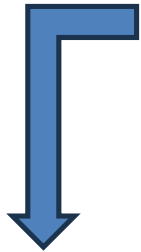




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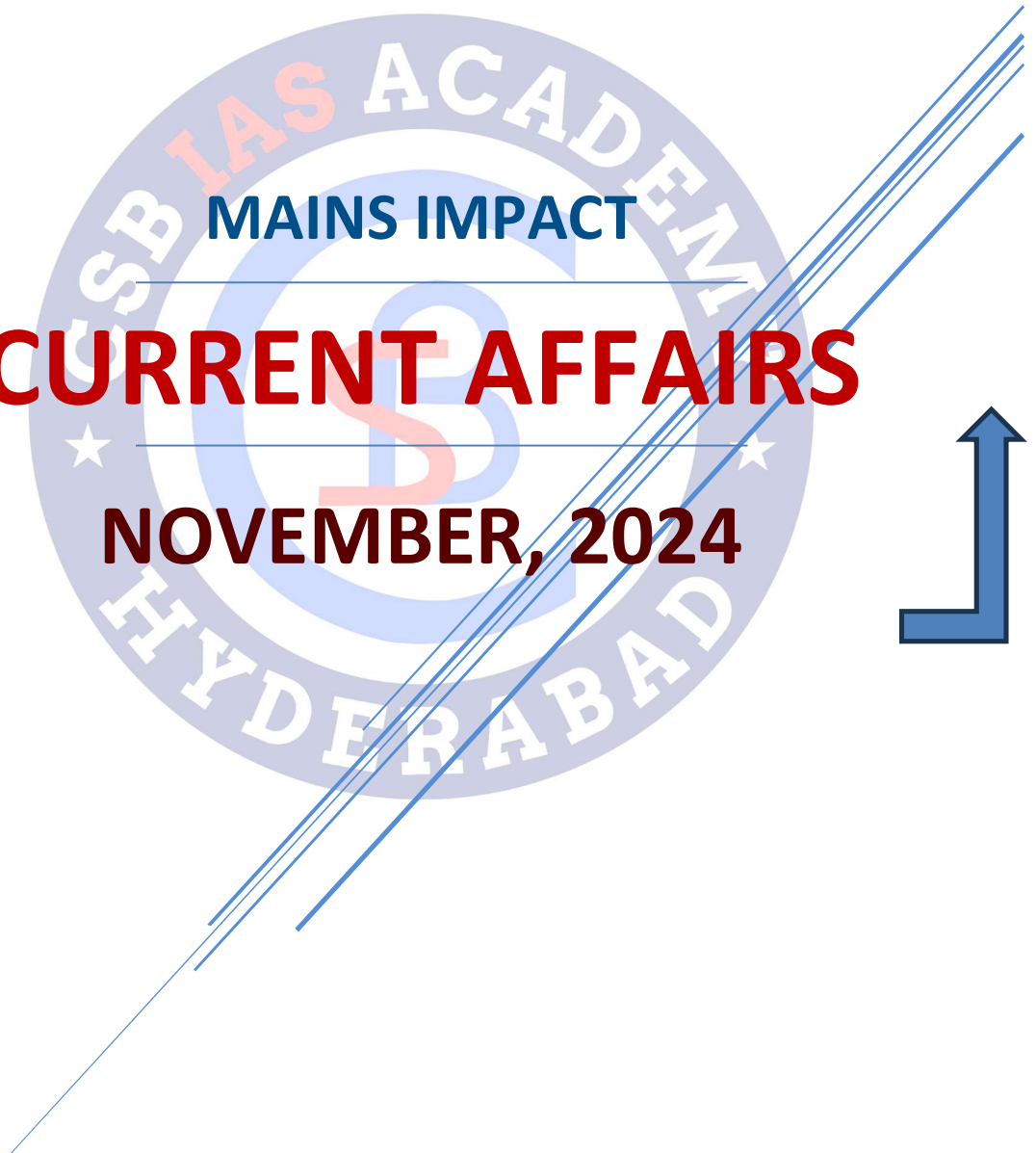
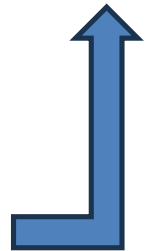
The Road Map to Mussoorie...



MAINS IMPACT

CURRENT AFFAIRS

NOVEMBER, 2024



Dear Aspirants,

Welcome to the November edition of CSB IAS Academy, Mains Impact primed to enhance your preparation for the UPSC Civil Services Mains Examination. This issue presents a critical examination of several crucial topics to broaden your understanding and refine your analytical skills.

We assess issues such as **Food Inflation in India** and explore the governance and societal implications of **regulating minority educational institutions**. The debate on the **right to property and Bulldozer justice** is explored through its ethical, legal, and societal dimensions. A discussion on the **UCC** and **Representation of women** comes in the way.

Economically, we discuss the **stagnant rural wages** and its relevance to developing nations, alongside the **UNFCCC COP29** which proposes reshaping global climate governance.

This edition aims to connect your rigorous syllabus with the dynamic nature of current affairs, preparing you for a wide range of questions in the upcoming exams.

