



Weekly Current Affairs

CURRENT AFFAIRS 17 MARCH 2025 TO 23 MARCH 2025



The Indian **EXPRESS**



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India's Role in UN peacekeeping

WHY IN THE NEWS?

India remains a key leader in UN peacekeeping, with over 2,90,000 personnel serving in 50+ missions, including 5,000 currently deployed. In 2023, India received the Dag Hammarskjöld Medal, honouring Shishupal Singh, Sanwala Ram Vishnoi, and Shaber Taher Ali for their sacrifice in Congo. Strengthening its commitment, India hosted the 'Conference on Women Peacekeepers from the Global South' (24th-25th Feb 2025) in New Delhi, bringing together 35 nations to enhance women's role in peacekeeping. Guided by "Vasudhaiva Kutumbakam", India continues to champion dialogue, diplomacy, and inclusive security.



WHAT IS UN PEACEKEEPING

UN Peacekeeping is a key mechanism used by the United Nations to maintain global peace and security. It operates alongside other UN efforts, including conflict prevention, peacemaking, peace enforcement, and peacebuilding.

WHAT IT INVOLVES

UN peacekeeping missions are deployed to support ceasefires and peace agreements. However, modern peacekeeping has evolved into a multidimensional effort that goes beyond military presence. It involves:

Facilitating Political Processes: Supporting negotiations and governance structures.

Protecting Civilians: Ensuring the safety of vulnerable populations in conflict zones. Disarmament, Demobilization, and R

integration (DDR): Assisting former combatants in transitioning to civilian life.

Election Support: Helping organize and oversee free and fair elections.

Human Rights and Rule of Law: Promoting justice, accountability, and governance reforms.



ROLE OF PEACEKEEPING

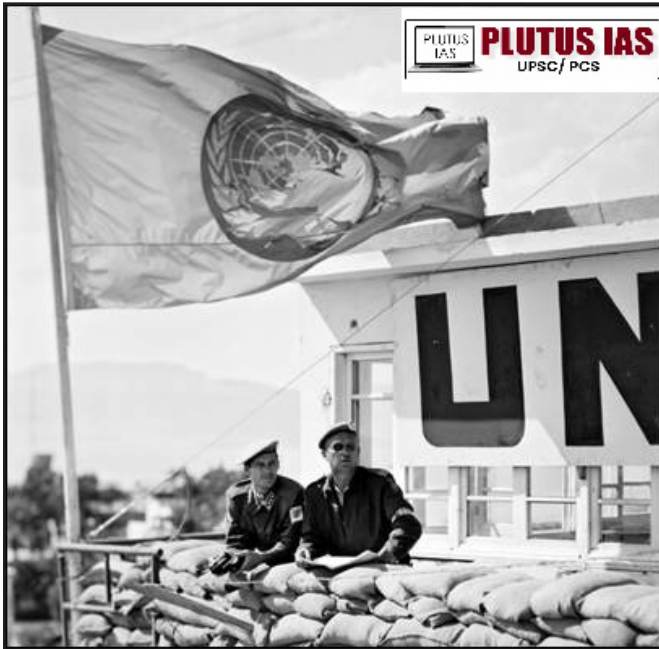
Peacekeeping today often overlaps with peacemaking and peacebuilding, requiring flexibility in addressing conflicts. While primarily deployed to maintain peace, peacekeepers may also take on active roles in conflict resolution and early recovery efforts. In some cases, they are authorized to use force to protect civilians, enforce mandates, and maintain security where the host state is unable to do so.

HISTORY OF UN PEACEKEEPING

UN Peacekeeping began in 1948 with the establishment of the United Nations Truce Supervision Or-

ganization (UNTSO) in the Middle East to monitor ceasefires. Initially, peacekeeping missions were unarmed and focused on observation and mediation. During the Cold War, missions remained limited due to geopolitical tensions, but the end of the Cold War in the 1990s saw a significant expansion in both the number and scope of peacekeeping operations. The UN began deploying multidimensional missions that combined military, political, and humanitarian efforts, addressing civil conflicts, supporting governance, and protecting human rights.

Military observers serving with the UN Truce Supervision Organization (UNTSO) on the Suez Canal in 1967. Over time, peacekeeping evolved to include complex tasks such as nation-building, electoral assistance, and countering violent extremism. Challenges like mission failures in Rwanda and Bosnia prompted reforms, leading to the Brahimi Report (2000), which emphasized robust mandates and better resources. The Responsibility to Protect (R2P) doctrine further shaped interventions, while modern missions increasingly focus on civilian protection, gender inclusion, and regional partnerships. Today, UN Peacekeeping continues to adapt, balancing traditional roles with emerging global security threats.



India's Contribution to UN Peacekeeping
 India has a long and distinguished history of serving in UN peacekeeping, dating back to its participation in the UN operation in Korea in 1953. India's commitment to non-violence, enshrined in its philosophy and championed by Mahatma Gandhi, aligns with the UN's approach to promoting global peace. This commitment stems from India's ancient principle of "Vasudhaiva Kutumbakam" (the whole world is my family), which emphasizes the interconnectedness of humanity and the importance of peaceful coexistence. The nine UN peacekeeping missions where the Indian Armed Forces were involved as of May 29, 2024

Mission Name	Location	India's Contribution
UN Disengagement Observer Force (UNDOF)	Golan Heights	Logistics Battalion with 188 personnel for logistics security
UN Interim Force in Lebanon (UNIFIL)	Lebanon	Infantry battalion group with 762 personnel and 18 staff officers
UN Truce Supervision Organization (UNTSO)	Middle East	Military observers and support staff
UN Peacekeeping Force in Cyprus (UNFICYP)	Cyprus	Deployment of officers as staff and military observers
UN Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO)	Democratic Republic of the Congo	Infantry battalions, medical units, and support staff
UN Mission in South Sudan (UNMISS)	South Sudan	Infantry battalion, medical personnel, and engineering units
UN Interim Security Force for Abyei (UNIFSA)	Abyei	Military observers and staff officers
UN Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA)	Central African Republic	Formed Police Units (FPUs) and military observers

Mission Name	Location	India's Contribution
UN Mission for the Referendum in Western Sahara (MINURSO)	Western Sahara	Deployment of military observers

Paratroopers from India and the U.S. on the way to Korea in 1953 India is dedicated to helping Global South nations strengthen their peacekeeping capabilities. Through the Centre for UN Peacekeeping, India continues to provide training and capacity-building programs, including specialized courses for women peacekeepers, as carried out for ASEAN nations in 2023. Peacekeeping is at the core of India's foreign policy driven by dialogue, diplomacy, and global cooperation. This

commitment reflects India's belief in the importance of South-South cooperation and its role as a leader in promoting peace and security in the developing world. Indian peacekeepers have served in diverse and challenging environments, making significant contributions to peace and security in various regions. The following table summarizes some of the key UN peacekeeping missions in which India has been involved.

Mission Name	Location	Year	India's Contribution
UN Assistance Mission in the Central African Republic (MINUSCA)	Central African Republic	2014-Present	Formed Police Units (FPUs) and military observers
UN Mission in South Sudan (UNMISS)	South Sudan	2012-Present	Infantry battalion, medical personnel, and engineering units
UN Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO)	DR Congo	2010-Present	Infantry battalions, medical units, and support staff
UN Mission in the Golan Heights (UNDOF)	Golan Heights	2006-Present	Logistics Battalion with 188 personnel for logistics security
UN Mission in Sudan (UNMIS/UNMISS)	Sudan/South Sudan	2005-Present	Battalion groups, engineer companies, Signal Companies, hospitals, military observers (MILOBs), and staff officers (SOs)
UN Organization Mission in the Democratic Republic of the Congo (MONUC/ MONUSCO)	DR Congo	2005-Present	Infantry Brigade Group (three battalions, including RDB), hospital, MILOBs, SOs, and two FPUs
UN Interim Force in Lebanon (UNIFIL)	Lebanon	1998-Present	Infantry battalion group with 762 personnel and 18 staff officers
UN Mission in Liberia (UNMIL)	Liberia	2007-2016	Deployed both male and female FPUs
UN Mission in Ethiopia and Eritrea (UN-MEE)	Ethiopia-Eritrea	2006-2008	Contributed an infantry battalion group, an engineer company, and a force reserve company
UN Stabilization Mission in Haiti (MINUSTAH)	Haiti	2004-2017	Contributed Formed Police Units (FPUs) from various police forces
UN Mission in Sierra Leone (UNAMSIL)	Sierra Leone	1999-2001	Deployed infantry battalions, engineer companies, and other support elements
UN Angola Verification Mission (UNAVEM)	Angola	1989-1999	Provided military observers and staff officers
UN Assistance Mission for Rwanda (UN-AMIR)	Rwanda	1994-1996	Contributed medical personnel and logistical support
UN Operation in Somalia (UNOSOM II)	Somalia	1993-1994	Deployed an Army Brigade Group and four Navy battleships

Mission Name	Location	Year	India's Contribution
UN Operation in the Congo (ONUC)	Congo	1960-1964	Deployed two brigades to counter secession and re-integrate the country
UN Emergency Force (UNEF I)	Middle East	1956-1967	Contributed to an infantry battalion and other support elements
Control of Indo-China	Indo-China (Vietnam, Cambodia, Laos)	1954-1970	Provided an infantry battalion and supporting staff for monitoring ceasefire and repatriation of prisoners of war
UN Operation in Korea	Korea	1950-1954	Provided medical cover to UN forces and chaired the Neutral Nations Repatriation Commission.

WOMEN IN PEACEKEEPING: A CATALYST FOR LASTING PEACE

Women play an indispensable role in peacekeeping, contributing to conflict resolution, community engagement, and sustainable peacebuilding. Their presence enhances trust, fosters inclusivity, and strengthens the effectiveness of peace operations, particularly in engaging with local populations, including women and children. Moreover, women peacekeepers help prevent sexual violence, improve civilian protection, and inspire greater gender equality. Despite these advantages, their representation in peacekeeping missions remains disproportionately low.

Progress and Challenges in Women's Participation
 Despite global efforts, women constitute less than 10% of the UN's 70,000 uniformed peacekeepers—including military personnel, police officers, and observers. Acknowledging this gap, the UN introduced the Uniformed Gender Parity Strategy, aiming to increase female participation to 15% in military contingents and 25% in police units by 2028. The push for greater inclusion began with UN Security Council Resolution 1325 (2000), which formally recognized women's essential role in conflict prevention, peace negotiations, and post-conflict rebuilding. This was reinforced by subsequent Women, Peace, and Security (WPS) Resolutions 1820, 1888, 1889, 2122, and 2242, which emphasized women's leadership in peace efforts and addressed conflict-related sexual violence. In 2022, women comprised 7.9% of uniformed personnel in field missions, a significant rise from just 1% in 1993. This included Peacekeeping

personnel distribution varies widely: military (5.9%), police (14.4%), justice/corrections (43%), and civilian (30%, with gender parity in leadership).

WHY WOMEN PEACEKEEPERS MATTER?

Stronger Peacekeeping: Diverse and inclusive teams lead to more effective peace operations, improving civilian protection and peacebuilding.
Better Access & Trust: Women peacekeepers enhance engagement with local communities, especially women, building trust and expanding outreach.
Diverse Leadership & Decision-Making: Gender-balanced teams bring broader perspectives, strengthening decision-making and ensuring operations reflect the communities they serve.
Role Models for Change: Women peacekeepers inspire future generations, challenging traditional norms and empowering women and girls to advocate for their rights.
Advancing Gender Equality: Upholding equality and non-discrimination is central to UN Peacekeeping, aligning with the core principles of the UN Charter.



WHAT ARE THE CHALLENGES IN UN PEACEKEEPING?

- 1. Security Risks & Hostile Environments:** Peacekeepers often operate in conflict zones where they face direct threats from armed groups and insurgents.
- 2. Logistical & Resource Constraints:** Missions are often underfunded, lacking proper equipment, transportation, and infrastructure to effectively carry out their mandates.
- 3. Political & Bureaucratic Hurdles:** Decision-making within the UN can be slow due to political disagreements among member states, affecting mission efficiency.
- 4. Gender Bias & Cultural Barriers:** Women peacekeepers face additional challenges, including cultural resistance, lack of career advancement opportunities, and security risks.
- 5. Lack of Representation in Leadership Roles:** Despite efforts to promote inclusivity, women remain underrepresented in decision-making positions within peacekeeping operations.
- 6. Accountability & Ethical Concerns:** Cases of misconduct, including sexual exploitation and abuse, have damaged the credibility of peacekeeping forces and demand stricter oversight.
- 7. Asymmetrical Warfare & Non-State Actors:** The rise of non-state armed groups using guerrilla tactics makes traditional peacekeeping models less effective.
- 8. Host Country Challenges:** Lack of cooperation from host governments, political instability, and local resistance can obstruct peacekeeping operations.

WAY TO MAKE PEACEKEEPING A REAL FORCE

- 1. Enhanced Training & Capacity Building:** Specialized training programs focusing on modern warfare tactics, gender sensitivity, and cultural awareness are essential.
- 2. Stronger Commitments from Nations:** Increased financial and personnel contributions

are needed to strengthen peacekeeping missions.

- 3. Improved Security Measures:** Providing advanced protective equipment, intelligence-sharing mechanisms, and rapid response capabilities can enhance peacekeeper safety.
- 4. Policies Promoting Inclusivity:** Expanding leadership roles for women and ensuring gender-sensitive policies can make peacekeeping more effective.
- 5. Robust Accountability Mechanisms:** Strengthening monitoring and disciplinary actions against misconduct to restore credibility and trust in peacekeeping forces.
- 6. Technology & Innovation:** Utilizing drones, surveillance technology, and AI-driven data analysis can improve decision-making and operational effectiveness.

CONCLUSION

Women's participation in peacekeeping is crucial for fostering sustainable peace, enhancing trust with local communities, and promoting gender equality. Despite challenges, increasing women's representation can lead to more effective conflict resolution, inclusive decision-making, and greater mission success. By strengthening training, policies, and leadership opportunities for women, UN peacekeeping can evolve into a truly representative force that upholds global peace and security. Diversity in peacekeeping is not just an ethical imperative—it is a strategic necessity.

PRELIMS QUESTIONS

Q. With reference to Women in UN Peacekeeping, consider the following statements:

1. Women peacekeepers contribute to conflict resolution and enhance trust with local communities.
2. The UN mandates equal representation of men and women in all peacekeeping missions.
3. India's first all-female Formed Police Unit was deployed in Liberia in 2007.

How many of the above-given statements are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer: B

MAINS QUESTIONS

Q. Analyze the role of women in UN peacekeeping and discuss the challenges they face. Suggest measures to enhance their participation and effectiveness in peacekeeping missions. (250 words, 15 marks)

CONSUMER PROTECTION IN INDIA: THE ROLE OF CCPA

WHY IN THE NEWS?

