the nation.

**Job Creation:** The construction and subsequent functioning of the new Parliament building created employment opportunities across various sectors. From architects, engineers, and construction workers to maintenance staff, administrative personnel, and security personnel, it generates a diverse range of jobs that contribute to livelihoods and economic stability.

**Tourism and Cultural Impact:** The new Parliament building serves as a tourist attraction and a reflection of India's cultural heritage. Its design, artwork, and integration of regional arts and crafts draw visitors, both domestic and international, stimulating tourism and promoting cultural exchange. This, in turn, generates revenue and supports local businesses in the hospitality and tourism sectors.

**Read more: [Parliamentary debates: Significance, issues and the way forward – Explained, pointwise](#)**

#### **What should be done?**

**Public consultation and transparency:** To address concerns about public involvement and transparency, it would be beneficial to engage in open discussions and consultations with the public regarding significant projects like the construction of the Parliament Building.

**Preservation and renovation:** Considering the historical and cultural significance of the old Parliament House, exploring options for its preservation and renovation should be considered.

**The balance between tradition and modernity:** Striking a balance between preserving heritage and incorporating modern elements can be achieved through architectural designs that reflect India's rich cultural diversity while embracing technological advancements.

**Emphasize public engagement:** To foster a sense of ownership and connection with the democratic institution, provisions should be made to allow more public access to the Parliament building, such as guided tours or designated areas for public observation during sessions.

**Sources:** Times of India ([Article 1](#) and [Article 2](#)), [The Hindu](#), Indian Express ([Article 1](#) and [Article 2](#)), [PIB](#), [Live Law](#) and [Hindustan Times](#)

**Syllabus:** GS 1: Art & Culture: Salient aspects of Art Forms, literature and Architecture from ancient to modern times.

### Violence against healthcare professionals – Explained, pointwise

#### Introduction

Violence against healthcare professionals is a concerning issue that poses significant challenges to the healthcare system and the well-being of those who dedicate their lives to saving others. Recent incidents highlight the urgency of addressing this problem. For instance, the murder of a young doctor in Kerala and the alarming statistics of violence faced by doctors in India emphasize the need for immediate action.

Healthcare professionals, including doctors, nurses, and paramedics, endure physical, verbal, and psychological abuse, impacting their safety, mental health, and ability to provide quality care. It is essential to understand and address the factors contributing to this violence to ensure a safe and secure healthcare environment for all.

#### What are the various types of Violence against healthcare professionals?

**Physical Violence:** The doctors are physically attacked by patients or their relatives in hospitals.

**Verbal Abuse:** It involves the use of offensive, threatening, or derogatory language towards healthcare professionals. For instance, nurses are subjected to verbal insults and threats by agitated patients or their family members.

**Psychological Intimidation:** This form of violence includes psychological tactics to instil fear or distress in healthcare professionals. For example, doctors are subjected to constant harassment or psychological manipulation by colleagues or superiors.

**Sexual Harassment:** It involves unwelcome sexual advances, comments, or behaviour directed at healthcare professionals. For instance, female healthcare workers face unwanted sexual advances from patients or colleagues.

**Cyberbullying:** This refers to the use of electronic communication to harass or intimidate healthcare professionals. For example, doctors receive online threats or being subjected to online defamation through social media platforms.

**Damage to Property:** It involves deliberate destruction or vandalism of healthcare facilities or the personal belongings of healthcare professionals. For instance, equipment or vehicles belonging to medical staff are being vandalized by angry patients or their relatives.

#### Why do healthcare professionals face violence?

**Frustration and Anger:** Patients or their family members may experience frustration and anger due to various reasons, such as long wait times, unfavourable treatment outcomes, or dissatisfaction with the healthcare system. This can lead to violent outbursts towards healthcare professionals, as seen in cases where doctors are physically attacked by patients or their relatives.

**Lack of Awareness and Miscommunication:** In some instances, patients or their attendants may not fully understand the complexities of medical conditions or treatment plans, leading to

miscommunication or unrealistic expectations. This can result in confrontations or verbal abuse towards healthcare professionals who are perceived as not meeting their expectations.