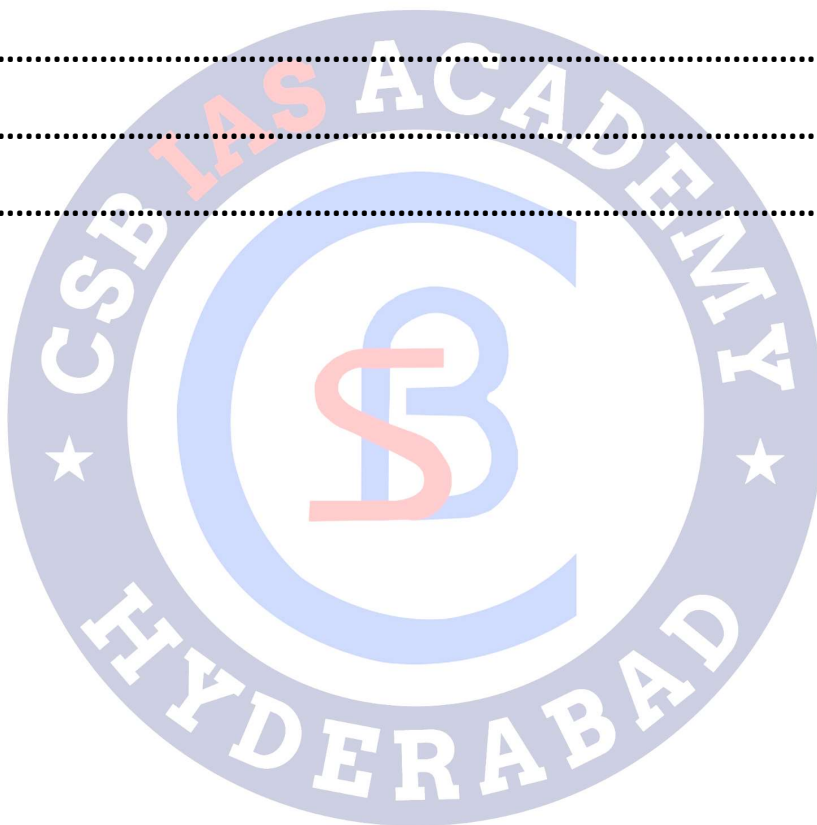
Happy Learning!

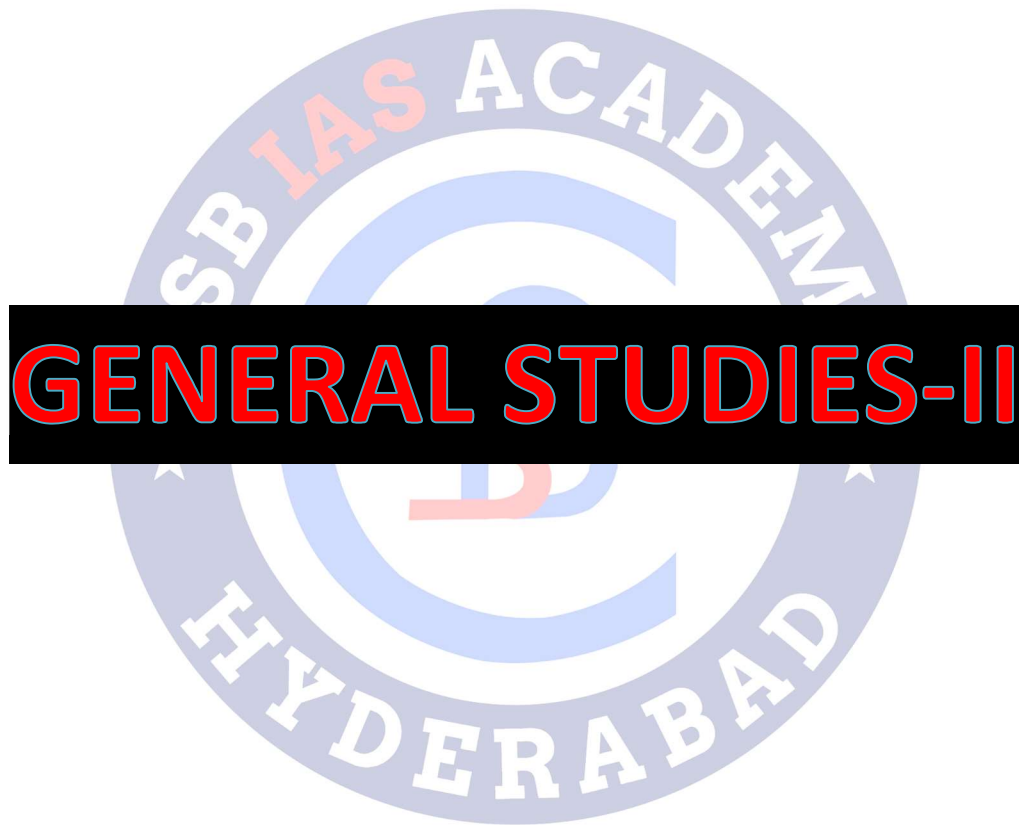
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1. 75th CONSTITUTION DAY

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Constitution > Indian constitution

REFERENCE NEWS:

- On **November 26, 2024**, India celebrated the 75th anniversary of the adoption of its Constitution, marking **Constitution Day (Samvidhan Divas)**, which laid the foundation for the Republic of India.
- Also, on the eve of the 75th anniversary of the Constitution's adoption, **November 25, 2024**, the Supreme Court of India made a **significant ruling affirming the constitutional validity of the terms "socialist" and "secular" in the Preamble** of the Indian Constitution. These terms were added during the Emergency in 1976 through the 42nd Amendment.

MORE ON NEWS:

- A **joint session of Parliament** marked the 75th Constitution anniversary, with addresses by the President and Prime Minister emphasizing its role in India's democracy.
- The **Supreme Court held a special event** where the **PM highlighted** the Constitution's role in upholding **the rule of law and judicial independence**.
- The government introduced **educational initiatives** and launched **constitution75.com**, offering resources like historical documents and expert analyses **to promote constitutional awareness**.