World Consumer Rights Day 2025, observed on March 15, emphasizes the theme “A Just Transition to Sustainable Lifestyles.” This theme highlights the need for accessible, affordable, and sustainable lifestyle choices while safeguarding consumer rights. The Central Consumer Protection Authority (CCPA) plays a key role in protecting consumer interests by tackling unfair trade practices and ensuring consumer safety. On this day, the Ministry of Consumer Affairs advocates for stronger consumer protection policies and empowers consumers to make informed choices, aligning with global initiatives for consumer rights and sustainable living.

WHY 2025 IS A LANDMARK YEAR

This year's World Consumer Rights Day coincides with pivotal global events:

At the sixth session of the United Nations Environment Assembly (UNEA-6) in March 2024, a historic resolution on Promoting Sustainable Lifestyles was passed. UNEA-7 in December 2025 will evaluate progress and strengthen further commitments.

Sustainable living will be a key focus at COP30 in Brazil in November 2025, building on the momentum from COP29, where Consumers International called for sustainable lifestyles to be included in national climate commitments.

With just five years remaining to achieve the Sustainable Development Goals, urgent action is needed to bring many off-track goals back on course.

PLUTUS IAS
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WHAT IS CENTRAL CONSUMER PROTECTION AUTHORITY ?

The Central Consumer Protection Authority (CCPA) is a regulatory body established under the Consumer Protection Act, 2019, which was enacted to promote and protect consumer rights in India. The CCPA was created to ensure that consumers are protected from unfair trade practices, false advertisements, and exploitation in the marketplace. The authority is empowered to take proactive measures against unfair trade practices and fraudulent practices that exploit the common man. The CCPA acts as an enforcement agency for consumer protection laws in India. In addition to its enforcement role, CCPA also serves as a guiding body to ensure that businesses and organizations align with fair practices and take measures to address consumer grievances. It functions to protect consumers in various sectors, including health, education, and online shopping, by addressing disputes and violations that impact consumer interests. The CCPA is crucial in a country like India, where consumer rights are often overlooked in the face of rapid industrial growth and technological advancements. The CCPA's role becomes especially important in a rapidly growing economy like India, where consumer interests need to be safeguarded from unscrupulous businesses, especially with the increasing online market presence and consumer digitalization. The introduction of CCPA also helps in building consumer confidence in the market by providing a platform for complaints and claims to be addressed fairly.

COMPILATION OF CCPA

The establishment of the CCPA was a significant move in the direction of consumer protection in India. The body was officially created through the Consumer Protection Act, 2019. This act replaced the older Consumer Protection Act of 1986, which had become outdated due to changing market dynamics, new technology, and modern forms of consumer exploitation. The CCPA functions as a national body under the Ministry of Consumer Affairs, Food, and Public Distribution. In the wake of its formation, the CCPA has set out

various frameworks, policies, and regulations to handle cases of consumer grievances. Its primary objectives include ensuring fair trade practices and timely redressal of complaints, and it actively participates in the dissemination of consumer awareness across the country. By replacing outdated regulations, the Consumer Protection Act 2019 and the establishment of CCPA provide a modern approach to tackling emerging issues in consumer protection, especially in e-commerce and digital spaces.

The authority is headed by a chairperson who is typically a retired officer from the judicial or administrative sector, appointed by the government. Along with the chairperson, the CCPA also has members with expertise in consumer affairs, legal matters, and trade regulations. The CCPA is empowered to handle cases related to unfair trade practices, misleading advertisements, counterfeit goods, and defective products, making it a comprehensive agency for consumer protection.

COMPOSITION OF CCPA (CENTRAL CONSUMER PROTECTION AUTHORITY)

The Central Consumer Protection Authority (CCPA) was established under the Consumer Protection Act, 2019, to address issues related to consumer rights and protect their interests. It acts as a national body for the enforcement of consumer rights across India.

KEY COMPONENTS OF CCPA:

- 1. Chairperson:** The CCPA is headed by a Chairperson who is a senior bureaucrat, typically with experience in consumer affairs or related fields. The Chairperson plays a pivotal role in guiding the functions and operations of the authority.
- 2. Members:** Along with the Chairperson, the CCPA includes a team of other members who are appointed by the government. These members have expertise in consumer protection, law, and relevant sectors. Their responsibility is to ensure effective functioning, decision-making, and oversight of consumer protection laws and issues.
- 3. Director General (DG):** The Director General is the head of the investigative arm of the

CCPA. The DG is responsible for overseeing investigations into violations of consumer rights and enforcing penalties against unfair trade practices and misleading advertisements. The DG also reports to the authority about any violations of consumer laws.

- 4. Investigative Units:** The CCPA has several investigative units responsible for monitoring markets, collecting evidence of violations, and taking necessary actions, including recommending penalties and other remedies for consumers. These units help implement the authority's mandate effectively.
- 5. Consumer Rights Group Collaboration:** The CCPA works in conjunction with various consumer rights organizations and stakeholders, including state consumer protection bodies, non-governmental organizations (NGOs), and industry bodies, to foster awareness and enforcement of consumer rights.

POWERS OF THE CCPA

The CCPA is endowed with broad powers to regulate and ensure consumer protection. These powers include:

- 1. Investigating Unfair Trade Practices:** The CCPA has the authority to take suo motu action or act on consumer complaints to investigate unfair trade practices. The body can monitor and regulate misleading advertisements, deceptive sales tactics, or goods that fail to meet safety standards. It has the power to take immediate actions against businesses found violating consumer rights and can impose penalties to deter malpractice.
- 2. Issue Directions:** The CCPA can issue directions to various stakeholders, such as manufacturers, traders, or service providers, to cease any deceptive practices. It can direct them to modify misleading advertisements or stop selling unsafe products. This ensures that companies adhere to ethical business practices, contributing to a safer market for consumers.
- 3. Take Legal Action:** The authority is empowered to initiate legal proceedings on behalf of consumers, particularly when large-scale exploitation is involved. CCPA can impose

penalties or seek redressal in consumer courts if necessary. The body also collaborates with state agencies to enhance consumer protection efforts at local levels.

4. **Consumer Education:** One of the key functions of the CCPA is consumer education. It plays a critical role in spreading awareness regarding consumer rights and responsibilities and informs consumers about their rights under various laws. Through campaigns and outreach programs, the CCPA helps create an informed consumer base that can take action when they face exploitation.
5. **Forming Regulatory Bodies:** The CCPA can set up regulatory bodies in various sectors to address grievances in specific industries. This is a measure to ensure sector-specific consumer protections, like in the telecom or e-commerce industries. By focusing on individual sectors, CCPA ensures that each industry adheres to the specific guidelines that safeguard consumer rights.
6. **Collecting Data and Reports:** The CCPA is authorized to collect data, conduct research, and prepare reports related to consumer issues and violations. These reports provide insight into ongoing trends of exploitation and highlight areas for improvement. CCPA's data collection also helps policymakers develop targeted strategies to address consumer-related issues.
7. **Power to Regulate E-Commerce:** As part of its efforts to regulate modern industries, the CCPA has been empowered to control e-commerce platforms. This is especially significant as e-commerce platforms have seen exponential growth and many are not compliant with consumer protection norms. The CCPA ensures that e-commerce companies adhere to fair trade practices and do not mislead consumers through deceptive product listings or poor customer service.

RESPONSIBILITIES OF CCPA

The core responsibility of CCPA lies in safeguarding consumer interests across the country. Some of its primary responsibilities include:

1. **Prevention of Unfair Trade Practices:** CCPA's

primary goal is to protect consumers from unfair trade practices, including false advertising, deceptive pricing, and unethical product safety standards. The body actively investigates cases and issues notices or orders to businesses found to be violating these laws. This helps to create a fairer marketplace for consumers and reduces the potential for exploitation.

2. **Consumer Grievance Redressal:** The CCPA plays a central role in ensuring that consumer complaints are addressed. It ensures that affected consumers receive prompt and fair redressal for their grievances. The authority acts as a central body to manage consumer complaints and often coordinates with state-level agencies for faster resolution. This results in a more effective and accessible consumer dispute resolution system.
3. **Regulating Misleading Advertisements:** One of the most critical functions of CCPA is the regulation of misleading advertisements. This includes taking action against companies and individuals involved in promoting products through false or exaggerated claims. The CCPA's intervention is crucial in preventing deceptive marketing tactics in India, particularly in the digital space, where advertising can easily mislead consumers.
4. **Consumer Awareness Programs:** CCPA runs various campaigns and initiatives to educate consumers about their rights and how they can assert them. This education also helps consumers differentiate between quality products and fraudulence in the market. The authority's outreach programs, especially in rural areas, ensure that more consumers are aware of their legal rights.
5. **Formulation of Guidelines and Policies:** CCPA is responsible for setting up guidelines for businesses to follow to ensure fair consumer practices. These guidelines include product labeling standards, advertisements, and guidelines for e-commerce operations. It also plays a vital role in drafting policies to improve consumer protection measures in India. This ensures that businesses maintain high standards of honesty and transparency in their

operations.

6. **Supporting Consumer Advocacy Groups:** The CCPA collaborates with consumer advocacy groups and non-governmental organizations to build a stronger consumer protection ecosystem. These groups often have a better understanding of local issues, and through their collaboration with CCPA, they help promote consumer rights at the grassroots level.

POLICIES AND MEASURES OF CCPA TO PROTECT CONSUMERS

1. **Consumer Protection from False Advertisements:** The Consumer Protection Act, 2019, under which CCPA functions, provides strict guidelines for advertisers. False or misleading advertisements can lead to heavy fines or even jail time for the perpetrators. The act also ensures that consumers are protected from products or services that do not meet the declared standards. CCPA enforces compliance with these provisions through penalties and awareness campaigns.
2. **Digital Consumer Protection:** Given the rise of e-commerce, digital consumer protection has become a major focus of CCPA. With the proliferation of online shopping platforms, consumers are often faced with issues like counterfeit products, delayed deliveries, or poor customer service. The CCPA works with e-commerce companies to ensure that they adhere to consumer protection standards, especially regarding refunds, returns, and product safety. The authority has issued guidelines for e-commerce companies to maintain transparency in product information, return policies, and pricing.
3. **Consumer Protection in the Food Industry:** The CCPA plays an important role in ensuring the safety of food products. It ensures that food items are correctly labeled, contain only safe ingredients, and do not mislead consumers in terms of quantity or quality. The CCPA has also intervened in cases of food adulteration, where manufacturers have been fined for selling products that do not meet the specified

standards. This includes food products that are falsely labeled as organic or claiming to have health benefits that are not backed by evidence.

4. **Consumer Redressal Mechanisms:** One of the most significant aspects of CCPA's measures is its consumer redressal mechanisms. The Consumer Protection Act mandates the creation of consumer courts at various levels, including District Consumer Forums, State Commissions, and the National Commission. These courts help consumers settle disputes with businesses in a timely and cost-effective manner. The creation of an online complaint system further facilitates a smooth grievance redressal process, allowing consumers to file complaints from anywhere.
5. **Regulation of E-Commerce Platforms:** With the rise of online shopping in India, the CCPA has also focused on regulating e-commerce platforms to ensure that they adhere to proper consumer protection guidelines. This includes ensuring transparency in product listings, accurate descriptions, customer reviews, and fair return policies. The CCPA has also developed rules that mandate e-commerce platforms to ensure that sellers are compliant with consumer rights regulations.
6. **Product Safety Standards:** The CCPA has pushed for higher safety standards for consumer products, especially in sectors like electronics and toys. The authority works with other agencies, like the Bureau of Indian Standards (BIS), to ensure that products available in the market meet the necessary safety and quality standards. This includes taking action against products that pose a risk to consumer health and safety.

ISSUES FACED BY CCPA

Despite its considerable powers, the CCPA faces several challenges:

1. **Enforcement of Regulations:** One of the main hurdles is the enforcement of consumer protection regulations. While the CCPA has the authority to take actions, it often faces delays in executing those actions due to bureaucratic processes or the involvement of multiple stakeholders. The slow pace of legal proceedings

in some cases can delay justice for consumers.

2. **Awareness and Access to Redressal:** Many consumers, especially in rural areas, are not aware of the rights afforded to them under consumer protection laws. This lack of awareness makes it difficult for CCPA to ensure widespread compliance with its orders. Consumer education campaigns need to be more widespread, especially in rural and underserved areas.
3. **Increasing Complexity of E-Commerce:** With e-commerce growing at a rapid pace, the challenge of regulating online platforms effectively is becoming more complex. Issues like fake reviews, non-compliance with return policies, and product safety concerns remain rampant in online shopping. As a result, regulating the rapidly expanding digital economy presents new hurdles for the CCPA.
4. **Lack of Adequate Infrastructure:** The infrastructure for consumer grievance redressal mechanisms remains inadequate in many parts of the country. A lack of sufficient consumer courts and forums in remote areas makes it harder for consumers to resolve disputes efficiently. The lack of digital infrastructure in some regions further complicates the issue.

WAY FORWARD

To improve the effectiveness of CCPA, certain steps need to be taken:

1. **Increase Consumer Awareness:** The government and CCPA must launch awareness campaigns to educate consumers about their rights, grievance redressal mechanisms, and how they can report violations. Engaging with schools, universities, and local community groups can help spread awareness.
2. **Strengthening Redressal Mechanisms:** More consumer forums and courts should be established to handle the rising volume of complaints, especially in rural areas where access to such forums is limited. The development of a strong digital infrastructure can also aid in faster resolutions.
3. **Effective Monitoring of E-Commerce:** As

e-commerce grows, stricter monitoring, and regulation should be applied to online platforms to prevent deceptive practices, especially related to misleading product descriptions and fake reviews. Regular audits and collaboration with e-commerce giants will be essential in enforcing compliance.

4. **Empowering CCPA:** Empowering CCPA with more resources, both in terms of manpower and technological tools, will help in ensuring better enforcement of consumer protection laws. This will ensure that businesses adhere to standards while providing consumers with a fairer marketplace.

CONCLUSION

The Consumer Protection Act of 2019, along with the establishment of the CCPA, marks a significant step forward in consumer protection in India. By addressing issues related to false advertising, unfair trade practices, and exploitation, CCPA plays a critical role in ensuring that consumers are safeguarded in an ever-evolving marketplace. However, challenges such as enforcement, consumer awareness, and the rapid growth of digital platforms remain. A more robust infrastructure, alongside better monitoring and awareness campaigns, will be essential in helping CCPA fulfill its objectives and protect the interests of Indian consumers. As India continues to grow as a global economic player, the role of the CCPA will become increasingly crucial in safeguarding the rights of consumers.