**Inadequate Resources and Infrastructure:** Insufficient resources, overcrowded hospitals, and long waiting periods can contribute to patient frustration. When healthcare professionals are unable to provide immediate attention or the desired level of care due to resource limitations, it can escalate tensions and increase the likelihood of violence.

**Emotional Distress and Mental Health Issues:** The emotional strain and burnout doctors experience can impact their interactions with patients, potentially triggering confrontations or aggression.

**Lack of Security Measures:** Insufficient security personnel, lack of surveillance systems, or easily accessible areas can increase the risk of physical assaults or damage to property.

### What are the impacts of violence against healthcare professionals?

## A fear that's palpable

A recent survey by IMA reports that over 80% of doctors in India are stressed out in their profession

**56 per cent** of doctors do not get a comfortable 7-hour sleep most days of the week

**13.7 per cent** fear criminal prosecution most days of the week

**82.7 per cent** of doctors in India feel stressed out in their profession

**46.3 per cent** fear violence is the main cause of stress in many doctors

**24.2 per cent** doctors fear being sued

**62.8 per cent** of the doctors surveyed are unable to see their patients without any fear of violence

**57.7 per cent** have thought of hiring security in their premises

**Source:** Cureus

**Physical Harm and Injuries:** Acts of violence can result in physical harm and injuries to healthcare professionals. For example, doctors being physically assaulted by patients or their attendants may suffer from bruises, fractures, or more severe injuries.

**Psychological Trauma:** Healthcare professionals who experience violence may endure long-lasting psychological trauma. Verbal abuse, threats, or witnessing violent incidents can lead to anxiety, depression, post-traumatic stress disorder (PTSD), and other mental health issues.

**Fear and Emotional Distress:** Violence creates a pervasive atmosphere of fear and emotional distress among healthcare professionals. The constant threat of violence can lead to heightened stress levels, impacting their job satisfaction, and personal well-being.

**Impaired Quality of Care:** When healthcare workers are operating under fear and stress, it may affect their decision-making abilities, concentration, and overall performance, ultimately compromising patient care.

**Retention and Recruitment Challenges:** If healthcare professionals do not feel safe and supported in their workplaces, they may choose to leave the profession or avoid working in high-risk areas, resulting in a shortage of skilled healthcare workers.

**Deterioration of Doctor-Patient Relationship:** Violence creates a hostile environment, leading to strained doctor-patient relationships and hindering effective communication and collaboration.

**What are legal provisions focused on reducing violence against healthcare professionals?**

CABINET DECISION: 22 April, 2020

my  
GOV  
मेरी सरकार

## Protecting Our Frontline Corona Warriors

Ordinance Promulgated to  
Amend Epidemic Disease Act,  
1897 Approved



Acts of violence against healthcare workers  
made **cognizable & non-bailable offences**



Investigation to be completed within **30 days & judgment within 1 year**



Imprisonment upto **7 years & fine upto Rs 5 lakh**  
in case of grievous injuries



Accused to pay **compensation twice the market value of damaged property**

**Source:** MygovIndia

**Amendments to Existing Acts:** The government have introduced amendments to existing acts to enhance legal protection for healthcare professionals. For example, the Epidemic Diseases (Amendment) Ordinance in India made violence against doctors during the COVID-19 pandemic a cognizable and non-bailable offence, imposing fines and jail terms on offenders.

**State-Level Laws:** Several states have enacted their own laws to address violence against healthcare professionals. These laws provide specific provisions to deter and punish perpetrators. For instance, Kerala introduced the Kerala Healthcare Service Persons and

Healthcare Service Institutions (Prevention of Violence and Damage to Property) Act, 2012, which aims to protect healthcare workers and impose stricter penalties on those committing violence.

**Proposed Central Legislation:** Efforts have been made to introduce comprehensive central legislation to combat violence against healthcare professionals. In 2019, the Indian government proposed the Healthcare Service Personnel and Clinical Establishments (Prohibition of Violence and Damage to Property) Bill, which aimed to make violence against doctors a non-bailable offence with stringent penalties. However, the bill was later withdrawn.