HIGHLIGHTS OF THE SUPREME COURT'S JUDGMENT ON NOVEMBER 25, 2024:

- The Supreme Court dismissed challenges that questioned the inclusion of "socialist" and "secular" in the Preamble, reinforcing that these additions **align with the broader constitutional framework and values of India**.
- The Court noted that the essence of **secularism in India is the equal treatment of all religions by the state**, without favoring or discriminating against any. Socialism was interpreted as an commitment to **social and economic equality and equity, not necessarily prescribing an economic doctrine**.
- The Court clarified that the term "socialist" **does not hinder the government's ability to implement market-friendly policies or engage with the private sector**, thereby supporting a mixed economic framework.
- By upholding the term "secular," the Court reaffirmed India's commitment to maintaining a state where religion does not dictate civic or political life, ensuring that governance remains separate from religious influence.
- The inclusion of these terms during the Emergency was controversial and seen by some as an attempt to politically manipulate the Constitution's foundational values. The Supreme Court's decision to uphold these terms was seen as an **affirmation of a broader, inclusive understanding of the Indian state's fundamental character**.

MILESTONES IN THE EVOLUTION OF THE INDIAN CONSTITUTION:

✓ 1946: December: The Constituent Assembly is formed following the Cabinet Mission Plan to draft a new constitution for independent India.
✓ 1947: August 15: India gains independence from British colonial rule. The need for a homegrown Constitution becomes urgent.
✓ 1948: November: Drafting of the Constitution begins. B.R. Ambedkar is appointed as the Chairman of the Drafting Committee.
✓ 1949: November 26: The Constituent Assembly adopts the Constitution after nearly 2 years of deliberations. This day is later celebrated as Constitution Day or National Law Day.
✓ 1950: January 26: The Constitution comes into effect, marking the birth of the Indian Republic. January 26 is chosen in honor of the Purna Swaraj Declaration of 1930.
✓ 1951: First Amendment: Introduced to address issues of land reform and to impose reasonable restrictions on freedom of speech.

✓ 1973: Kesavananda Bharati Case: The Supreme Court establishes the Basic Structure Doctrine , ruling that the basic structure of the Constitution cannot be amended, safeguarding its core principles.
✓ 1976: 42nd Amendment: Known as the "Mini-Constitution," this amendment during the Emergency period under Prime Minister Indira Gandhi makes significant changes, including the addition of the words "Socialist", "Secular" and "integrity" to the Preamble.
✓ 1978: 44th Amendment: Reverses several changes made by the 42nd Amendment during the Emergency, aiming to restore civil liberties and democratic processes.
✓ 1980: Minerva Mills Case: The Supreme Court reaffirms the Basic Structure Doctrine, stating that amendments cannot destroy the Constitution's essential features.
✓ 1992: 73rd and 74th Amendments: Strengthen local self-governance through the creation of Panchayati Raj institutions in rural areas and Municipalities in urban areas.
✓ 2000 onwards: Various amendments focus on issues such as the introduction of GST in 2017 , which reforms the tax structure with a uniform tax regime.
✓ 2023: Nari Shakti Vandan Adhiniyam (Women's Reservation Bill): Passed to reserve 33% of seats in Lok Sabha and State Assemblies for women, marking a significant step towards gender equality in governance.
✓ 2024: November 25: Supreme Court reaffirms the inclusion of "Socialist" and "Secular" in the Preamble, upholding these as constitutional principles during the 75th anniversary celebrations of the Constitution.

ACHIEVEMENTS OF THE INDIAN CONSTITUTION IN 75 YEARS

- **Democratic Stability and Nation-Building:**
 - The Constitution has been the backbone of India's democracy, ensuring peaceful transitions of power and enabling political stability in a multi-party system.
 - **For instance**, India's 17 general elections and numerous state elections reflect the people's trust in democratic processes. Even during political crises like the Emergency (1975-77), the Constitution's framework enabled the eventual restoration of democracy.
 - The **Kesavananda Bharati case (1973)** safeguarded democracy by establishing the **Basic Structure Doctrine**, ensuring that Parliament cannot alter the Constitution's fundamental features.
- **Unity Amid Diversity:**
 - The Constitution has fostered a sense of national identity despite India's vast linguistic, religious, and cultural diversity.
 - **For example**, the inclusion of **secularism** in the Preamble through the **42nd Amendment (1976)** and its reaffirmation by the Supreme Court on **November 25, 2024**, highlights its enduring relevance in maintaining harmony among India's diverse communities.
 - Also, moments of collective pride, such as the Indian cricket team's victories on the global stage and the national response to crises like the **Kargil War (1999)** or the **Galwan clash (2020)**, demonstrate a shared sense of unity that the Constitution has nurtured.
- **Social Justice and Equality:**
 - The Constitution has been a powerful tool for addressing historical inequalities and empowering marginalized communities.
 - **For instance**, the abolition of untouchability (Article 17) and the implementation of **reservations for Scheduled Castes, Scheduled Tribes, and Other Backward Classes (OBCs)** have significantly enhanced representation and access to opportunities for disadvantaged groups.
 - The **Nari Shakti Vandan Adhiniyam (2023)**, which reserves 33% of seats for women in Parliament and State Assemblies, marks another milestone in achieving gender equality.
- **Protection of Fundamental Rights:**
 - Through landmark judgments, the judiciary has expanded the scope of constitutional rights, ensuring justice for all citizens.