PRELIMS QUESTIONS:

Q. Which of the following is/are the key functions of the Central Consumer Protection Authority (CCPA)?

1. Protecting consumers' rights against unfair trade practices.
2. Implementing and monitoring consumer protection laws at the grassroots level.
3. Conducting research and developing educational programs to enhance consumer awareness.

Select the correct answer using the code given be-

low:

- A. 1 only
- B. 1 and 2 only
- C. 1, 2, and 3
- D. 2 and 3 only

ANSWER: C

MAINS QUESTIONS:

Q.Evaluate the powers and responsibilities of the CCPA and suggest ways to enhance its effectiveness.?

(250 words, 15 marks)

ROLE OF ASSEMBLY SPEAKER

WHY IN THE NEWS?

Tamil Nadu Assembly Speaker M Appavu was at the centre of a political storm after the AIADMK moved a no-confidence motion against him, accusing him of bias and favouring the ruling DMK. However, the motion was defeated in a voice vote, with 154 MLAs from DMK and its allies rejecting it. AIADMK's 63 MLAs supported the motion, while the BJP and PMK abstained. Leader of Opposition Edappadi K Palaniswami (EPS) alleged that the Speaker was obstructing opposition voices and suppressing protests. Chief Minister M K Stalin dismissed the claims, saying people would "laugh" at the accusations. Adding to the political intrigue, expelled AIADMK leaders O Panneerselvam (OPS) and his associates backed the motion, highlighting ongoing factional tensions within the party. The controversy has intensified debates on legislative fairness in Tamil Nadu.

OFFICE OF STATE LEGISLATIVE ASSEMBLY SPEAKER

Constitutional Provisions

Article 178: Provides for the appointment of the Speaker and Deputy Speaker of the Legislative Assembly.

Article 179: Deals with vacation, resignation, and removal of the Speaker and Deputy Speaker.

Article 180: Lays down provisions for the Deputy Speaker or any other member to act as the Speaker when required.

Article 181: States that the Speaker or Deputy Speaker shall not preside while a resolution for their removal is under consideration.

Article 186: Deals with the salaries and allowances of the Speaker and Deputy Speaker. Appointment of the Speaker The Speaker is elected by the members of the Legislative Assembly by a simple majority. Usually, a member from the ruling party is chosen for the position. The election takes place after the first meeting of the newly elected Assembly. Removal of the Speaker The Speaker can be removed by the Assembly through a resolution passed by an effective majority (more than 50% of the total effective strength of the House).The 14-day notice must be given before moving the resolution, as per Article 179(c) of the Constitution. The Speaker cannot preside over the House while their removal motion is under discussion (Article 181). The Speaker can also resign voluntarily by submitting their resignation to the Deputy Speaker.

POWERS AND RESPONSIBILITIES OF ASSEMBLY SPEAKER

Powers

1. **Presiding & Administrative:** Conducts sessions, regulates debates, and adjourns/suspends proceedings.
2. **Legislative & Procedural:** Decides agenda, allows motions, refers bills to committees.
3. **Disciplinary:** Enforces rules, suspends/disqualifies members, and ensures quorum.
4. **Anti-Defection (Tenth Schedule):** Decides MLA disqualification for defection.
5. **Financial:** Certifies Money Bills and manages budget discussions.
6. **Casting Vote:** Breaks ties in case of deadlock.

RESPONSIBILITIES

1. **Maintains Order & Neutrality:** Ensures disci-

plined debates and impartial proceedings.

2. **Safeguards Legislative Privileges:** Protects the rights of MLAs and the Assembly's autonomy.
3. **Manages Assembly Committees:** Oversees committee functioning and enforces decisions.
4. **Represents the Assembly:** Acts as the official spokesperson in external and inter-parliamentary affairs.
5. **Ensures Legislative Efficiency:** Sets the agenda, prioritizes discussions, and facilitates smooth lawmaking.
6. **Handles Disciplinary Actions:** Takes action against unruly behaviour and ensures adherence to rules.
7. **Decides on Anti-Defection Cases:** Determines disqualification of MLAs under the Tenth Schedule.

INDEPENDENCE OF OFFICE OF SPEAKER

1. **Security of Tenure:** Holds office until the first meeting of the new Lok Sabha, ensuring stability and continuity.
2. **Difficult Removal Process:** Can only be removed by a resolution with a majority of all members, preventing arbitrary dismissal.
3. **Financial Independence:** Salaries and allowances are charged to the Consolidated Fund of India, shielding from political influence.
4. **Protection from Criticism:** Work and conduct cannot be discussed in Lok Sabha except through a substantive motion.
5. **Impartiality & Judicial Oversight:** Must remain neutral; decisions can be reviewed by courts (e.g., Kihoto Hollohan v. Zachilhu, 1992).
6. **Casting Vote Authority:** Can cast a vote in case of a tie, reinforcing impartial decision-making.
7. **Symbol of Authority:** Represents the dignity and power of the House, upholding parliamentary democracy.

WHAT IS THE ISSUE WITH THE OFFICE OF THE SPEAKER?

1. **Partisanship & Political Bias:** Often affiliated with the ruling party, leading to allegations of favouritism in decision-making.

2. **Misuse of Anti-Defection Powers:** Delay or selective action on disqualification petitions under the Tenth Schedule to benefit the ruling party.
3. **Lack of Fixed Timelines:** No strict deadline for ruling on important matters, causing delays in crucial decisions.
4. **Bypassing Parliamentary Committees:** Increasing trend of passing bills without adequate scrutiny, weakening legislative oversight.
5. **Disruptions & Loss of Authority:** Frequent protests and disorder reduce the Speaker's effectiveness in maintaining decorum.
6. **Influence of Executive:** Despite being a neutral authority, the Speaker often faces pressure from the ruling government.
7. **Absence of Resignation Norms:** Unlike in the UK, where Speakers resign from their political party upon election, Indian Speakers continue party affiliations, raising doubts about neutrality.

WAYS TO REFORM THE OFFICE OF STATE SPEAKER

1. **Ensure Political Neutrality:** Like in the UK, mandate that the Speaker resign from their political party upon election to ensure impartiality.
2. **Time-Bound Decisions:** Set strict deadlines for rulings on anti-defection cases and disqualification petitions to prevent delays and manipulation.
3. **Independent Selection Process:** Introduce a consensus-based election process involving both ruling and opposition parties to ensure fairness.
4. **Limit Executive Influence:** Establish clear guidelines to prevent undue pressure from the ruling government, ensuring independent decision-making.
5. **Strengthen Committee Oversight:** Make it mandatory to refer key bills to legislative committees for proper scrutiny before passing them.
6. **Increase Judicial Accountability:** Allow judicial review of the Speaker's decisions, especially

in disqualification cases, to prevent bias and misuse of power.

7. **Define Powers Clearly:** Amend rules to clearly define the Speaker's discretionary powers, reducing the scope for arbitrary decisions.
8. **Training & Code of Conduct:** Provide formal training to newly elected Speakers and enforce a code of conduct to uphold neutrality and discipline.

POSHAN Abhiyaan
PM's Overarching Scheme for Holistic Nutrition

First of its kind initiative launched to tackle Malnutrition through **multi-modal interventions**

Target to reduce Malnutrition through Convergence, **Use of Technology & a Targeted approach**

CONCLUSION

The Speaker of the State Legislative Assembly plays a crucial role in ensuring the smooth functioning of the legislature, upholding democratic principles, and maintaining neutrality. However, issues like political bias, misuse of anti-defection powers, and executive influence undermine the credibility of the office. Implementing reforms such as mandating political neutrality, ensuring time-bound decisions, strengthening committee oversight, and increasing judicial accountability can enhance the independence and effectiveness of the Speaker's office. These measures will help restore public confidence in legislative processes and reinforce the democratic framework.

PRELIMS QUESTIONS

Q. With reference to the Speaker of the State Legislative Assembly, consider the following statements:

1. The Speaker is elected by a simple majority of the members of the Legislative Assembly.
2. The Speaker can be removed by a resolution passed by a special majority in the Assembly.
3. The Speaker's salary and allowances are subject to the annual vote of the Assembly.

How many of the above-given statements are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer: B

MAINS QUESTIONS

Q. The office of the Speaker in State Legislative Assemblies has been criticized for lacking neutrality and being influenced by political considerations. Discuss the challenges associated with the role of the Speaker and suggest reforms to enhance the independence and impartiality of the office. (250 words, 15 marks)

POSHAN ABHIYAN: A HOLISTIC APPROACH TO NUTRITION

WHY IN THE NEWS?

POSHAN Abhiyan remains a crucial national initiative as India continues its fight against malnutrition and anemia. Recently, the Ministry of Women and Child Development (MWCD) announced an expansion of the scheme, emphasizing data-driven nutrition monitoring, community engagement, and increased funding for Anganwadi services. Furthermore,

recent NFHS-5 (2019-21) findings have highlighted both progress and areas that need urgent intervention, reinforcing the need for continued efforts.

POSHAN ABHIYAN – NATIONAL NUTRITION MISSION (NNM)

POSHAN (Prime Minister's Overarching Scheme for Holistic Nutrition) Abhiyan is the flagship program of the Ministry of Women and Child Development (MWCD), launched on March 8, 2018. It is designed to reduce malnutrition and stunting, address anemia, and promote overall nutritional well-being. The initiative adopts a convergent approach by integrating various ministries and leveraging technology for real-time monitoring.

OBJECTIVES OF POSHAN ABHIYAN

The primary objectives of the National Nutrition Mission (NNM) are:

1. Reduce stunting among children (0-6 years) to 25% by 2022, ensuring better physical and cognitive development.
2. Reduce undernutrition and low birth weight by 2% per annum, improving overall child and maternal health outcomes.
3. Reduce anemia among children (6–59 months), adolescent girls, and women by 3% per annum, thereby enhancing immunity and productivity.
4. Promote behavioral change through the Jan Andolan (People's Movement) initiative, encouraging healthier dietary and hygiene practices.
5. Strengthen the Anganwadi system, ensuring better monitoring and service delivery while improving the quality of supplementary nutrition.
6. Leverage technology and real-time data to track malnutrition and improve intervention strategies, facilitating evidence-based policy decisions.
7. Ensure proper sanitation, safe drinking water, and hygiene as key components of nutrition, reducing the prevalence of waterborne diseases that contribute to malnutrition.
8. Integrate nutrition-focused schemes and policies to create a multi-sectoral approach, improving efficiency and outreach.
9. Encourage community participation and awareness campaigns to involve local stakeholders in sustaining nutritional improvements.

OPERATIONAL PILLARS OF POSHAN ABHIYAN

1. **Technology-Based Monitoring:** Use of ICDS-CAS (Common Application Software) for real-time data collection and tracking. Digital dashboards for better decision-making and policy implementation. Enhanced tracking of beneficiaries for better nutritional interventions. AI and machine learning tools for predictive analysis to identify malnutrition hotspots. Strengthening the supply chain management system to ensure the availability of essential nutrition supplies.
2. **Convergence Across Ministries:** Collaboration between MWCD, Health Ministry, Rural Development Ministry, and Education Ministry. Unified implementation of health and nutrition programs. Strengthening interdepartmental cooperation to avoid duplication of efforts. Integrating POSHAN Abhiyan with Ayushman Bharat, Mid-Day Meal Scheme, and Pradhan Mantri Matru Vandana Yojana for holistic coverage. Partnering with corporates and NGOs to mobilize resources and ensure effective service delivery.
3. **Behavioral Change through Jan Andolan:** Mass awareness campaigns, community engagement, and media outreach. Promoting dietary diversity, exclusive breastfeeding, and hygiene practices. Encouraging participation of local bodies and NGOs for better outreach. Involvement of self-help groups (SHGs) and Panchayati Raj Institutions to enhance community ownership. Use of school and community-based programs to promote healthy eating habits among children and adolescents.
4. **Capacity Building of Frontline Workers:** Training Anganwadi workers, ASHAs, and ANMs to enhance service delivery. Use of mobile applications to track children's growth and nutritional

status. Regular workshops and refresher courses to upgrade skills. Providing performance-based incentives to frontline health workers for effective implementation. Strengthening research and innovation to develop better training materials and nutritional interventions.

KEY ACHIEVEMENTS OF POSHAN ABHIYAN

Since its inception, POSHAN Abhiyan has made significant progress in tackling malnutrition:

- 1. Decline in Stunting and Wasting:** According to NFHS-5 (2019-21), stunting has reduced from 38.4% (NFHS-4) to 35.5%, and wasting declined from 21% to 19.3%. Improvement in the availability of nutrient-rich supplementary food for children. Increased community participation in nutrition awareness campaigns.
- 2. Increase in Institutional Deliveries & Breast-feeding:** The rate of exclusive breastfeeding increased to 64.9%, leading to improved infant health. Higher percentage of institutional deliveries ensuring better maternal care. Greater availability of maternal nutrition supplements during pregnancy.
- 3. Expansion of Nutrition Schemes:** Strengthened implementation of Saksham Anganwadi and ICDS programs. Integration of POSHAN Abhiyan with Mid-Day Meal (PM POSHAN) and PDS for food security. Increased funding to expand outreach programs in rural and tribal areas.
- 4. Mass Public Awareness & Behavioral Changes:** Campaigns like 'POSHAN Maah' and 'Rashtriya POSHAN Pakhwada' promoted community participation. Greater emphasis on nutritional literacy and food diversification. Enhanced participation of community health workers in nutrition counseling.
- 5. Use of Technology:** Over 10 lakh Anganwadi workers trained on real-time growth monitoring through digital tools. AI-based predictive models being tested to identify malnutrition-prone areas. Digitalization of health records for better tracking and intervention.

WHY IS THERE A PERSISTENT HIGH LEVEL OF NUTRITIONAL DEFICIENCY IN INDIA?

Despite government interventions, nutritional deficiencies remain widespread due to:

- 1. Poor Dietary Diversity:** Heavy dependence on staple foods like rice and wheat, limiting the intake of essential vitamins and minerals. Lack of protein-rich foods such as pulses, eggs, and dairy, contributing to deficiencies in essential amino acids. Seasonal variations in food availability impact the nutritional intake of vulnerable populations.
- 2. Gender Inequality & Maternal Undernutrition:** Women suffer from higher rates of anemia (57%), impacting both maternal and child health. Lack of access to adequate healthcare and nutrition for adolescent girls exacerbates long-term deficiencies. Traditional dietary practices often prioritize male members of the family, limiting women's access to nutritious food.
- 3. Food Insecurity & Poverty:** 38% of India's population faces food insecurity due to economic instability and unemployment. High food prices and inflation limit access to diverse and nutritious food options for low-income groups. Social disparities further exacerbate inequality in food distribution, affecting marginalized communities the most.
- 4. Inadequate Health Infrastructure:** Rural and tribal areas lack access to primary healthcare services, leading to delayed interventions for malnutrition. Limited availability of trained nutritionists and dietitians results in inadequate counseling for pregnant and lactating women. Shortages of essential micronutrient supplements, including iron and vitamin A, worsen malnutrition rates.
- 5. Poor Sanitation & Hygiene:** High prevalence of open defecation and unsafe drinking water leads to recurrent infections, hampering nutrient absorption. Lack of proper sanitation in schools and public spaces contributes to the spread of waterborne diseases, affecting children's health. Poor menstrual hygiene

management among adolescent girls affects their nutritional well-being and school attendance.