**Inclusion of Healthcare Workers:** Legal provisions have been expanded to include a broader range of healthcare workers for protection against violence. The Kerala government's ordinance, for example, extended protection to paramedical students, security guards, managerial staff, and other health workers, in addition to registered medical practitioners and nurses.

**Fast-Track Courts:** To ensure timely justice and expedite the trial process, the establishment of fast-track courts dedicated to handling cases of violence against healthcare professionals has been proposed. These courts aim to prioritize and speed up the legal proceedings, providing swift justice to victims.

### **What are the challenges in reducing violence against healthcare professionals?**

**Lack of Awareness and Reporting:** One of the significant challenges is the underreporting of incidents of violence. Healthcare professionals may hesitate to report violence due to fear of repercussions or a belief that it will not lead to any substantial action. This lack of reporting hinders the accurate assessment of the problem and limits the implementation of effective measures.

**Inadequate Legal Framework:** Despite efforts to introduce laws and amendments, the legal framework may still be insufficient to address the complex nature of violence against healthcare professionals. Existing laws may lack clarity, have weak enforcement mechanisms, or fail to cover all types of violence and their specific contexts.

**Variations in State Laws:** The presence of different laws across states can create inconsistencies and challenges in effectively combating violence. In states without specific laws or with weaker provisions, healthcare professionals may face greater vulnerability to violence.

**Delayed Justice and Low Conviction Rates:** The slow judicial process and low conviction rates for perpetrators of violence against healthcare professionals pose significant challenges. Delays in legal proceedings can discourage victims and undermine the deterrence effect of legal provisions.

**Inadequate Security Measures:** Healthcare settings may lack adequate security measures to protect healthcare professionals from potential violence. Insufficient security personnel, lack of training, and ineffective security infrastructure can contribute to an unsafe environment.

What should be done?

**Enact Comprehensive Legislation:** This legislation should include strict penalties for offenders and provide comprehensive protection for healthcare workers. For example, Congress MP urged the Indian government to reintroduce a comprehensive central law to check violence against healthcare professionals.

**Strengthen Implementation of Existing Laws:** This includes ensuring prompt and effective investigation of reported incidents, holding perpetrators accountable, and providing support to victims. The legal provisions should be actively enforced to create a deterrent effect.

**Improve Reporting Mechanisms:** This can involve creating confidential reporting systems, whistleblower protections, and channels for reporting to law enforcement agencies. Encouraging reporting helps in generating accurate data and taking appropriate action against perpetrators.

**Enhance Security Measures:** This may include deploying trained security personnel, installing surveillance systems, and adopting access control measures. Creating a safe working environment is essential to prevent and deter acts of violence.

**Promote Awareness and Education:** It should be launched to address the underlying causes of violence against healthcare professionals. This includes promoting understanding of the vital role healthcare workers play, debunking misconceptions, and fostering respect for healthcare providers. Such initiatives can be conducted through media campaigns, community engagement, and educational programs.

**Provide Support Services:** This can include counselling services, helplines, and access to mental health support. Additionally, providing training on conflict resolution, de-escalation techniques and self-defence can empower healthcare professionals to handle challenging situations effectively.

**Collaboration and Stakeholder Engagement:** It requires collaboration between various stakeholders, including government bodies, healthcare organizations, professional associations, and law enforcement agencies. Working together, these stakeholders can develop comprehensive strategies, share best practices, and advocate for the safety and well-being of healthcare professionals.

**Sources:** [The Hindu](#), [NLM](#), [Lancet](#), [Forbes](#), [The Wire](#), [Indian Express](#), [Deccan Herald](#), [Herald Goa](#) and [Indian Express](#)

**Syllabus:** GS 2: Social Justice: Issues relating to development and management of Social Sector/Services relating to Health

### [Yojana May 2023 Summary] Potential of India's EdTech sector – Explained, pointwise

#### Introduction

Since a decade, Education Technology or EdTech, as it is popularly known, and its potential to provide affordable learning at scale have been a matter of discussion in academic and policy circles. In recent years, news about India's EdTech sector startups raising billions has hit the headlines. Hence, it is important to understand its nuances, potential, challenges, and impact in nurturing the largest student base.