- For example, the **Maneka Gandhi case (1978)** widened the interpretation of **Article 21 (Right to Life and Personal Liberty)**, ensuring procedural fairness and due process.
- The **Navtej Singh Johar case (2018)** decriminalized Section 377 of the IPC, affirming the Constitution's commitment to individual dignity and LGBTQ+ rights.
- **Strengthening Federalism:**
 - The Constitution's federal framework has enabled cooperative governance and decentralized power.
 - For instance, the **73rd and 74th Amendments (1992)** empowered Panchayati Raj institutions and urban municipalities, deepening democracy at the grassroots level.
 - The resolution of disputes like the **S.R. Bommai case (1994)**, which clarified the misuse of President's Rule, highlights the judiciary's role in protecting federalism.
- **Socio-Economic Development:**
 - Directive Principles of State Policy (Part IV) have guided policies to promote economic and social justice, ensuring equitable development.
 - For example,
 - **Article 39(b) & (c):** For example, **land reforms and bank nationalization** ensured equitable distribution of resources.
 - **Article 41:** For instance, **MGNREGA** guarantees rural employment, and the National Social Assistance Programme supports the elderly and disabled.
 - **Article 45:** For example, the **Right to Education Act (2009)** operationalized free and compulsory education for children aged 6-14.
- **Environmental Protection:**
 - The Constitution has adapted to modern challenges like environmental conservation, incorporating these concerns under **Article 21**.
 - For instance, the **Vellore Citizens Welfare Forum case (1996)** introduced the principles of sustainable development and the polluter pays principle.
 - The **T.N. Godavarman case (1995)** expanded protected forest areas, showcasing the Constitution's ability to address contemporary issues.
- **Resilience Amid Challenges:**
 - Despite political and social upheavals, the Constitution has endured, preserving its democratic spirit.
 - For instance, during the Emergency, the judiciary's stance in the **ADM Jabalpur case (1976)** was criticized for compromising civil liberties. However, subsequent judgments like **Minerva Mills (1980)** reaffirmed the judiciary's role as a guardian of constitutional rights.

THREATS TO CONSTITUTIONAL VALUES AND THE CONSTITUTION:

- **Weakening of Democratic Institutions:**
 - Constitutional institutions like Parliament, the Election Commission, and the judiciary have faced allegations of partisanship and inefficiency, undermining their credibility.
 - For instance, the **decline in the number of parliamentary sittings** (from 677 in the 1st Lok Sabha to 274 in the 17th Lok Sabha) and the passing of bills without proper debate weaken legislative oversight.
 - Allegations of judicial overreach or delay in appointments through the collegium system can impact the judiciary's independence.
- **Misuse of Executive Powers:**
 - Overreach by the executive and the use of ordinances bypassing legislative procedures erode the system of checks and balances.
 - For instance, **Dr. B.R. Ambedkar** referred to **Article 356**, which allows President's Rule, as a "**dead letter**," expecting it to be used sparingly. However, its frequent misuse to dismiss state governments led to the landmark **S.R. Bommai case (1994)**, which restrained such

abuse through judicial intervention by establishing safeguards like the mandatory floor test, thus preserving federalism.

○ **Threats to Secularism:**

- Rising communal tensions and the politicization of religion threaten the secular fabric of the Constitution.
- For instance, mob violence and polarization around religious issues, such as the **Babri Masjid demolition and subsequent riots**, have tested the principle of secularism (Article 25-28).
- The **S.R. Bommai case** reaffirmed secularism as part of the Constitution's basic structure, but real-world implementation remains uneven.

○ **Caste and Identity Politics:**

- While affirmative action has promoted equality, the entrenchment of caste and identity politics undermines fraternity and national unity.
- For instance, the **continued demand for caste-based reservations and the politicization of the caste census** reflect deep-seated inequalities that persist despite constitutional safeguards.

○ **Freedom of Expression Under Threat:**

- Suppression of dissent and growing intolerance toward criticism can erode the right to free speech guaranteed under Article 19(1)(a).
- For instances, **cases of sedition and arrests for social media posts** highlight the misuse of laws like Section 124A of the IPC, which has been challenged in the Supreme Court.
- The **Shreya Singhal case (2015)** struck down Section 66A of the IT Act for curbing online freedom, reinforcing the value of free speech.

○ **Economic Inequalities:**

- Economic disparity remains a major challenge, with wealth and resources concentrated in a few hands, undermining the directive to reduce inequalities (Article 39).
- For instance, according to Oxfam, the **top 10% of India's population holds 77% of the total national wealth**, highlighting the stark economic divide and the need for policies that promote equitable growth and resource distribution.

○ **Environmental Challenges:**

- Rapid urbanization and industrialization often disregard environmental safeguards enshrined in **Article 48A**. Issues like deforestation, pollution, and inadequate implementation of environmental laws threaten sustainable development. The **Vellore Citizens Welfare Forum case (1996)** introduced the polluter pays principle, but enforcement remains a challenge.

○ **Federalism Under Strain:**

- Increasing centralization of power and financial dependency of states on the Union challenge cooperative federalism.
- For example, the **use of central agencies in opposition-ruled states and disputes over GST compensation** highlight tensions in the federal structure.

○ **Judicial Challenges:**

- Delays in justice delivery, backlog of cases, and access to justice for marginalized groups undermine constitutional guarantees.
- For example, **over 4 crore pending cases in Indian courts** strain the judiciary's ability to uphold constitutional rights effectively.

○ **Erosion of Fraternity and National Unity:**

- Growing regionalism, linguistic divides, and hate speech erode the spirit of fraternity essential for unity.
- For instance, social media amplifies divisive narratives, challenging the inclusive vision of the Constitution.