- Limited Awareness & Cultural Barriers:** Myths surrounding nutrition and traditional food habits hinder dietary improvements, preventing people from adopting healthier alternatives. Socio-cultural taboos regarding certain foods, such as eggs and meat, limit their inclusion in daily diets. Resistance to adopting fortified foods and supplements due to misinformation affects the success of nutrition programs.

WAYS TO ADDRESS NUTRITIONAL DEFICIENCY IN INDIA

To combat malnutrition effectively, a multi-dimensional approach is needed:

- Strengthening Food Fortification Programs:** Expand rice fortification, iron and folic acid supplementation, and milk fortification initiatives. Raise awareness about fortified foods through school programs and community workshops.
- Enhancing Mid-Day Meal (PM POSHAN) & ICDS Programs:** Introduce protein-rich meals, millets, and micro-nutrient supplementation. Ensure strict monitoring of food quality and caloric intake in schools and Anganwadi centers.
- Boosting Agriculture-Nutrition Linkages:** Promote nutrient-dense crops like millets, pulses, and bio-fortified cereals. Establish kitchen gardens in rural households to provide fresh vegetables and fruits.
- Expanding Social Security Schemes:** Strengthen PM Garib Kalyan Anna Yojana (PMGKAY) to ensure food access. Provide subsidized nutritious food items for low-income groups.
- Improving Health Infrastructure & WASH (Water, Sanitation & Hygiene) Facilities:** Scale-up Swachh Bharat Abhiyan and ensure clean drinking water supply. Increase the number of community health centers and nutrition rehabilitation centers.

- Women Empowerment & Education:** Promote girl child education, financial inclusion, and access to healthcare services. Conduct nutrition literacy programs targeting adolescent girls and new mothers.

- Leveraging Technology for Nutrition Monitoring:** Use of AI-driven nutrition tracking apps for better intervention. Strengthen real-time digital monitoring systems to track malnutrition trends.

CONCLUSION

POSHAN Abhiyan has laid a strong foundation for addressing malnutrition in India. While the initiative has yielded positive results, persistent challenges demand a holistic, intersectoral, and technology-driven approach. Strengthening public-private partnerships, integrating nutritional education into school curricula, and ensuring last-mile delivery of food security programs are critical for India to achieve SDG 2 (Zero Hunger). By prioritizing nutritional well-being, gender equity, and healthcare accessibility, India can transform its malnutrition crisis into an opportunity for sustainable growth, ultimately nourishing the nation and securing a healthier future.

PRELIMS QUESTIONS:

Q. Consider the following statements regarding POSHAN Abhiyan:

- It was launched by the Ministry of Health and Family Welfare in 2018.
- It aims to reduce stunting, anemia, and low birth weight among children and women.
- The program emphasizes technology-based monitoring and behavioral change through Jan Andolan.

Which of the statements given above is/are correct?

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

ANSWER: B**MAINS QUESTIONS:**

Q. Discuss the objectives and key operational strategies of POSHAN Abhiyan. How has the scheme contributed to addressing malnutrition in India? (250 words, 15 marks)

NON-PERFORMING ASSETS (NPA): IMPLICATIONS FOR THE BANKING SECTOR**WHY IN THE NEWS?**

Banks in India have written off non-performing assets (NPAs) worth ₹16.35 trillion over the past 10 financial years, raising concerns over bad loans and financial stability. In FY 2023-24, banks wrote off ₹1.70 trillion, a decline from ₹2.16 trillion in FY 2022-23. The highest write-off in the last decade was recorded in 2018-19 at ₹2.36 trillion, while the lowest was in 2014-15 at ₹58,786 crore. Finance Minister Nirmala Sitharaman, in a reply to the Lok Sabha, stated that NPAs are written off as per RBI guidelines and bank policies, especially after four years of full provisioning. This development highlights ongoing challenges in India's banking sector, with concerns over loan recoveries, financial health, and potential impacts on public sector banks.

**WHAT IS NPA?**

A Non-Performing Asset (NPA) is a loan or advance where the borrower has failed to make scheduled principal and interest payments for a specified period, typically 90 days. When a loan becomes

non-performing, it indicates that the bank's asset is not generating the expected income, impacting the financial health of the institution.

Recent NPA Trends in India
India's banking sector has witnessed a significant improvement in asset quality in recent years:

- 1. Gross NPA Ratio:** As of September 2024, the Gross NPA ratio of Scheduled Commercial Banks (SCBs) declined to a 13-year low of 2.5%, down from 2.7% in March 2024.
- 2. Public Sector Banks (PSBs):** The Gross NPA ratio for PSBs dropped to 3.12% in September 2024 from a peak of 14.58% in March 2018, reflecting enhanced resilience and effective management strategies.
- 3. Net NPA Ratio:** The Net NPA ratio improved to 0.57% at the end of September 2024, indicating better provisioning and recovery efforts by banks.

NON-PERFORMING ASSET TYPES AND EXAMPLES

- 1. Sub-Standard Assets:** A loan is classified as a Sub-Standard Asset when it remains overdue for less than or equal to 12 months. At this stage, there is still a possibility that the borrower may resume payments or the bank may recover the loan through extra efforts. Example: If you took a personal loan and missed your EMIs for the last six months, the bank would classify your loan as a Sub-Standard Asset since it hasn't been unpaid for more than 12 months.
- 2. Doubtful Assets:** A loan becomes a Doubtful Asset if it remains unpaid for more than 12 months. At this stage, the chances of loan recovery are significantly lower, and banks are uncertain whether they will get their money back. Example: If you took a business loan and failed to make payments for 18 months, the bank would classify your loan as a Doubtful Asset due to the prolonged overdue period.
- 3. Loss Assets:** An asset is classified as a Loss Asset when the bank determines that it is almost impossible to recover the loan. This classification

occurs after the loan has remained unpaid for a long period and is considered “uncollectible”. However, the bank may still retain some residual value in the asset before writing it off entirely. Example: If a bank provides a loan to a company that later files for bankruptcy, and the dues remain unpaid for several years, the bank may classify the loan as a Loss Asset due to the extremely low chances of recovery.

4. Increased Risk Aversion: Higher NPAs make banks cautious in lending, leading to stricter loan approval processes.

IMPACT ON ECONOMY

- 1. Slower Credit Growth:** High NPAs reduce lending capacity, impacting economic activity and business expansion.
- 2. Higher Interest Rates:** Banks compensate for NPA losses by increasing loan interest rates.

CAUSE OF NON-PERFORMING ASSET

Category	Causes	Description
Economic Factors	Slowdowns & Recessions	Reduced demand impacts businesses, leading to loan defaults.
	Business Failures	Economic downturns force businesses into insolvency.
	Rising Costs	Increasing interest rates or falling commodity prices make repayments difficult.
Borrower-Related Issues	Financial Hardships	Job loss, medical emergencies, or business losses hinder repayments.
	Fraud & Willful Defaults	Some borrowers intentionally avoid repayment despite having funds.
	Mismanagement	Poor financial planning and decision-making within businesses lead to instability.
Poor Lending Practices	Weak Credit Assessment	Lending to high-risk borrowers increases default rates.
	Lax Monitoring	Inadequate tracking of repayments results in unnoticed defaults.
	Defective Lending Process	Poor borrower selection and lack of credit reviews worsen NPAs.
Industry & Regulatory Issues	Industrial Sickness	Ineffective management or outdated technology weakens industries, causing defaults.
	Regulatory Non-Compliance	Failure to follow banking guidelines results in risky lending.

IMPACT ON BANK

- 1. Reduced Profitability:** Banks must provision for NPAs, reducing their overall profit.
- 2. Lower Capital Adequacy:** High NPAs impact a bank’s capital reserves, limiting its ability to lend.
- 3. Operational Burden:** Banks spend resources on recovery and legal proceedings rather than growth.

- 3. Lower Investor Confidence:** A banking crisis due to NPAs can deter domestic and foreign investment.
- 4. Reduced Economic Growth:** Limited credit availability slows down industries, affecting employment and GDP growth.

GOVT MEASURES

- 1. Recapitalization of Banks:** Infusion of capital into PSBs to strengthen their balance sheets.

2. **Indradhanush Plan:** Aimed at improving governance, accountability, and risk management in PSBs.
3. **SARFAESI Act (2002):** Enables banks to recover NPAs without court intervention.
4. **IBC (2016):** Streamlined process for resolving insolvency cases in a time-bound manner.
5. **Bad Bank (NARCL):** Helps in offloading large NPAs from bank books to specialized recovery institutions.

ADDITIONAL MEASURES

1. **Strengthening Credit Appraisal:** Improved risk assessment before approving loans.
2. **Enhancing Governance:** Reducing political interference in PSBs to ensure professional management.
3. **AI & Data Analytics:** Using technology for early detection of stressed assets and fraud prevention.
4. **Faster Legal Proceedings:** Strengthening insolvency and debt recovery tribunals.
5. **Asset Reconstruction Companies (ARCs):** Expanding the role of ARCs for better NPA resolution.
6. **Encouraging Private Sector Participation:** Involving private investors in stressed asset recovery.

CONCLUSION

Addressing the NPA issue is crucial for India's economic stability. The RBI and government initiatives have made progress, but sustained efforts are necessary to prevent recurrence and ensure a resilient banking sector. Strengthening risk assessment, enhancing credit monitoring, and leveraging technology-driven solutions will be key to preventing future NPAs. Moreover, fostering a robust legal framework and ensuring transparency in the lending process will further enhance financial stability.

PRELIMS QUESTIONS

Q. With reference to Non-Performing Assets (NPAs), consider the following statements:

1. NPAs are loans or advances where the principal or interest payment remains overdue for a period of 120 days or more.
2. Public Sector Banks (PSBs) in India have a lower Gross NPA ratio compared to Private Sector Banks.
3. The Insolvency and Bankruptcy Code (IBC), 2016, was introduced to provide a time-bound mechanism for resolving NPAs.

How many of the above-given statements are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer: A

MAINS QUESTIONS

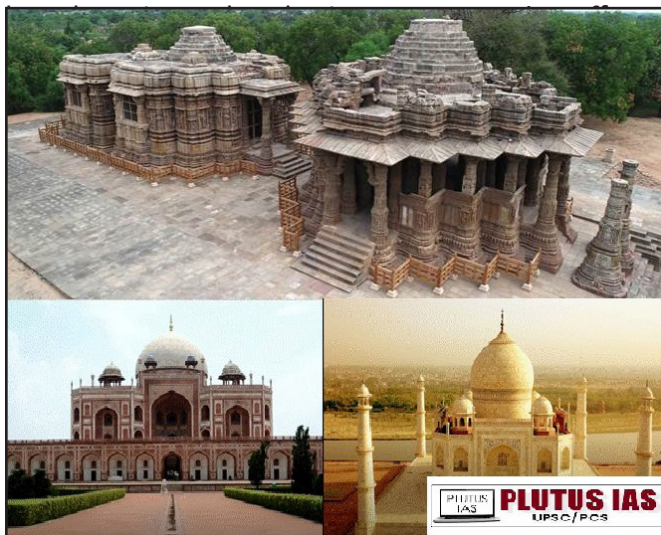
Q. Discuss the importance of Asset Reconstruction Companies (ARCs) and the Concept of Bad Banks in managing NPAs in India. Evaluate their effectiveness.

(250 words, 15 marks)

DIGITIZATION OF CULTURAL HERITAGE IN INDIA

WHY IN THE NEWS?

The NMMA has recently gained attention due to its renewed focus on large-scale digitization projects, new collaborations with technology firms, and increased government funding for heritage preservation. The initiative has also been highlighted in discussions about India's commitment to UNESCO's heritage conservation goals. Furthermore, with rising concerns over climate change, urbanization, and illegal artifact trafficking, NMMA's efforts to create a robust digital inventory have become more crucial than ever. Additionally, recent advancements in AI, blockchain, and 3D scanning have enabled NMMA to document and protect cultural assets more efficiently, making it a



NATIONAL MISSION ON MONUMENTS & ANTIQUITIES (NMMA)

The National Mission on Monuments & Antiquities (NMMA) was launched in 2007 under the Ministry of Culture, Government of India, with the objective of documenting and preserving India's vast cultural and historical heritage. This mission was conceived to address the critical need for a well-maintained record of movable and immovable antiquities, which would help safeguard the nation's legacy for future generations.

OBJECTIVES OF NMMA

The NMMA was established with a set of clear objectives:

- 1. Inventory Preparation:** To create a national-level database of antiquities and monuments, ensuring their proper documentation. This database helps track ownership and prevent illicit trade in antiquities, making it easier to recover lost or stolen artifacts.
- 2. Protection & Conservation:** To facilitate conservation efforts by identifying and assessing the condition of historical sites and artifacts. This includes recommending necessary interventions to prevent further degradation due to environmental and human-induced factors.
- 3. Regulation & Legal Framework:** To strengthen the Antiquities and Art Treasures Act, 1972, and ensure that heritage sites are legally protected. NMMA works towards enforcing stricter

penalties for illegal possession and trafficking of antiquities.

- 4. Awareness & Education:** To educate the public, scholars, and stakeholders about the importance of cultural heritage preservation. Public awareness campaigns, exhibitions, and interactive sessions help foster a sense of pride and responsibility among citizens.
- 5. Digital Archiving:** To use digital technology for the documentation and management of heritage sites, improving accessibility and reducing the risks of damage. Digital archives provide a valuable resource for researchers, enabling deeper insights into historical contexts.
- 6. Capacity Building & Training:** NMMA organizes training programs and workshops for professionals in the heritage sector, equipping them with the necessary skills to document and conserve cultural assets efficiently.
- 7. Community Involvement:** The mission promotes community participation by engaging local populations in conservation efforts. This approach helps protect heritage through grassroots initiatives and encourages a shared sense of ownership.
- 8. Integration with Smart Cities and Urban Planning:** NMMA collaborates with urban planners to ensure that heritage conservation is considered in modern city planning. This integration helps in balancing development with heritage preservation.

ACHIEVEMENTS OF NMMA

Since its inception, NMMA has made significant progress in the documentation and preservation of India's cultural heritage:

- 1. Database Development:** Over 2.1 lakh (210,000) antiquities have been documented and uploaded into the national database. This extensive collection is available for research, aiding scholars in their studies on India's rich historical past.
- 2. Mapping and GIS Integration:** The integration of Geographic Information System (GIS) technology has helped in creating detailed

maps of heritage sites. This allows authorities to monitor heritage sites remotely and plan conservation efforts more effectively.