## What is EdTech?

# What is EdTech?

EdTech or educational technology is made up of computer software, hardware and theory to improve traditional education methods.



## Hardware

Tablets, laptops and handheld devices make distance learning possible



## Software

Courseware and e-learning apps help keep learners engaged



## Education Theory

The SAMR and TPACK models help structure edtech approaches

**Source:** Jobhero

EdTech, or Education Technology, refers to the use of the Information and Communications Technology (ICT) ecosystem to enhance teaching and learning. It includes the use of smartphones, apps, and online platforms to make education more accessible, affordable, and engaging. EdTech allows students to learn at their own pace and provides access to quality teachers and resources, regardless of location or learning abilities. It has the potential to transform education by offering personalized learning experiences and improving educational outcomes for students.

## What are the key growth drivers of India's EdTech sector?

**Demographic dividend:** Large student population and increasing enrollment rates create a significant market for EdTech. For instance, with over 300 million students in K-12 and around 40 million students in higher education, there is immense potential for EdTech to reach and impact a large number of learners.

**Expansion of digital infrastructure:** Initiatives like the National Broadband Mission, Digital India, and BharatNet have significantly expanded digital infrastructure in the country. This has improved internet connectivity, making it easier for EdTech platforms to reach remote areas and provide online education to students across the country.

**Increased Internet and Smartphone users:** The rise in the number of Internet users and smartphone users in India has created a large user base for EdTech platforms. With over 932 million internet users and 931 million smartphone users, EdTech has the potential to reach a vast number of students and provide them with quality education through digital platforms.

**Affordable mobile data rates:** India has one of the cheapest mobile data rates globally, with 1 GB costing only Rs 14. This affordability has made internet access more accessible to a wider

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population, enabling students from diverse backgrounds to access online educational resources and benefit from EdTech platforms.

**Decreasing smartphone prices:** Over the last decade, there has been a significant drop in smartphone prices in India. The average selling price has decreased by around 12%. This affordability has made smartphones more accessible to students, allowing them to access EdTech apps and platforms for learning purposes.