WAY FORWARD:

- **Strengthening Democratic Institutions:** Increasing the number of parliamentary sittings and promoting meaningful debates on legislation can restore legislative oversight and accountability. Empowering watchdog institutions like the Election Commission and Comptroller and Auditor General (CAG) through greater independence and transparency is essential.
- **Promoting Secularism and Social Harmony:** Combating communalism through stricter laws to curb hate speech and fostering interfaith dialogue can maintain social harmony. Upholding the Supreme Court's interpretation of secularism as the equal treatment of all religions ensures neutrality in governance.
- **Reducing Economic Inequalities:** Implementing progressive taxation, strengthening social welfare schemes like MGNREGA and public healthcare, and enforcing Corporate Social Responsibility (CSR) norms can bridge economic disparities and uplift marginalized communities.
- **Ensuring Judicial Accountability and Efficiency:** Reducing case backlogs by appointing more judges and establishing fast-track courts, improving the collegium system for transparent judicial appointments, and adopting technology for efficient case management can enhance judicial efficiency.
- **Strengthening Federalism:** Promoting cooperative federalism through better collaboration between the Union and states on issues like GST and resource allocation, and redefining the role of centrally controlled agencies to ensure neutrality, can ease federal tensions.
- **Addressing Environmental Challenges:** Strictly enforcing environmental laws like the Environment Protection Act and balancing industrialization with ecological preservation through renewable energy and sustainable urban planning can mitigate environmental concerns.
- **Enhancing Inclusivity and Fraternity:** Addressing regional imbalances, promoting civic education on constitutional values, and curbing divisive narratives on social media can foster national unity and inclusivity.
- **Revitalizing Directive Principles of State Policy (DPSPs):** Strengthening welfare-oriented policies like healthcare and education initiatives and conducting periodic assessments of DPSP implementation can align national goals with constitutional directives.
- **Leveraging Technology for Governance:** Expanding e-governance platforms for transparency and accessibility and promoting digital literacy to empower marginalized sections can make governance more inclusive.

CONCLUSION

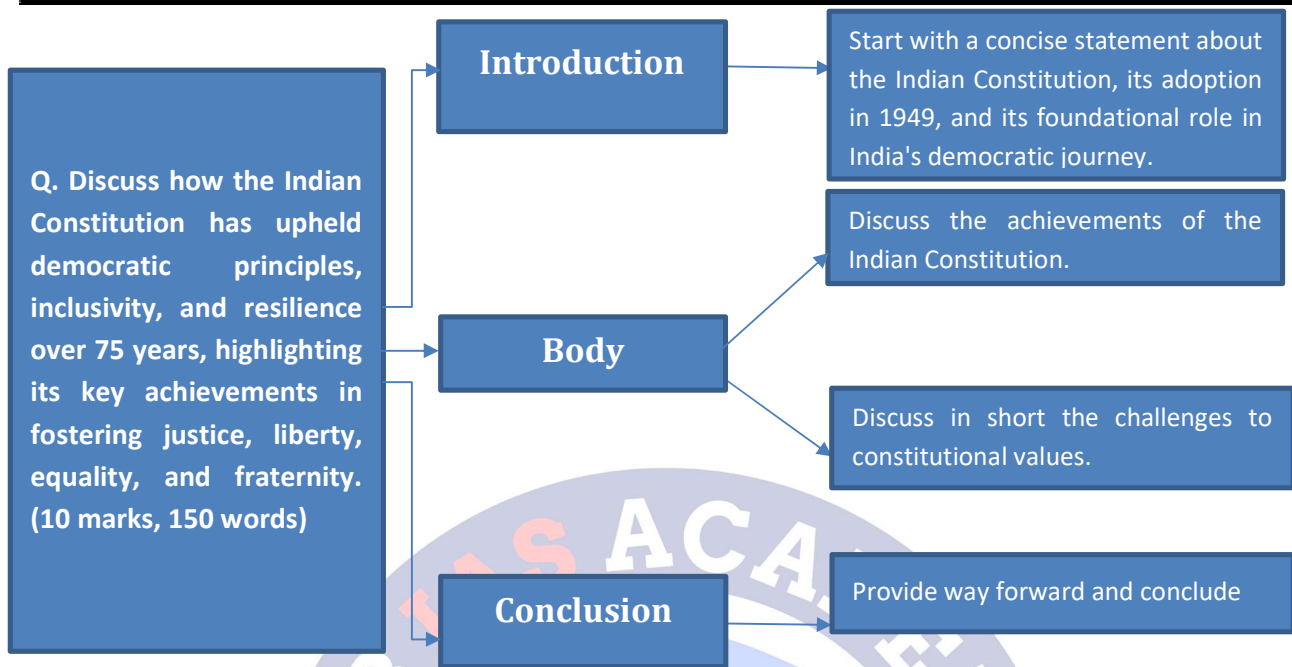
- **As Dr. B.R. Ambedkar wisely observed** on November 25, 1949, **“However good a Constitution may be, it is sure to turn out bad because those who are called to work it, happen to be a bad lot. However bad a Constitution may be, it may turn out to be good if those who are called to work it, happen to be a good lot.”**

On the 75th anniversary of the Constitution, these words remind us that its success depends on the integrity and dedication of those entrusted to uphold it. By committing to its core principles—justice, liberty, equality, and fraternity—we ensure that the Constitution remains a living guide, shaping a just and democratic India for generations to come.

PRACTICE QUESTION

Q. Discuss how the Indian Constitution has upheld democratic principles, inclusivity, and resilience over 75 years, highlighting its key achievements in fostering justice, liberty, equality, and fraternity. (10 marks, 150 words)

APPROACH



MODEL ANSWER

The Indian Constitution, adopted in 1949, has served as the bedrock of India's democratic progress. Over 75 years, it has guided the nation through challenges, fostering justice, liberty, equality, and fraternity in an increasingly diverse society.