- 3. Public Awareness Programs:** Various workshops, seminars, and training programs have been conducted to involve local communities in heritage conservation. These programs emphasize the importance of community participation in preserving and protecting cultural heritage.
- 4. Collaboration with Institutions:** NMMA has partnered with museums, research institutions, and universities to enhance the documentation and study of Indian antiquities. These collaborations provide expertise and resources for more extensive research and conservation projects.
- 5. Online Accessibility:** Several digital platforms have been developed to provide public access to heritage-related data, promoting research and awareness. Online archives enable global scholars and historians to study and appreciate India's cultural wealth.
- 6. Adoption of Emerging Technologies:** NMMA has begun incorporating Artificial Intelligence (AI), 3D scanning, and blockchain technology to improve documentation and authentication processes, ensuring greater transparency in cultural heritage management.
- 7. International Recognition and Collaborations:** The NMMA has received appreciation from UNESCO and other international bodies for its efforts in digitization and heritage preservation. It has also collaborated with foreign universities and research institutions to share best practices in heritage conservation.
- 8. Restoration Initiatives:** Several heritage sites have been identified and restored as part of NMMA's conservation efforts. This includes projects in historical cities such as Varanasi, Jaipur, and Hampi, where monuments have been restored to their original grandeur using scientific restoration techniques.

ROLE OF DIGITAL TECHNOLOGY IN HERITAGE PRESERVATION

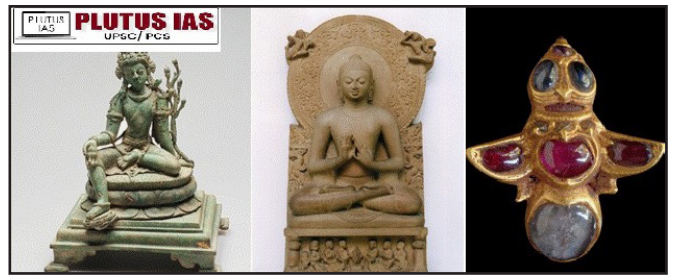
Key Digital Technologies Used in Heritage Preservation:

- 1. 3D Scanning and Modeling:** This technology enables the creation of digital replicas of monuments and artifacts, preserving their intricate details. It allows conservationists to analyze structures without causing physical damage and provides a reference for restoration projects.
- 2. Artificial Intelligence (AI) and Machine Learning (ML):** AI helps in the identification, classification, and restoration of antiquities through automated image recognition. AI-driven algorithms can also predict potential risks to heritage sites based on historical trends and current environmental conditions.
- 3. Virtual Reality (VR) and Augmented Reality (AR):** These technologies allow people to experience historical sites and artifacts in a virtual environment, making heritage more accessible. Virtual reconstructions of ancient sites provide an immersive learning experience for students and history enthusiasts.
- 4. Blockchain for Provenance Tracking:** Ensures the authenticity and ownership history of artifacts, preventing illegal trade and theft. This technology enhances transparency in the art market and helps governments reclaim stolen cultural assets.
- 5. GIS Mapping and Remote Sensing:** Helps in the accurate documentation and monitoring of heritage sites, assessing environmental and human-induced threats. Authorities can use this data to develop better conservation strategies and disaster preparedness plans.
- 6. Big Data and Cloud Storage:** Enables the secure storage and analysis of vast amounts of heritage-related data for research and policymaking. This ensures that valuable information remains accessible even in cases of physical loss or damage.

CHALLENGES IN HERITAGE PRESERVATION

Despite the advancements in digital technology, there are several challenges that hinder effective heritage preservation:

- 1. Lack of Infrastructure:** Many heritage sites lack the necessary technological infrastructure for digital documentation and conservation. Rural and remote heritage sites require significant investments in digital connectivity and technical equipment.
- 2. Financial Constraints:** Insufficient funding restricts the implementation of large-scale digitization projects. Limited government budgets often result in delayed or incomplete conservation efforts.
- 3. Skilled Manpower Shortage:** A lack of trained professionals in heritage conservation and digital technologies poses a significant challenge. More training programs and academic courses are needed to build a skilled workforce.
- 4. Legal and Policy Issues:** Inadequate enforcement of heritage protection laws leads to encroachments, illegal trade, and loss of artifacts. Strengthening regulations and ensuring accountability among stakeholders is crucial.
- 5. Climate Change and Environmental Factors:** Rising pollution, natural disasters, and changing climate conditions threaten the structural integrity of monuments and artifacts. Advanced monitoring systems must be implemented to mitigate environmental risks.
- 6. Limited Public Awareness and Participation:** Heritage conservation efforts require active participation from local communities, which is often lacking. More initiatives should be taken to involve people in protecting their cultural legacy.
- 7. Cybersecurity Risks:** Digital databases containing sensitive heritage information are vulnerable to hacking and cyber threats. Robust cybersecurity measures must be implemented to safeguard valuable digital records.



WAY FORWARD

To overcome these challenges and enhance heritage preservation efforts, India must adopt a multi-pronged approach:

- 1. Strengthening Digital Infrastructure:** Investment in modern digital tools, cloud storage, and AI-driven applications will enhance preservation efforts. Expanding internet access to rural heritage sites will also help in efficient documentation.
- 2. Public-Private Partnerships (PPP):** Collaboration between the government, private sector, and NGOs can help in securing funds and expertise for digitization projects. Private organizations can bring in technological innovations and financial support.
- 3. Capacity Building & Training:** Developing training programs for historians, archaeologists, and tech professionals to bridge the skill gap. Universities should introduce specialized courses on digital heritage preservation.
- 4. Policy Reforms & Strict Enforcement:** Strengthening laws related to heritage protection and ensuring their proper implementation. The government should impose stricter penalties for heritage-related crimes.
- 5. International Collaboration:** Partnering with global institutions and leveraging best practices in digital heritage preservation. Cross-border partnerships can facilitate knowledge exchange and access to advanced technologies.
- 6. Increased Community Engagement:** Raising awareness through educational programs and involving local communities in conservation initiatives. Encouraging heritage tourism can create economic incentives for local communities to protect cultural sites.

7. Developing Sustainable Preservation Strategies: Using eco-friendly materials and conservation methods to mitigate environmental risks. Green technologies should be incorporated in heritage site management.

CONCLUSION

The digitization of cultural heritage in India is not just a technological advancement but a necessity to preserve the country's rich history for future generations. The National Mission on Monuments & Antiquities (NMMA) has played a vital role in this endeavor by documenting and safeguarding valuable heritage assets. With the integration of cutting-edge technologies such as AI, 3D scanning, and blockchain, India is making significant strides in modernizing heritage conservation. However, continuous efforts are needed to enhance public engagement, improve data accessibility, and foster collaborations between governmental and non-governmental organizations. As India moves forward, a comprehensive and sustainable approach will be crucial to ensuring that its cultural wealth remains protected and accessible for generations to come.

PRELIMS QUESTIONS:

Q. Which act provides a legal framework for the protection of Indian antiquities?

- The Indian Treasure Act, 1878
- The Antiquities and Art Treasures Act, 1972
- The Monuments Protection Act, 1958
- The Cultural Heritage Conservation Act, 2005

ANSWER: B

MAINS QUESTIONS:

Q. Discuss the significance of digitization in the preservation of India's cultural heritage. How has the National Mission on Monuments and Antiquities (NMMA) contributed to this effort?

(250 words, 15 marks)

LOSS AND DAMAGE

WHY IN THE NEWS?

The issue of "Loss and Damage" has gained global attention, especially after the operationalization of the Loss and Damage Fund at COP28 in Dubai (2023). With rising climate disasters such as extreme heatwaves, floods, and droughts, vulnerable nations are demanding financial and technical support from wealthier countries responsible for historical emissions. However, current climate finance remains insufficient, making this a key topic in international climate negotiations as countries debate equity, responsibility, and urgent action to address irreversible climate impacts.



WHAT IS LOSS AND DAMAGE?

"Loss and damage" is a general term used in UN climate negotiations to refer to the consequences of climate change that go beyond what people can adapt to; for example, the loss of coastal heritage sites due to rising sea levels or the loss of homes and lives during extreme floods. This also includes situations where adaptation options exist, but a community doesn't have the resources to access or utilize them. To date, there is no official definition of loss and damage under the UN. Loss and damage are harming and will continue to harm vulnerable communities the most, meaning that addressing the issue is an urgent matter of climate justice. But the Subject has historically been fraught with contention both inside and outside of UN climate negotiations. In particular, countries have struggled to reach an agreement on how much money developed countries should supply to address loss and damage in developing nations, which have

contributed the least to the climate crisis but are often hit hardest by its impacts.

DIFFERENCE BETWEEN MITIGATION, ADAPTATION AND ADDRESSING LOSS AND DAMAGE

Next Steps for COP29 (2024): Mobilizing more finance for FRLD & SNLD. Including loss and damage in the new climate finance goal. Ensuring the fund delivers aid quickly and effectively to vulnerable nations.

Aspect	Mitigation	Adaptation	Loss & Damage
Goal	Reduce greenhouse gas emissions	Protect against climate impacts	Support recovery after impacts
Focus	Prevention	Preparedness	Response
Examples	Switching to clean energy, reducing deforestation	Building resilient infrastructure, adjusting farming practices	Disaster relief, compensation for climate-related losses
When It Applies	Before climate impacts occur	Before and during climate impacts	After climate impacts have happened

HISTORY OF LOSS AND DAMAGE IN UN CLIMATE NEGOTIATIONS

The issue of loss and damage has been debated for over three decades in UN climate negotiations. In 1991, Vanuatu proposed an insurance scheme for climate-impacted nations, but it was rejected, and the final UNFCCC (1992) did not mention loss and damage. The Concept formally emerged in the Bali Action Plan (2007) and gained traction in 2013 with the creation of the Warsaw International Mechanism (WIM) to enhance knowledge-sharing and coordination. However, no funding mechanism was established.

Key Milestones:

Paris Agreement (2015): Article 8 included loss and damage but excluded financial liability.

COP26 (2021): A proposed finance facility was rejected, leading to the Glasgow Dialogue and funding for the Santiago Network on Loss and Damage (SNLD).

COP27 (2022): A breakthrough agreement established a loss and damage fund.

COP28 (2023): The fund was officially launched as the Fund for Responding to Loss and Damage (FRLD), hosted by the World Bank. Countries pledged \$700 million, and the SNLD was operationalized.

IMPORTANCE OF LOSS AND DAMAGE FUND

The Fund for Responding to Loss and Damage (FRLD) is essential for climate-vulnerable nations facing irreversible impacts. While mitigation and adaptation help reduce risks, some losses—like sea level rise, extreme weather, and biodiversity loss—are unavoidable, requiring financial support for recovery.

Key Benefits:

- 1. Supports Vulnerable Nations:** Helps developing countries recover and rebuild after climate disasters.
- 2. Addresses Unavoidable Losses:** Provides aid where adaptation is no longer possible.
- 3. Delivers Timely Relief:** Funds emergency response, reconstruction, and displaced communities.
- 4. Ensures Climate Justice:** Developed nations contribute to those most affected by climate change.
- 5. Strengthens Climate Action:** Makes loss and damage a core climate priority, alongside mitigation and adaptation. Established at COP28, the FRLD is a major step forward, but funding must scale to meet growing climate challenges. COP29 will be critical in ensuring swift, sufficient, and equitable financial support.

ISSUES IN CLIMATE FINANCING

- Funding Shortfall:** Current climate finance is far below what's needed, with loss and damage alone projected to cost \$580B annually by 2030.
- Unequal Access:** Small island states and least developed countries (LDCs) struggle with complex processes to access funds, while middle-income nations receive most financing.
- Debt Burden:** Most funds are loans, not grants, forcing climate-vulnerable nations into deeper debt.
- Lack of Transparency:** No clear tracking of how much money is delivered or used, and some nations over-report contributions.
- Low Private Investment:** Businesses hesitate to fund adaptation projects due to uncertain profits, leaving public finance to fill the gap.
- Fragmented System:** Multiple climate funds exist (GCF, Adaptation Fund, FRLD, etc.) but lack coordination, making access difficult for developing nations.

WAY TO ADDRESS CLIMATE FINANCING

- Increase & Fulfill Commitments:** Developed nations must meet and exceed climate finance pledges, ensuring new and additional funding.
- Implify Access:** Streamline fund applications, ensuring direct, fast access for vulnerable nations.
- Shift from Loans to Grants:** Prioritize grants over loans to prevent debt burdens and explore climate debt relief options.
- Enhance Transparency:** Establish robust tracking to monitor fund allocation and prevent overreporting.
- Boost Private Investment:** Use blended finance, green bonds, and risk-sharing mechanisms to attract private capital.
- Diversify Funding Sources:** Explore fossil fuel levies, carbon pricing, financial transaction taxes, and climate insurance.

- Improve Coordination:** Align funds like GCF, Adaptation Fund, and FRLD for efficiency and impact.

CONCLUSION

The establishment of the Loss and Damage Fund (FRLD) is a significant milestone in global climate action, recognizing the irreversible impacts of climate change on vulnerable nations. While progress has been made, climate finance remains insufficient, with funding gaps, accessibility issues, and reliance on loans instead of grants. To effectively address loss and damage, wealthy nations must fulfil commitments, streamline access to funds, increase transparency, and leverage private sector investment. At COP29, ensuring the fund's rapid, equitable, and scalable implementation will be critical in achieving climate justice and resilience for frontline communities.

PRELIMS QUESTIONS

Q. Consider the following statements:

- The Paris Agreement recognizes the need to avert, minimize, and address loss and damage caused by climate change.
- Loss and damage can only be addressed through mitigation efforts such as reducing greenhouse gas emissions.
- Adaptation limits can be classified into "soft limits" (where adaptation is possible but lacks resources) and "hard limits" (where adaptation is impossible).

How many of the statements given above are correct?

- Only one
- Only two
- All three
- None

Answer: B

MAINS QUESTIONS

Q. Discuss the significance of the Loss and Damage Fund (FRLD) in global climate finance and the challenges associated with its implementation.

(250 words, 15 marks)

NATIONAL QUANTUM MISSION: INDIA'S QUANTUM LEAP

WHY IN THE NEWS?

The National Quantum Mission (NQM) has been making headlines as a groundbreaking initiative by the Government of India to advance quantum technology research and development. Approved by the Union Cabinet on April 19, 2023, the mission is set to run from 2023–24 to 2030–31, with a substantial budget of ₹6,003.65 crore. This mission aims to position India as a global leader in quantum technologies, driving innovations in computing, communication, and cryptography. With the potential to revolutionize industries like healthcare, clean energy, cybersecurity, and climate research, the NQM is seen as a strategic step toward technological self-reliance and economic growth, making it a significant topic of discussion worldwide.