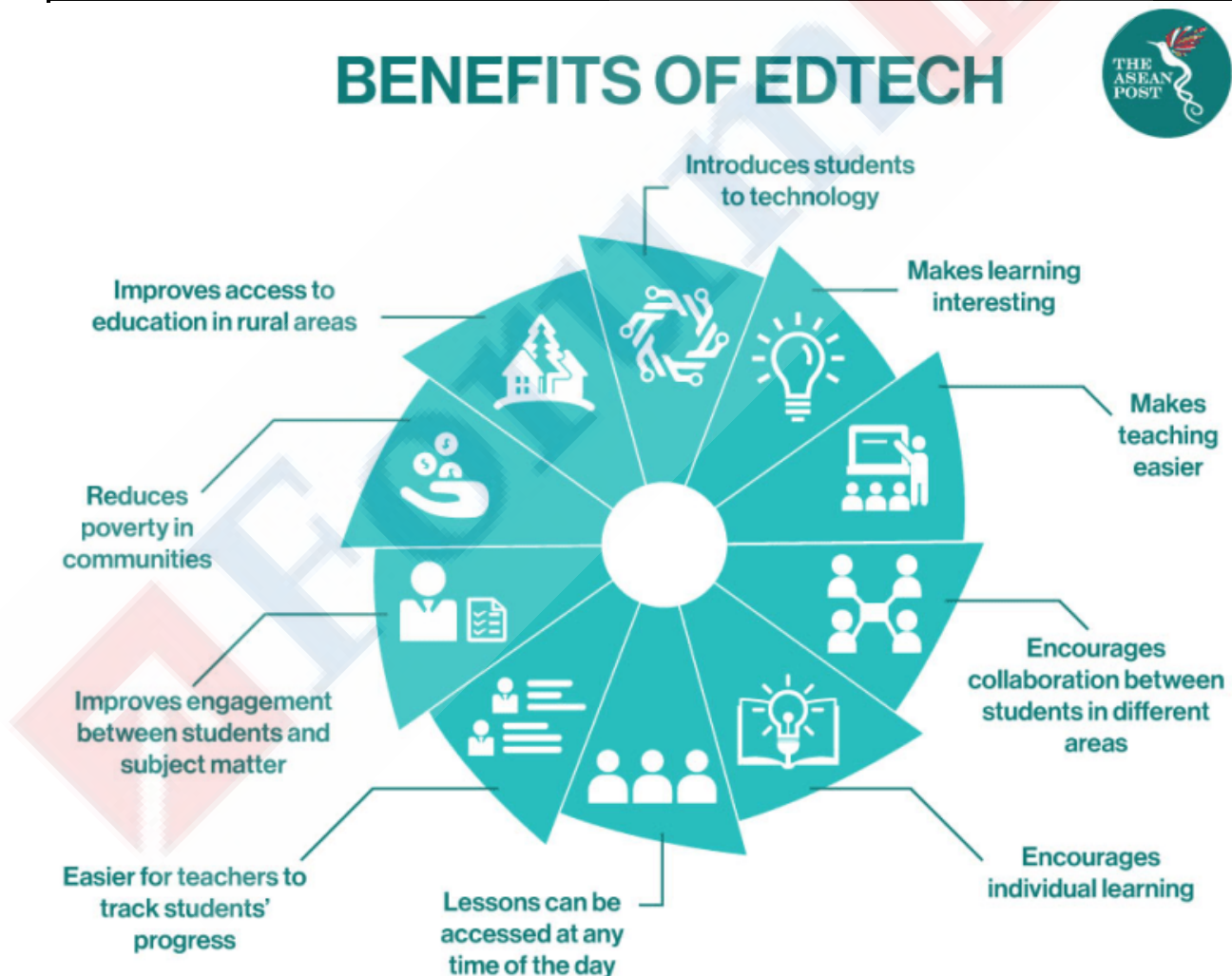
**Government initiatives:** Programs like SWAYAM, DIKSHA, and the introduction of the National Digital University (NDU) support the growth of digital education. Such as, SWAYAM provides free online courses from the best universities, allowing students to access quality education at no cost.

**Pandemic-led behavioural Changes:** The COVID-19 pandemic has accelerated the adoption of online education and increased the demand for EdTech solutions.

**Increased funding:** EdTech has attracted significant investments from venture capitalists and private equity firms, enabling companies to expand their offerings and reach a larger user base.

**Read more:** [India's edtech ecosystem: Let our learning curve be hybrid, holistic and hyper-personalized](#)

**What are the potential benefits of India's EdTech sector?**



**Source:** The ASEAN post

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**Learning while playing:** Gamified techniques in EdTech make learning fun and interactive. For example, educational games that teach math concepts through puzzles and challenges.

**Classes anywhere and anytime:** EdTech allows students to access classes and educational resources remotely. Like, online learning platforms that offer recorded lectures and interactive lessons accessible 24/7.

**Access to quality teachers:** EdTech enables students to learn from experienced and qualified teachers, regardless of their location.

**Engaging learning experience:** EdTech incorporates interactive elements into the curriculum, enhancing student engagement. Such as interactive simulations and virtual labs that allow students to explore and experiment in a virtual environment.

**Personalized learning:** EdTech platforms can adapt to individual student needs and provide personalized learning experiences. Like, adaptive learning software that adjusts the difficulty level of questions based on a student's performance.

**Improved administrative tasks:** EdTech tools automate administrative tasks, saving time and effort for teachers. For example, classroom management software assists in grading assignments and organizing student records.

**Enhanced collaboration and communication:** For instance, online discussion boards and video conferencing tools for group projects and virtual classrooms. Access to diverse educational resources: EdTech platforms offer a wide range of educational materials, including e-books, videos, and interactive tutorials.

#### What are the challenges faced by India's EdTech sector?



Source: Tatvasoft

**Access and infrastructure disparities:** Unequal access to technology and internet connectivity among students, particularly in rural or underserved areas, can hinder the widespread adoption of EdTech.