Achievements of the Indian Constitution:

1. Democratic Stability and Nation-Building

- **Peaceful Power Transitions:** The Constitution enabled 17 general elections, reflecting public trust in democracy.
- **Safeguarding Democracy:** The Kesavananda Bharati case (1973) established the Basic Structure Doctrine, ensuring Parliament cannot amend the Constitution's fundamental principles.
- **Crisis Resilience:** During the Emergency (1975-77), the framework ensured the restoration of democracy.

2. Unity Amid Diversity

- **Secularism:** The inclusion of secularism in the Preamble (42nd Amendment, 1976) fosters harmony among India's diverse communities.
- **Shared National Identity:** Events like the Kargil War (1999) and Galwan clash (2020) reinforced national unity.
- **Linguistic and Cultural Cohesion:** The Constitution's provisions accommodate India's vast linguistic and cultural diversity.

3. Social Justice and Equality

- **Empowering Marginalized Groups:** Abolition of untouchability (Article 17) and reservations for Scheduled Castes, Scheduled Tribes, and OBCs ensure representation.
- **Gender Equality:** The Nari Shakti Vandan Adhiniyam (2023) reserves 33% of legislative seats for women, advancing gender equity.

4. Protection of Fundamental Rights

- **Expanding Rights:** The Maneka Gandhi case (1978) broadened Article 21, ensuring procedural fairness and due process.
- **LGBTQ+ Rights:** The Navtej Singh Johar case (2018) decriminalized Section 377, upholding individual dignity.

5. Strengthening Federalism

- **Decentralized Governance:** The 73rd and 74th Amendments (1992) strengthened local self-governance.
- **Federal Safeguards:** The S.R. Bommai case (1994) restrained misuse of President's Rule, preserving federalism.

6. Socio-Economic Development

- **Guided by DPSPs:** Policies like MGNREGA and the Right to Education Act (2009) address economic and social justice.
- **Economic Adaptability:** The Constitution supports a mixed economic framework, balancing socialism and market dynamics.

7. Environmental Protection

- **Sustainable Development:** The Vellore Citizens Welfare Forum case (1996) introduced the polluter pays principle.
- **Forest Conservation:** The T.N. Godavarman case (1995) expanded protected forest areas.

Challenges to Constitutional Values

- **Weakening of Democratic Institutions:** Reduced parliamentary sittings and rushed legislation undermine democratic oversight. *Example:* Only 274 sittings in the 17th Lok Sabha compared to 677 in the 1st.
- **Economic Inequalities:** The top 10% of Indians hold 77% of the national wealth, defying Article 39's directive to reduce disparities.
- **Threats to Secularism:** Rising communal tensions and politicization of religion challenge India's secular fabric. *Example:* The Babri Masjid demolition.
- **Freedom of Expression Under Threat:** Misuse of sedition laws and curbs on dissent erode free speech. *Example:* The Shreya Singhal case (2015) struck down Section 66A of the IT Act.
- **Judicial Challenges:** Over 4 crore pending cases strain the judiciary's ability to uphold constitutional guarantees.

Dr. B.R. Ambedkar's caution that **"however good a Constitution may be, it is sure to turn out bad because those who are called to work it, happen to be a bad lot"** emphasizes the critical role of individuals in upholding constitutional ideals. To address prevailing challenges:

- Strengthen democratic institutions with active parliamentary debates and accountability mechanisms.
- Foster social harmony by curbing communalism and divisive rhetoric.
- Tackle economic disparities through equitable taxation and robust welfare measures.
- Improve judicial efficiency by addressing case backlogs and enhancing the appointment process.

Reaffirming these commitments will ensure that India advances its core values of justice, liberty, equality, and fraternity.

2. UNIFORM CIVIL CODE

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Constitution >> Directive Principles of State Policy

REFERENCE NEWS:

By promising a Uniform Civil Code (UCC) which will keep tribals out of its ambit, Union Home Minister Amit Shah has reiterated the BJP's qualified pitch for the move, which is a part of its core agenda.

UNIFORM CIVIL CODE:

The **Uniform Civil Code (UCC)** in India refers to a proposal to create a single set of personal laws governing marriage, divorce, inheritance, adoption, and succession for all citizens, regardless of religion.

- **Article 44 of the Indian Constitution** explicitly mentions that "The State shall endeavor to secure for the citizens a uniform civil code throughout the territory of India." Although Directive Principles are not enforceable by the courts, they guide the state in framing laws to establish **social and economic equality**.
- **Fundamental Rights (Part III of the Constitution):** While Article 25 guarantees **freedom of religion**, the UCC aims to balance individual rights to religious freedom with the goal of legal equality. The UCC seeks to address personal law discrepancies, particularly those that lead to gender-based discrimination, thereby supporting **Article 14** (Right to Equality) and **Article 15** (Prohibition of Discrimination), reinforcing gender justice and equality before the law.

Indian courts have repeatedly emphasized the need for a UCC in landmark judgments, emphasizing its potential role in ensuring equality and eliminating discrimination:

- **Shah Bano Case (1985):** The Supreme Court ruled in favour of maintenance for Shah Bano, a Muslim woman who had been divorced, under Section 125 of the Criminal Procedure Code. The judgment invoked Article 44, suggesting that a UCC would help eliminate gender discrimination in personal laws, irrespective of religious beliefs, and ensure equal protection for all citizens.
- **Sarla Mudgal Case (1995):** The case dealt with the issue of polygamy and conversion to Islam solely for the purpose of contracting a second marriage. The Supreme Court highlighted the need for a UCC to prevent misuse of religious laws and to ensure legal consistency across religions. It stressed that having a UCC would promote national integrity by removing conflicts arising from personal laws.
- **John Vallamattom v. Union of India (2003):** This case challenged the provisions in Christian personal law that prohibited bequests for religious or charitable purposes. The Supreme Court observed that the absence of a UCC creates unnecessary conflict in personal laws and urged the government to implement a common civil code, citing Article 44.