WHAT IS QUANTUM COMPUTING?

Quantum computing is an advanced field of computing that leverages the principles of quantum mechanics to perform calculations much faster than classical computers. Unlike traditional computers, which use bits (0s and 1s) to process data, quantum

computers use qubits (quantum bits), which can exist in multiple states at once due to superposition.

Key Principles of Quantum Computing:

- 1. Superposition:** A qubit can be both 0 and 1 simultaneously, allowing quantum computers to process vast amounts of information in parallel.
- 2. Entanglement:** Qubits can be strongly correlated, meaning a change in one qubit instantly affects another, regardless of distance. This property enables faster and more secure computations.
- 3. Quantum Interference:** Quantum states can interfere with each other, helping optimize and refine computations.

OBJECTIVES OF THE NATIONAL QUANTUM MISSION

- 1. Quantum Computing Evolution:** Develop intermediate-scale quantum computers with 20-50 physical qubits (3 years), 50-100 physical qubits (5 years), and 50-1000 physical qubits (8 years) across platforms like superconducting and photonic technologies to advance computational capabilities.
- 2. Satellite-Based Quantum Communication:** Establish satellite-enabled quantum-secured communication between two ground stations over 2000 km within India and extend this technology for long-distance secure quantum communication with other countries.
- 3. Inter-City Quantum Key Distribution (QKD):** Implement quantum-secured communication spanning 2000 km using trusted nodes and wavelength division multiplexing (WDM) on existing optical fibre infrastructure, enhancing secure data transmission.
- 4. Multi-Node Quantum Networks:** Develop a multi-node quantum network incorporating quantum memories, entanglement swapping, and synchronized quantum repeaters at each node, enabling scalable and robust quantum communication (2-3 nodes).
- 5. Advanced Quantum Sensing & Clocks:** Design highly sensitive quantum devices, including

magnetometers with 1 femto-Tesla/sqrt(Hz) sensitivity in atomic systems and better than 1 pico-Tesla/sqrt(Hz) in Nitrogen-Vacancy centres, gravity sensors with better than 100 nano-meter/second² sensitivity, and atomic clocks with 10⁻¹⁹ fractional instability for precision timing, navigation, and secure communication.

- 6. Quantum Materials & Devices:** Develop and synthesize next-generation quantum materials such as superconductors, novel semiconductor structures, and topological materials for the fabrication of qubits, single-photon sources/detectors, entangled photon sources, and quantum sensing/metrological devices for applications in computing and communication.

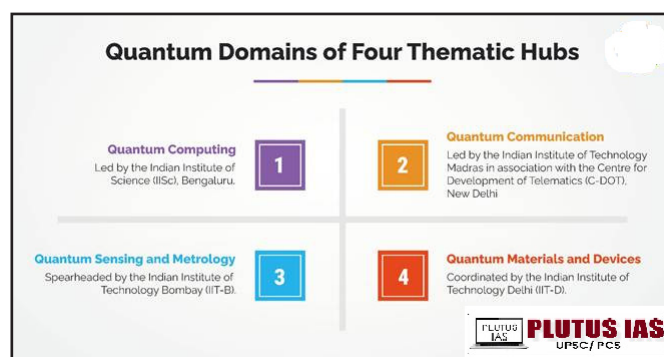
IMPLEMENTATION STRATEGY AND INITIATIVES

The National Quantum Mission is a nationwide initiative driving cutting-edge advancements in quantum technology. As part of this mission, four Thematic Hubs (T-Hubs) have been set up, bringing together 14 Technical Groups across 17 states and 2 Union Territories. These hubs focus on technology innovation, skill development, entrepreneurship, industry partnerships, and global collaborations, ensuring a truly national impact. Women scientists from every corner of the country are actively encouraged to participate and benefit from the mission's exciting programs. The four T-Hubs have been established across leading institutions in India:

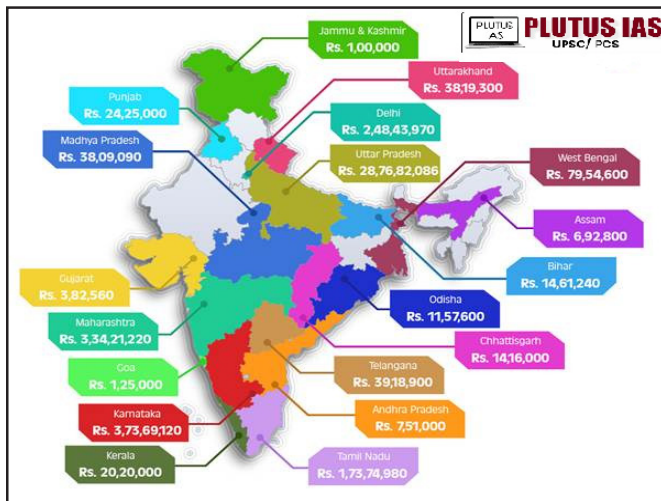
1. Indian Institute of Science (IISc) Bengaluru
2. Indian Institute of Technology (IIT), Madras, in association with the Centre for Development of Telematics, New Delhi
3. Indian Institute of Technology (IIT), Bombay
Indian Institute of Technology (IIT), Delhi. These hubs were selected through a rigorous competitive process, and each hub focuses on a specific quantum domain, driving advancements in Quantum Computing, Quantum Communication, Quantum Sensing & Metrology, and Quantum Materials & Devices.



Hub-Spoke-Spike Model: Each T-Hub will follow the Hub-Spoke-Spike model, fostering a cluster-based network where research projects (Spokes) and individual research groups (Spikes) operate alongside central hubs. This structure enhances collaboration among research institutions, allowing them to share resources and expertise more effectively.



State-wise Funds Allocation: The four T-Hubs selected under NQM collectively involve 152 researchers from 43 institutions nationwide, fostering a collaborative ecosystem to drive research and innovation in quantum technologies. The activities carried out by these hubs include Technology Development, Human Resource Development, Entrepreneurship Development, Industry Collaboration, and International Collaboration.



SIGNIFICANCE OF NATIONAL QUANTUM MISSION

- 1. Technological Advancement:** The NQM propels India into the global race for quantum supremacy, fostering innovation in computing, communication, and security.
- 2. Economic Growth:** With a budget of ₹6,003.65 crore, the mission can drive investments, create jobs, and boost the tech sector.
- 3. Cybersecurity & National Security:** Quantum encryption can significantly enhance data security, making cyber communication unbreakable.
- 4. Scientific Innovation:** Encourages indigenous research, fostering advancements in quantum computing, materials science, and precision sensing.
- 5. Industry & Start-up Ecosystem:** Strengthens partnerships between academia, industry, and startups, driving the commercialization of quantum technologies.
- 6. Global Competitiveness:** Positions India as a key player in the quantum revolution, fostering international collaborations and technology exports.
- 7. Interdisciplinary Impact:** Advances in quantum science benefit healthcare, clean energy, finance, and logistics through enhanced computational and analytical capabilities.
- 8. Human Resource Development:** Establishes a skilled workforce in quantum technology,

promoting education and research across premier institutions.

CHALLENGES OF NATIONAL QUANTUM MISSION

- 1. Technological Barriers:** Developing stable qubits and error correction mechanisms remains a significant challenge.
- 2. High Cost of Implementation:** Quantum technology requires substantial investment in infrastructure, research, and skilled professionals.
- 3. Limited Skilled Workforce:** A shortage of trained quantum scientists and engineers could slow progress.
- 4. International Competition:** Leading nations like the US, China, and the EU are investing heavily in quantum research, creating intense competition.
- 5. Scalability Issues:** Building quantum computers with more qubits while maintaining stability and coherence is complex.
- 6. Data Security Risks:** While quantum encryption enhances security, adversaries may also develop quantum capabilities to break existing cryptographic protocols.
- 7. Industry Readiness:** Indian industries need awareness and investment to integrate quantum solutions into real-world applications.
- 8. Infrastructure Constraints:** Establishing quantum labs, computing centers, and network systems across the country requires significant infrastructural development.

WAYS TO MAKE INDIA SELF RELIANT

- 1. Strengthening Research & Development:** Increase funding for quantum research, establish dedicated R&D centres, and promote academic-industry collaborations.
- 2. Skill Development Programs:** Launch specialized quantum computing courses, fellowships, and training programs to build a strong talent pool.
- 3. Encouraging Startups & Entrepreneurship:** Provide grants, tax incentives, and incubation support to quantum technology startups.

4. **Public-Private Partnerships:** Facilitate collaborations between government, academia, and private enterprises to accelerate innovation.
5. **Building Quantum Infrastructure:** Invest in quantum labs, high-performance computing facilities, and secure communication networks.
6. **Enhancing Global Collaborations:** Partner with leading quantum research nations to exchange knowledge, technology, and best practices.
7. **Regulatory & Policy Support:** Develop national policies for quantum technology adoption, ethical AI, and cybersecurity frameworks.
8. **Commercialization of Quantum Technologies:** Focus on developing market-ready quantum solutions for industries such as finance, healthcare, defence, and logistics.

CONCLUSION

The National Quantum Mission (NQM) is more than just a technological initiative—it is a strategic step towards securing India's future in the quantum era. With significant investments, world-class research collaborations, and dedicated innovation hubs, the mission is set to propel India to the forefront of the global quantum revolution. This initiative underscores India's commitment to scientific excellence, economic resilience, and national security in a world where quantum technologies are poised to reshape industries and societies.

PRELIMS QUESTIONS

Q. With reference to the National Quantum Mission (NQM), consider the following statements:

1. The mission was approved by the Union Cabinet in 2022.
2. It aims to establish satellite-enabled quantum-secured communication over 2000 km within India.
3. The mission focuses only on quantum computing and does not include quantum communication or sensing.

How many of the above-given statements are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer: A

MAINS QUESTIONS

Q. Discuss the significance of the National Quantum Mission (NQM) in the context of India's technological and economic growth. Highlight the challenges and suggest measures to make India self-reliant in quantum technology. (250 words, 15 marks)

LEFT-WING EXTREMISM IN INDIA.

WHY IN THE NEWS?

Recently, at least 30 Maoists and a policeman were killed in twin encounters in the Bijapur and Kanker districts of Chhattisgarh. These operations, involving nearly 2,200 security personnel from the District Reserve Guard (DRG), Special Task Force (STF), Central Reserve Police Force (CRPF), CoBRA, and Border Security Force (BSF), mark a significant escalation in anti-LWE efforts. This incident pushes the total Maoist casualties in Chhattisgarh beyond 100 for the year, highlighting the intensification of counter-insurgency measures. Security forces recovered a large cache of AK-47 rifles, automatic and semi-automatic weapons during the operation. The increasing success of such operations underscores the impact of coordinated intelligence-based strikes and the government's commitment to eradicating LWE.



DATA ON LWE AND THE RED CORRIDOR

The 'Red Corridor' refers to regions in India where LWE has a strong presence. This corridor primarily includes parts of states such as Chhattisgarh, Jharkhand, Odisha, Maharashtra, Andhra Pradesh, Bihar, and West Bengal. The Ministry of Home Affairs (MHA) has identified LWE-affected districts, categorizing them based on the intensity of violence and Maoist influence.

1. In 2010, around 223 districts were affected by LWE. However, by 2023, the number had reduced to approximately 70, with only 25 districts witnessing significant activity.
2. According to MHA reports, LWE-related violence has declined by nearly 77% since 2010, and civilian and security force casualties have also dropped substantially.
3. The states most affected remain Chhattisgarh, Jharkhand, and Odisha, with Bastar in Chhattisgarh being a key Maoist stronghold.
4. As per the latest data from the Press Information Bureau (PIB), as of December 2024, there are now only 38 LWE-affected districts in the country, marking a significant reduction.
5. Over the past five years, 60 districts have been freed from LWE influence, reflecting the success of government interventions.
6. Between 2014 and 2023, LWE-related incidents declined by over 52%, while overall deaths decreased by 69%. Security forces' casualties reduced by 72%, and civilian deaths dropped by 68% compared to the period from 2005 to 2014.
7. For the first time in three decades, LWE-related casualties fell below 100 in 2022, underscoring a notable improvement in counter-insurgency operations.

CAUSES OF LEFT-WING EXTREMISM

The persistence of LWE can be attributed to a mix of socio-economic, political, and administrative factors:

1. **Economic Disparities:** Poverty, landlessness, and lack of employment opportunities in tribal and rural areas have fueled discontent. Exploitation of natural resources without adequate compensation or rehabilitation has further alienated local communities.
2. **Political Alienation:** Tribal and marginalized communities often feel ignored by mainstream political parties and institutions. The failure of local governance in providing basic services has pushed people towards extremist ideologies.
3. **Administrative Lapses:** Weak law enforcement and lack of adequate security infrastructure have allowed Maoists to operate with impunity in remote areas. Corruption in government schemes has deprived locals of essential benefits.
4. **Social Injustice and Human Rights Violations:** Police excesses and displacement due to infrastructure and mining projects have intensified grievances. The absence of proper rehabilitation measures for displaced communities has made them susceptible to Maoist propaganda.
5. **Failure of Land Reforms:** Land ownership disputes and the absence of effective land redistribution policies have fueled discontent among landless farmers and tribal communities. Illegal land acquisition by corporations and influential individuals has further deepened grievances.
6. **Exploitation by Middlemen and Contractors:** Tribals and rural poor often fall prey to exploitative middlemen in agricultural, forest, and labor markets. The lack of institutional financial support makes them dependent on moneylenders, leading to cycles of debt and exploitation.
7. **Weak Law Enforcement and Security Gaps:** The remoteness and difficult terrain of affected areas make law enforcement ineffective. Lack of sufficient police presence and slow response times allow Maoist groups to operate with relative impunity.

GOVERNMENT POLICIES TO ADDRESS LWE

The Indian government has adopted a multi-pronged approach to counter LWE, focusing on security measures, developmental initiatives, and rehabilitation programs.

1. **Security Measures: Operation SAMADHAN:** Launched by the MHA, this strategy involves aggressive anti-Maoist operations, intelligence gathering, and coordination between central and state police forces. Deployment of Central Armed Police Forces (CAPF) such as CRPF and special battalions like the CoBRA (Commando Battalion for Resolute Action) to combat Maoists. Establishment of fortified police stations in vulnerable regions.
2. **Developmental Initiatives: Special Infrastructure Scheme (SIS):** Focuses on enhancing road connectivity, mobile towers, and essential services in affected regions. Aspirational Districts Programme: Aims at improving education, healthcare, and livelihood opportunities in backward districts. Skill Development and Employment Generation: Schemes such as MGNREGA and various state-led programs target job creation.
3. **Surrender and Rehabilitation Policies:** Incentives are provided for surrendered Maoists, including financial aid, vocational training, and reintegration into society. States like Chhattisgarh and Jharkhand have specific policies offering attractive rehabilitation packages.
4. **National Policy and Action Plan (2015):** Approved in 2015, this comprehensive strategy addresses LWE through security measures, development interventions, and ensuring the rights and entitlements of local communities.
5. **Expansion of Road Networks:** To improve connectivity in LWE-affected areas, the government has constructed 13,620 km of roads, facilitating better access and economic development.
6. **Enhancement of Telecommunication Connectivity:** A total of 13,823 mobile towers

have been sanctioned, with over 3,700 already commissioned, to improve communication in affected regions.