**Digital literacy and skills gap:** Students, teachers, and parents may face challenges in adapting to and effectively utilizing EdTech tools and platforms due to a lack of digital literacy and skills.

**Equity and inclusion:** Ensuring equitable access to EdTech resources and opportunities for all students, including those from marginalized communities, is a challenge.

**Data privacy and security:** Protecting sensitive student data and ensuring the security of online platforms and systems is a critical concern in EdTech implementation.

**Teacher training and professional development:** Providing adequate training and professional development opportunities for teachers to effectively integrate EdTech into their teaching practices can be challenging.

**Psychological and social effects of online education:** Lack of face-to-face interaction and socialization opportunities in online education can impact students' mental health and social skills. For instance, students may experience feelings of isolation or struggle to develop interpersonal skills without in-person interactions.

**Perception of parents:** Some parents may have reservations about the effectiveness and reliability of EdTech compared to traditional classroom-based education. Such as concerns about the quality of instruction or the ability to provide holistic learning experiences may lead parents to prefer traditional education methods.

**Pupil-teacher ratio:** Maintaining a low pupil-teacher ratio in online education programs is essential to ensure personalized attention and support for students. For example, limited teacher availability and the challenge of providing individualized guidance to a large number of students in virtual classrooms.

**Read more:** [Edtech's teachable moment](#)

#### **How India's EdTech sector will evolve in future?**

**Personalized learning experiences:** Advancements in Artificial Intelligence (AI) can enable EdTech platforms to provide individualized learning experiences for students. AI algorithms can adapt to student's learning styles, pace, and preferences, delivering customized content and recommendations. This can lead to more efficient and effective learning, catering to the unique needs of each student.

**Integration of emerging technologies:** EdTech is likely to incorporate emerging technologies such as Virtual Reality (VR), Augmented Reality (AR), and Mixed Reality (MR) to create immersive and engaging learning environments.

**Blended learning approaches:** This approach combines traditional classroom instruction with digital resources and platforms, offering a hybrid learning experience.

**Lifelong learning and skill development:** Online platforms and courses will cater to professionals seeking continuing education and individuals acquiring new skills to adapt to changing job market requirements.

**Data-driven insights and analytics:** EdTech's future will likely involve leveraging data analytics to gain insights into student performance, learning patterns, and areas of improvement.

**Collaboration and global connections:** EdTech will continue to facilitate collaboration and global connections among students, educators, and experts. Virtual classrooms, online discussion forums, and collaborative projects will promote cross-cultural exchanges and knowledge sharing.

**Focus on future Skills:** EdTech will increasingly emphasize the development of future skills, such as critical thinking, problem-solving, creativity, and digital literacy. Adaptive learning platforms can incorporate these skills into their curriculum and assessments, preparing students for the demands of the 21st-century workforce.

**Read more:** [Technology can democratise education](#)

**What should be done?**

**Continue investing in improving digital infrastructure:** Such as internet connectivity and network coverage, particularly in remote and underserved areas. Government initiatives should focus on bridging the digital divide to ensure equitable access to EdTech resources for all students.

**Promote digital literacy and skills:** Incorporate digital literacy programs into school curricula and provide training for students, teachers, and parents on effectively using EdTech tools and platforms.

**Collaborate with stakeholders:** Foster collaboration between educational institutions, EdTech providers, policymakers, and parents to create a shared vision and effective implementation strategies.

**Continuous teacher training and support:** Provide comprehensive training and professional development programs for teachers to effectively integrate EdTech into their teaching practices. Support teachers in adapting to new technologies, designing engaging online learning experiences, and utilizing data analytics to personalize instruction.

**Ensure data privacy and security:** Establish robust data privacy policies and guidelines to protect sensitive student information and ensure secure online platforms. Regularly assess and update security measures to maintain the integrity and confidentiality of student data.

**Promote research on the impact and effectiveness of EdTech:** Conduct evaluations to measure the outcomes and benefits of EdTech implementations, identifying areas of improvement and best practices.

**Source:** Yojana

**Syllabus:** GS 2: Social Justice: Issues relating to development and management of Social Sector/Services relating to Education