SIGNIFICANCE OF UCC IN INDIA:

- **Promoting Gender Equality:** A UCC would address gender-based discrimination prevalent in religious personal laws, especially in matters of marriage, divorce, and inheritance.
 - In Muslim personal law, men have greater rights to divorce through *triple talaq* (though it was declared unconstitutional in 2017), while Christian divorce laws initially mandated a longer separation period than for Hindus. The UCC would standardize these laws to provide equal rights across religions.
- **Legal Simplification and Administrative Efficiency:** The current system of multiple personal laws creates legal complexity and administrative inefficiency. A UCC would simplify the legal framework by consolidating various personal laws into a single code applicable to all, making the law clearer and more accessible.
 - Currently, a legal dispute involving marriage or inheritance might need to reference Hindu, Muslim, Christian, or Parsi laws based on the parties' religion. A UCC would reduce the burden on the judiciary and streamline dispute resolution. The Special Marriage Act

- of 1954 provides a secular option for marriage outside religious personal laws, showing how a common code can simplify processes while respecting individual choice.
- **Supporting National Integration and Unity:** By applying a common set of laws to all citizens, a UCC would promote a sense of unity and equality, irrespective of religious or cultural backgrounds. It emphasizes the idea of one nation, one law.
 - In Goa, which has a Uniform Civil Code (also known as Goa Family Law), all residents are subject to the same laws for marriage, divorce, and succession, fostering a sense of equal treatment and national integration.
 - **Protecting Minority Rights while Ensuring Social Justice:** A UCC can protect minority rights by providing them with equal legal standing, without discrimination based on religion. This promotes social justice by ensuring everyone has access to the same legal protections.
 - **Preventing Exploitation of Religious Laws for Personal Benefit:** Different personal laws create loopholes that can be exploited to avoid legal obligations, such as converting to another religion to contract a second marriage without adhering to the original personal law.
 - In cases like the Sarla Mudgal case, individuals used religious conversion to legally justify polygamy, which is otherwise prohibited for Hindus. A UCC would close these loopholes by applying the same legal standards to all citizens.
 - **Enabling India to Fulfil Constitutional Promises:** The UCC is backed by Article 44 of the Constitution, which directs the state to strive for uniformity in civil laws across communities. Implementing the UCC would fulfil this constitutional promise, reinforcing the commitment to a secular and equal legal framework.
 - Countries like Turkey and Tunisia have implemented civil codes that govern personal laws uniformly across all citizens, highlighting that secular states can adopt a single civil code while respecting religious freedom.
 - **Improving India's Human Rights Standing Globally:** Implementing a UCC would strengthen India's commitment to human rights, as it addresses issues like gender-based discrimination and promotes equality under the law. This could enhance India's image in the global arena as a nation committed to social justice and human rights.
 - International organizations, including the United Nations, often encourage nations to adopt non-discriminatory practices. A UCC could help India align its domestic policies with its international human rights obligations.

CHALLENGES OF UCC IMPLEMENTATION IN INDIA:

- **Religious and Cultural Sensitivities:** The UCC is perceived by some religious communities as an infringement on their rights and cultural practices. Many fear that a common code would disregard their unique customs and traditions.
 - In 2016, when the Law Commission of India sought public opinion on the UCC, it received mixed responses, with religious groups like the All India Muslim Personal Law Board expressing opposition, fearing an encroachment on religious freedom.
- **Diverse Family Laws and Community Practices:** India's various communities have distinct customs governing marriage, divorce, inheritance, and adoption, making it challenging to create a single code that accommodates all.
 - Hindu law allows coparcenary rights (joint family property rights), which is unique to Hindu families, whereas Christian law doesn't recognize it. Reconciling these differences under one law is complex and can lead to discontent among communities.
- **Political Opposition and Communal Polarization:** The UCC has become a politically sensitive issue, with various political groups either supporting or opposing it based on ideological beliefs, leading to communal polarization.
 - In 2019, the UCC was raised during election campaigns, with different political parties expressing polarized views. Supporters saw it as a means of achieving social justice, while critics viewed it as a threat to India's pluralism.

- **Legal and Constitutional Complexities:** Implementing a UCC poses legal complexities, as it requires the repeal or modification of various religious personal laws, which have been safeguarded under the Constitution.
 - The Constitution allows religious communities to follow their personal laws under Articles 25-28 (freedom of religion). Modifying these would require constitutional amendments and possibly face judicial scrutiny to ensure that religious rights are not violated. The Special Marriage Act (1954), which is a secular law allowing interfaith marriages, has limited adoption due to the preference for personal laws. The legal challenge is to ensure that UCC doesn't infringe on religious freedoms guaranteed by the Constitution.
- **Opposition from Minority Communities:** Minority communities, especially Muslims, fear that a UCC may disproportionately impose the majority's customs, leading to a perceived erosion of their cultural identity.
 - The All India Muslim Personal Law Board has consistently opposed the UCC, asserting that any attempt to impose it would violate the cultural and religious rights of Muslims. The Board argues that the right to practice personal law is integral to religious freedom.
- **Challenges of Regional and Ethnic Diversity:** Beyond religious diversity, India's ethnic and regional diversity means that personal laws and customs vary widely across states and communities.
 - In Nagaland and Mizoram, customary laws govern land rights, inheritance, and marriage practices. The Constitution under Article 371 provides special provisions to protect the customary practices of northeastern states.
- **Lack of Consensus on the Scope and Content of UCC:** There is no consensus on what a UCC should entail, as different communities and legal experts have varied opinions on what should be included in the code.
 - The Law Commission of India's 2018 report concluded that a UCC may not be feasible in India's current socio-political climate. Instead, it recommended reforms within existing personal laws to make them more equitable and inclusive, reflecting the challenge of finding common ground.
- **Judicial Balance Between Fundamental Rights and Religious Freedom:** The judiciary must balance the fundamental right to equality (Article 14) with the right to religious freedom (Articles 25-28). This balance is delicate and often leads to differing interpretations on whether UCC is constitutionally mandated.
 - In the Sarla Mudgal case (1995), the Supreme Court supported a UCC to prevent misuse of religious laws. However, the court has also recognized the need to protect religious practices, creating ambiguity on the role of UCC.