7. **Financial Inclusion Initiatives:** To integrate local populations into the financial system, 4,903 new post offices, 955 bank branches, and 839 ATMs have been established in 30 most LWE-affected districts since April 2015.
8. **Establishment of Security Camps:** Since 2019, security forces have established 175 new camps in LWE-affected areas, reducing security vacuums and weakening extremist influence.
9. **Choking of Funds:** Efforts have been intensified to disrupt financial networks supporting LWE activities, targeting illegal funding sources to weaken their operations.

CHALLENGES IN LWE ELIMINATION

Despite significant progress, several challenges hinder the complete eradication of LWE:

1. **Geographical and Terrain Challenges:** Maoists operate in dense forests and hilly terrains, which provide natural cover and make security operations difficult. The absence of proper roads and communication networks in these areas hampers counter-insurgency efforts.
2. **Local Support and Ideological Appeal:** Maoists continue to find support among marginalized and tribal communities who feel alienated from mainstream governance. Socio-economic grievances such as land displacement, unemployment, and lack of basic amenities fuel Maoist recruitment.
3. **Security Personnel Casualties and Resource Constraints:** According to MHA data, over 12,000 people, including civilians and security personnel, have lost their lives in LWE-related violence since 2000. Improvised Explosive Devices (IEDs) remain a significant threat, with a majority of security personnel casualties attributed to such attacks. The need for better coordination between state and central forces remains a challenge, as jurisdictional conflicts sometimes hinder operations.

- 4. Financial and Logistical Support to Maoists:** Maoists continue to fund their activities through extortion, illegal mining, and levies on contractors and businesses. Despite efforts to cut off their funding sources, Maoists have adapted by using covert channels and digital transactions.
- 5. Slow Implementation of Developmental Projects:** Government initiatives aimed at uplifting affected regions often face delays due to corruption, bureaucratic inefficiency, and lack of accountability. The Aspirational Districts Programme and other schemes need to be implemented more effectively to win the confidence of local communities.
- 6. Use of Advanced Warfare Techniques by Maoists:** The adoption of modern guerilla warfare tactics, including drones, encrypted communication, and cyber-propaganda, poses new challenges for security agencies. There is an increasing need for intelligence-based operations and technology-driven counter-insurgency strategies.
- 7. Human Rights Concerns and Excessive Use of Force:** Reports of civilian casualties, wrongful detentions, and police excesses have led to criticism and sometimes even strengthened Maoist propaganda. A balanced approach that ensures security operations do not alienate the local population is crucial to maintaining legitimacy.



RECENT TRENDS IN LWE

- 1. Declining Influence:** A significant reduction in Maoist violence and territorial control has been

observed over the past decade. Several top Maoist leaders have been arrested or neutralized, weakening their operational capabilities.

- 2. Shift in Strategy:** Maoists have increasingly relied on IEDs (Improvised Explosive Devices) to target security forces instead of direct confrontations. There has been an effort to radicalize youth and use digital platforms for propaganda and recruitment.
- 3. State Success Stories:** Andhra Pradesh and Telangana have largely curbed Maoist influence through effective governance and security strategies. Jharkhand and Odisha have significantly weakened insurgent networks with sustained operations and development work.
- 4. Targeting Infrastructure and Government Projects:** Increased attacks on road construction projects, mobile towers, and railway networks indicate an effort to prevent government penetration into strongholds. Destruction of schools and health centers in some affected districts shows resistance to developmental activities aimed at winning over local communities. Extortion from contractors and businesses continues to be a major source of funding for LWE groups.
- 5. Growing Surrender and Rehabilitation Numbers:** More Maoist cadres are surrendering due to government amnesty policies and an improved security presence. State governments have successfully rehabilitated surrendered extremists with livelihood opportunities and social integration measures. The internal divisions within Maoist factions have also led to desertions, further weakening their operational strength.

FURTHER COURSE OF ACTION

- 1. Strengthening Security Measures:** Enhancing inter-state coordination for intelligence sharing and joint operations. Investing in modern technology such as drones, satellite imagery, and AI-driven surveillance for better tracking of insurgent movements. Expanding the presence

of special counter-insurgency forces in key Maoist strongholds while ensuring minimal collateral damage.

2. **Accelerating Development Initiatives:** Ensuring effective implementation of government schemes with transparency and local participation. Promoting local governance and empowering Panchayati Raj institutions to address grievances at the grassroots level. Establishing more residential schools, healthcare centers, and vocational training institutes to bridge developmental gaps.
3. **Winning Hearts and Minds:** Engaging with local communities to build trust and reduce Maoist influence. Expanding educational opportunities and skill training programs tailored to the needs of affected populations. Strengthening civil society participation in governance and decision-making processes to ensure inclusion and representation.
4. **Reinforcing Rehabilitation Programs:** Improving incentives for Maoists willing to surrender. Providing long-term employment opportunities to prevent recidivism. Creating specialized support groups for rehabilitated individuals to ensure their smooth reintegration into society.
5. **Addressing Root Causes of Radicalization:** Establishing independent monitoring bodies to ensure the protection of human rights in counter-insurgency operations. Providing alternative leadership opportunities for youth in affected regions to divert them from extremist ideologies. Strengthening laws and policies to prevent exploitation of local resources by corporations without fair compensation to the affected communities.

CONCLUSION

Left-Wing Extremism remains one of India's most persistent internal security challenges, but significant progress has been made in its containment. A combination of strong security action, targeted developmental programs, and community engagement has yielded positive results. However, to achieve complete eradication, the government must

continue its efforts to address the root causes while maintaining a balance between force and welfare. The future course must involve holistic development, inclusive governance, and technological advancements in counter-insurgency operations to ensure lasting peace and prosperity in affected regions.

PRELIMS QUESTIONS:

Q. Consider the following statements regarding Left-Wing Extremism (LWE) in India:

1. The term "Red Corridor" refers to regions with a high presence of Maoist activities.
2. LWE is primarily concentrated in northeastern states of India.
3. The number of LWE-affected districts has decreased over the years due to government interventions.

Which of the statements given above is/are correct?

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. 1, 2, and 3

ANSWER: B

MAINS QUESTIONS:

Q. Discuss the role of security forces and community engagement in countering LWE. How can a balanced approach between force and development be achieved? (250 words, 15 marks)

COUNTER-TERRORISM: STRENGTH, STRATEGY, AND SECURITY

WHY IN THE NEWS?

Home Minister Amit Shah reaffirmed the government's zero-tolerance policy towards terrorism and asserted that Naxalism in India will

be eradicated by March 2026. Speaking in the Rajya Sabha during a debate on the functioning of the Home Ministry, he highlighted the Narendra Modi government's achievement in abrogating Article 370, fulfilling the vision of the Constitution's architects. He emphasised that Article 370 was the root of separatism in Jammu & Kashmir and that its removal ensured national unity under one constitution and one flag. Shah also criticised past governments for prolonging Article 370 due to vote-bank politics despite its temporary provision in the Constitution.

WHAT IS TERRORISM IN INDIA?

Terrorism in India refers to violent acts committed by individuals or groups to create fear, disrupt peace, and achieve political, religious, or ideological objectives. India has faced terrorism from various groups, including separatist movements, insurgent organizations, religious extremists, and foreign-sponsored terrorist networks.

In the context of India's Past Incidents of terrorism

Date	Incident	Location	Terror Group	Casualties	Remarks
March 12, 1993	Mumbai Blasts	Mumbai, Maharashtra	Dawood Ibrahim's D-Company	257 killed, 1,400+ injured	Series of 13 bomb blasts across the city.
December 13, 2001	Indian Parliament Attack	New Delhi	Jaish-e-Mohammed (JeM), Lashkar-e-Taiba (LeT)	9 security personnel, 1 civilian killed	5 terrorists were killed; the attack led to Indo-Pak tensions.
July 11, 2006	Mumbai Train Blasts	Mumbai, Maharashtra	Indian Mujahideen (IM), Lashkar-e-Taiba (LeT)	209 killed, 700+ injured	7 bomb blasts targeted Mumbai's local trains.
November 26-29, 2008	Mumbai Attacks (26/11)	Mumbai, Maharashtra	Lashkar-e-Taiba (LeT)	166 killed, 300+ injured	10 terrorists attacked key locations; Ajmal Kasab was captured.
January 2, 2016	Pathankot Attack	Pathankot, Punjab	Jaish-e-Mohammed (JeM)	7 security personnel killed	Attack on Indian Air Force base.
February 14, 2019	Pulwama Attack	Pulwama, Jammu & Kashmir	Jaish-e-Mohammed (JeM)	40 CRPF personnel killed	A suicide bombing on a CRPF convoy led to a Balakot airstrike.

COUNTER-TERRORISM MEASURES BY GOV OF INDIA.

1. **Unlawful Activities (Prevention) Act (UAPA):** Originally enacted in 1967 and amended multiple times (2008, 2019), this law strengthens India's legal framework against terrorism. It allows the government to ban terrorist organizations and designate individuals as terrorists.
2. **National Investigation Agency (NIA):** Established in 2008 after the Mumbai 26/11 attacks, the NIA is India's central agency for investigating and prosecuting terror-related cases across the country.
3. **Multi-Agency Centre (MAC):** A platform for intelligence-sharing among security agencies, operational since 2001, helping real-time coordination to prevent terrorist activities.
4. **National Security Guard (NSG):** Formed in 1984, the NSG is an elite counter-terrorism force that handles major terrorist incidents, such as the 26/11 Mumbai attacks.
5. **Operation All-Out:** Launched in 2017, this military operation targets terrorists and insurgents in Jammu & Kashmir, with joint efforts from the Indian Army, CRPF, and J&K Police.
6. **Counter-Terrorism Grid (CT Grid):** A national database integrating intelligence and law enforcement data to track and prevent terror-related activities.
7. **Border Security Measures:** India has strengthened its borders with fencing, advanced surveillance systems, drones, and increased patrolling, particularly along the India-Pakistan and India-Bangladesh borders.
8. **Demonetization (2016):** One of its objectives was to curb terror financing by eliminating fake currency, which was used to fund terrorist activities.
9. **Cybersecurity & Anti-Radicalization Efforts:** The government actively monitors social media and online platforms to prevent radicalization and recruitment by terrorist organizations.

CHALLENGES IN COUNTERING TERRORISM IN INDIA

1. **Cross-Border Terrorism:** Terrorist groups infiltrate India from neighbouring countries, especially Pakistan, making security efforts challenging.
2. **Radicalization & Online Extremism:** Extremist ideologies spread through social media and encrypted apps, making detection and prevention difficult.
3. **Intelligence & Coordination Gaps:** Inefficiencies in intelligence-sharing between central and state agencies can delay timely countermeasures.
4. **Terror Financing:** Hawala networks, fake currency, and international funding continue to support terrorist activities despite strict financial monitoring.
5. **Porous Borders:** Long, difficult-to-monitor borders with Pakistan, Bangladesh, and Nepal enable the movement of terrorists and illegal arms.
6. **Judicial & Legal Challenges:** Slow trials, difficulty in securing convictions, and human rights concerns complicate counter-terrorism efforts.
7. **Urban & Lone-Wolf Attacks:** Self-radicalized individuals and urban terrorism pose unpredictable threats, making prevention more difficult.

WAY FORWARD

1. **Strengthening Intelligence Networks:** Enhancing real-time coordination between intelligence agencies and security forces to prevent terrorist activities.
2. **Modernizing Law Enforcement:** Equipping security agencies with advanced technology, AI-based surveillance, and forensic capabilities for efficient counter-terrorism operations.
3. **International Cooperation:** Strengthening diplomatic ties and security partnerships with other countries for intelligence sharing and counter-terrorism efforts.

4. **Counter-Radicalization Programs:** Implementing education and awareness campaigns to prevent youth from being influenced by extremist ideologies.
5. **Securing Borders:** Further improving border fencing, surveillance, and cross-border counter-terrorism operations to curb infiltration.
6. **Tackling Terror Financing:** Strengthening financial monitoring and strict implementation of anti-money laundering laws to disrupt terror funding networks.
7. **Expediting Judicial Processes:** Establishing fast-track courts for terrorism-related cases to ensure swift trials and strict punishments.

CONCLUSION

India has made significant progress in counter-terrorism efforts through legislative measures, intelligence reforms, and military operations. However, emerging threats like cyber terrorism and lone-wolf attacks require adaptive strategies. A multi-pronged approach, including legal, military, intelligence, and diplomatic efforts, will be crucial in ensuring long-term national security.

PRELIMS QUESTIONS

Q. With reference to the National Investigation Agency (NIA), which of the following statements is/are correct?

1. The NIA was established in 2008 after the Mumbai 26/11 attacks to investigate and prosecute terror-related cases.
2. The NIA has the authority to investigate cases only within Indian territory and does not have jurisdiction outside India.

Select the correct answer using the code given below:

- A. 1 only
- B. 2 only
- C. Both 1 and 2

D. Neither 1 nor 2

Answer: A

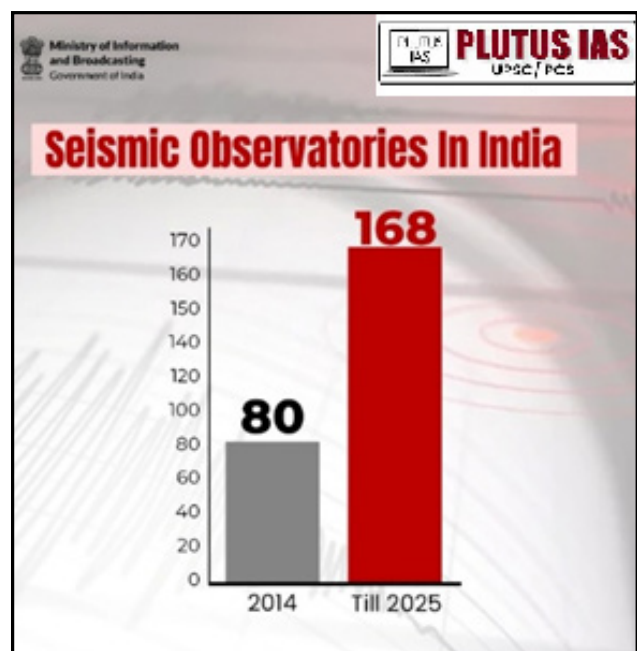
MAINS QUESTIONS

Q. Discuss the major challenges faced by India in countering terrorism and suggest effective measures to address them. (250 words, 15 marks)

MAKING INDIA MORE DISASTER-RESILIENT

WHY IN THE NEWS?

India has experienced several earthquake tremors this past year, highlighting the need for better disaster preparedness. Earthquakes occur when stress builds up in the Earth's crust. The crust is made of large plates that slowly move and these movements cause earthquakes. When an earthquake hits a populated area, it can cause significant damage. **Approximately 59% of India is vulnerable to earthquakes**, and the Bureau of Indian Standards (BIS) has classified the country into four seismic zones based on earthquake risk. Zone V is the most active, including regions like the Himalayas, while Zone II is the least affected. Over the years, India has experienced several devastating earthquakes.



An earthquake is a sudden shaking of the ground caused by the movement of tectonic plates beneath the Earth's surface. This seismic activity occurs due to the release of energy stored in the Earth's crust. The energy is generated by the movement along faults, which are fractures in the Earth's crust where two blocks of land have moved past each other. Earthquakes vary in intensity and magnitude and are measured using the Richter scale or the more modern Moment Magnitude Scale (Mw). The epicenter is the point on the Earth's surface directly above where the quake originates, while the focus is the point within the Earth where the seismic energy is released.

EARTHQUAKE STATISTICS

India is one of the most seismically active countries in the world due to its geographical location on the Indian tectonic plate. Earthquakes are frequent, ranging from low to high intensity, and have been a cause of considerable destruction in the past. According to the National Center for Seismology (NCS), several key statistics highlight the seismic nature of India:

- 1. Seismic Zones:** India is divided into four seismic zones – Zone II, III, IV, and V – based on the intensity and frequency of earthquakes. Zone V is the most seismically active region and includes areas like northeastern India, parts of the Himalayas, and Gujarat, while Zone II represents regions with relatively low seismic activity.
- 2. Vulnerability of Landmass:** Approximately **59% of India's total land area** is prone to moderate to severe seismic activity, placing millions of people at risk.
- 3. Urban Vulnerability:** Urban centers in India, particularly those experiencing rapid, unplanned urbanization, are highly vulnerable due to a lack of earthquake-resistant infrastructure and adherence to building codes. Cities like Delhi, Guwahati, and Srinagar face high seismic risks due to their location in or near high-risk zones. These statistics emphasize the urgent need for preparedness, strict enforcement of seismic

building codes, retrofitting of older structures, and community-level awareness to mitigate the risks associated with earthquakes.

MAJOR EARTHQUAKES IN INDIA

India has experienced several devastating earthquakes over the years, which have caused significant loss of life, damage to infrastructure, and displacement. seismic activity has continued to be a major concern. These disasters emphasize the urgent need for stronger earthquake resilience and preparedness, particularly in high-risk zones. Below are some of the most notable earthquakes:

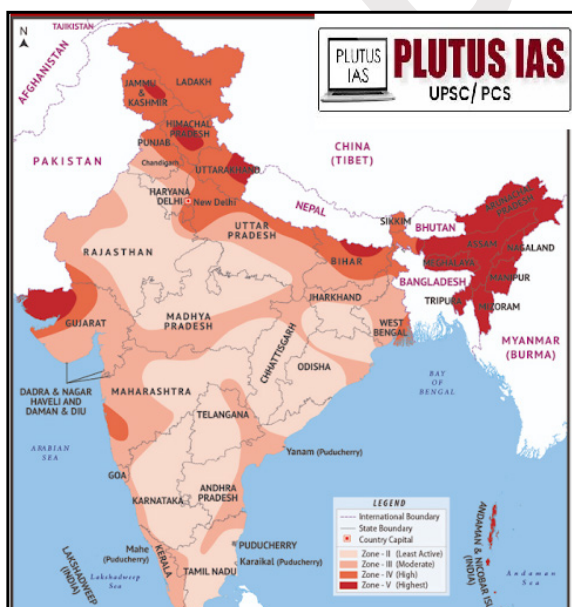
- 1. Bihar-Nepal Earthquake (1934):** Magnitude 8.0 – One of the deadliest earthquakes, it caused extensive damage in northern Bihar and parts of Nepal, killing over 10,000 people. Entire towns and villages were reduced to rubble, and thousands were left homeless. It highlighted the seismic vulnerability of the Himalayan region.
- 2. Latur Earthquake (1993):** Magnitude 6.4 – This earthquake struck Maharashtra's Latur and Osmanabad districts, resulting in over 9,000 deaths and widespread destruction. The damage was exacerbated by poorly constructed houses and buildings. The event raised awareness about the need for earthquake-resistant infrastructure in rural India.
- 3. Bhuj Earthquake (2001):** Magnitude 7.7 – One of the most devastating quakes in recent history, it claimed over 20,000 lives, left more than 150,000 people injured, and destroyed homes, schools, hospitals, and roads in Gujarat. The Bhuj earthquake brought to light the seismic vulnerability of western India and led to significant policy changes in disaster management.
- 4. Kashmir Earthquake (2005):** Magnitude 7.6 – This earthquake affected northern India and Pakistan-administered Kashmir, causing widespread destruction and claiming over 80,000 lives. The aftermath saw international relief efforts, but the challenging mountainous terrain made rescue and rehabilitation difficult.

- 5. Sikkim Earthquake (2011):** Magnitude 6.9 – This earthquake impacted northeastern India, causing landslides, damage to buildings, and disruption to infrastructure. The region's rugged terrain further complicated rescue operations. Several bridges and roads were damaged, isolating remote villages.

INDIA'S EARTHQUAKE VULNERABILITY

India's vulnerability to earthquakes stems from its location at the junction of several tectonic plates. The Indian plate is continuously colliding with the Eurasian plate, leading to seismic activities. The country is divided into four seismic zones based on earthquake risk:

- 1. Zone V:** Includes areas with the highest seismic risk, such as northeastern states, parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, and the Rann of Kutch in Gujarat.
- 2. Zone IV:** Covers areas like Delhi, parts of Haryana, Punjab, western Uttar Pradesh, and parts of Bihar.
- 3. Zone III:** Includes regions with moderate risk, such as the rest of Uttar Pradesh, Maharashtra, Odisha, and parts of southern India.
- 4. Zone II:** Includes areas with the least seismic risk, mainly in central and southern India.



CAUSING FACTORS FOR EARTHQUAKE VULNERABILITY:

- 1. Tectonic Plate Movements:** The collision between the Indian and Eurasian plates creates immense pressure, leading to frequent seismic activity.
- 2. Fault Lines:** India's geography includes several active fault lines, such as the Himalayan Thrust Fault, the Kutch Fault, and the Narmada Fault.
- 3. Unplanned Urbanization:** Rapid urban growth without adherence to building codes increases vulnerability.
- 4. Soft Soil Conditions:** In certain areas, soft soil can amplify seismic waves, increasing the intensity of earthquakes.

GOVERNMENT MEASURES FOR EARTHQUAKE SAFETY:

The Indian government has taken comprehensive measures to enhance earthquake preparedness and mitigate seismic risks. These efforts aim to reduce damage, save lives, and improve public safety. Key actions include updating seismic building codes to ensure earthquake-resistant construction and retrofitting vulnerable structures like hospitals, bridges, and older buildings. Advanced early warning systems, especially in high-risk zones, offer critical seconds to evacuate or shut down essential services, minimizing casualties. Public awareness campaigns educate citizens on safety protocols, such as "Drop, Cover, and Hold."

- 1. Seismic Zoning and Building Codes:** The Bureau of Indian Standards (BIS) has developed **Indian Seismic Codes** to ensure that buildings and infrastructure are designed to withstand seismic forces. IS 1893, IS 4326, and IS 13920 are some key codes related to earthquake-resistant construction.
- 2. National Disaster Management Authority (NDMA):** The NDMA has developed guidelines for earthquake preparedness and response. It conducts regular mock drills, awareness campaigns, and training programs.

3. **Earthquake Early Warning Systems (EWS):** These advanced systems aim to provide timely alerts before seismic waves hit, helping minimize the impact of earthquakes. EWS uses seismic sensors placed near fault lines to detect the initial low-intensity tremors (P-waves) and issue alerts before the more damaging S-waves arrive. This warning can give precious seconds or minutes to evacuate buildings, stop trains, or shut down machinery, thereby reducing casualties and infrastructure damage.
4. **Urban Planning and Retrofitting:** Effective urban planning plays a crucial role in reducing earthquake risks by avoiding construction in high-risk seismic zones and regulating land use. This includes promoting sustainable development practices that minimize exposure to seismic hazards. Additionally, retrofitting older buildings with earthquake-resistant technology, such as base isolators and reinforced concrete, can significantly improve their ability to withstand seismic forces. Encouraging public participation in planning and awareness programs further enhances resilience at the community level, fostering a shared responsibility for earthquake safety.
5. **Public Awareness and Education:** Public awareness plays a crucial role in disaster preparedness, as it empowers communities with the knowledge and skills to protect themselves during earthquakes. Educational programs focused on teaching earthquake safety measures, such as the “Drop, Cover, and Hold” technique, evacuation drills, and emergency preparedness, are vital. Increased awareness helps people respond calmly and effectively during seismic events, potentially reducing casualties and property damage. Government campaigns, NGOs, and community-based organizations must collaborate to ensure the wide dissemination of safety protocols, especially in high-risk areas, to foster a culture of resilience and preparedness across all sections of society.

LIMITATIONS ON EARTHQUAKE PREVENTABILITY

Despite extensive efforts to improve earthquake preparedness, certain inherent limitations make it challenging to completely prevent the impact of seismic events. Understanding these limitations is essential to developing more effective mitigation strategies:

1. **Unpredictability of Earthquakes:** One of the most significant challenges is the inability to predict the exact timing, location, and magnitude of an earthquake. While seismic monitoring can identify regions prone to earthquakes, providing real-time forecasts remains a complex task beyond current scientific capabilities.
2. **Gaps in Building Code Implementation:** Although seismic building codes have been established in India, their enforcement remains inconsistent, particularly in rural areas and rapidly expanding urban centers. Many structures continue to be built without adhering to safety standards, making them vulnerable to seismic shocks.
3. **Resource and Financial Constraints:** Retrofitting older buildings, upgrading critical infrastructure, and implementing early warning systems require substantial financial investments, which can be a constraint for resource-limited regions. Additionally, technical expertise and skilled labor may not always be readily available.
4. **Challenges of Rapid Urbanization:** India’s rapid urbanization has led to unplanned construction, increasing the population’s exposure to seismic hazards. High population density, particularly in cities located in seismic zones, complicates evacuation and rescue operations during earthquakes.
5. **Geographical Vulnerability:** India’s tectonic positioning, with active fault lines such as the Himalayan thrust zones and regions near the Indo-Eurasian plate boundary, makes the country inherently susceptible to seismic

activity. This geographical reality limits the extent to which seismic risks can be entirely mitigated through human interventions.

PROACTIVE ACTIONS TO REDUCE EARTHQUAKE IMPACTS

1. Strengthening Seismic Building Codes and Compliance

a). Reinforcing Existing Structures: Focus on retrofitting schools, hospitals, and public buildings in seismic zones to meet updated earthquake-resistant standards

b). Enforcing Strict Building Regulations: Regular monitoring and inspections should be conducted to ensure compliance with seismic building codes, especially in urban areas.

2. Promoting Land-Use Planning and Risk Mapping

a). Zoning Regulations: Develop land-use plans that avoid construction in high-risk areas, such as fault lines and soft soil regions.

b). Seismic Hazard Maps: Utilize updated seismic hazard maps to identify and prioritize vulnerable areas for focused interventions.

3. Developing Advanced Early Warning Systems

a). Real-Time Monitoring: Invest in advanced seismic monitoring stations and sensor networks to detect early tremors and provide timely warnings.

b). Public Alert Systems: Establish mass alert systems (SMS, sirens, radio alerts) to warn communities in real-time and facilitate evacuation.

4. Building Community Awareness and Preparedness

a). Public Awareness Campaigns: Conduct earthquake safety drills in schools, offices, and residential neighborhoods to educate people on evacuation protocols.

b). Training First Responders: Train local volunteers, civil defense personnel, and emergency workers in search-and-rescue operations and first aid.

5. Enhancing Disaster Response and Recovery Capacity

a). Strengthening NDRF and SDRF: Equip National and State Disaster Response Forces with specialized tools, modern equipment, and rapid deployment capabilities for earthquake emergencies.

b). Emergency Shelters and Relief Centers: Establish well-equipped shelters in high-risk areas to provide immediate relief and temporary housing to affected populations.

6. Promoting Research and Development (R&D):

a). Seismic Research: Encourage research on earthquake-resistant materials, innovative construction techniques, and advanced seismic sensors.

b). Global Collaboration: Foster partnerships with international research institutions to learn from best practices in earthquake resilience and preparedness.

PREVENTION STRATEGIES

While earthquakes cannot be prevented, their impact can be minimized through prevention strategies such as:

1. Earthquake-Resistant Design: Encourage the construction of earthquake-resistant buildings using flexible materials that can absorb seismic energy.

2. Hazard Mapping: Conduct detailed seismic hazard mapping to identify high-risk areas and guide land use planning.

3. Public Awareness Campaigns: Educate people on earthquake safety measures, including evacuation routes, emergency kits, and safe behavior during quakes.

4. Strengthening Emergency Services: Enhance the capacity of emergency services, such as fire brigades, paramedics, and search-and-rescue teams, to respond quickly and effectively after an earthquake.

CONCLUSION

Building a disaster-resilient India requires a multi-pronged approach involving strict enforcement of building codes, retrofitting vulnerable infrastructure, developing early warning systems, and enhancing community awareness and preparedness. While earthquakes cannot be prevented, proactive measures can significantly reduce their impact, saving lives and minimizing economic losses. By fostering a culture of disaster preparedness and resilience, India can better withstand the challenges posed by future earthquakes and ensure the safety and well-being of its citizens.

PRELIMS QUESTIONS:

Q. With reference to India's seismic vulnerability, which of the following statements is/are correct?

1. India is divided into five seismic zones based on earthquake intensity and frequency.
2. Zone V is the most seismically active and includes parts of Gujarat, the northeastern states, and the Himalayan region.
3. Soft soil conditions in certain areas can amplify seismic waves, increasing earthquake damage.

Select the correct answer using the code given below:

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

Answer: B

MAINS QUESTIONS:

Q. Examine the role of tectonic activity in shaping India's earthquake risk. How can seismic safety be improved? (250 words, 15 marks)