WAY FORWARD:

- **Phased Implementation and Incremental Reforms:** Rather than a sudden overhaul, a phased approach can help address specific aspects of personal laws, such as marriage, divorce, and inheritance, by introducing reforms that are common across all communities.
 - Goa's family laws provide an example of a partial UCC that is applied in a region-specific manner, showing that gradual change can be effective without imposing a drastic shift.
- **Codification and Reform within Personal Laws:** The Law Commission has previously suggested reforms within Muslim, Christian, and Hindu personal laws to address issues like polygamy, divorce rights, and inheritance inequalities. Codifying these changes within communities can lay the groundwork for an eventual UCC.
 - The Hindu Code Bill of the 1950s reformed Hindu personal laws while respecting the Hindu community's cultural practices. Similar reform efforts within other personal laws can prepare communities for a unified code.

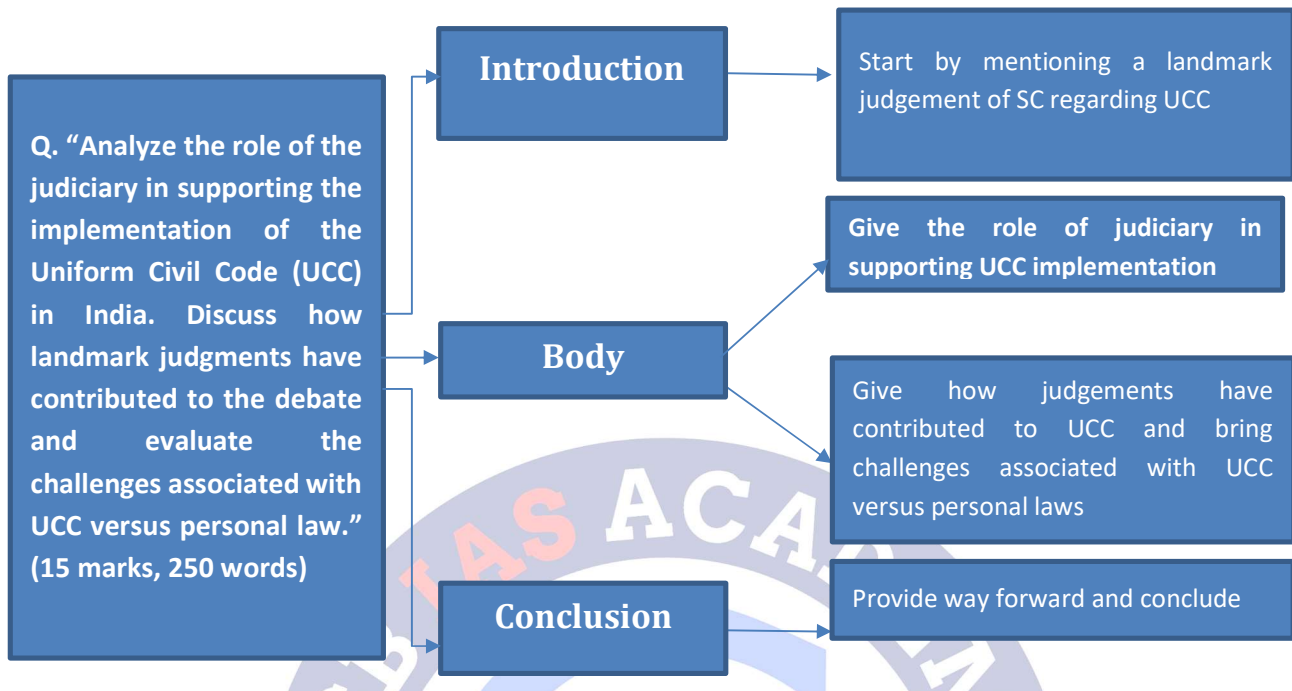
- **Broad-Based Dialogue and Consensus Building:** Organize consultations and focus groups across states and religious groups to gather input on what aspects of personal law could be uniformly applied. Such dialogue can address fears of cultural erosion.
 - South Africa's transition to democratic family laws included broad-based consultations, helping to implement a secular family law system without alienating religious communities.
- **Uniformity in Secular Aspects of Law:** Marriage registration, divorce maintenance, and adoption laws could be standardized across religions, while religious rites and customs remain untouched. This ensures the UCC focuses on legal rights without interfering with religious practices.
 - The Special Marriage Act, 1954 allows citizens to marry under a secular law without renouncing their religion, providing a template for how secular aspects can coexist with religious identity.
- **Educational and Awareness Programs on UCC Benefits:** Conduct educational campaigns highlighting the benefits of a UCC in promoting social justice, gender equality, and legal simplicity. This can address misconceptions and help build public support for uniform personal laws.
 - Post-implementation awareness initiatives in countries with secular codes, like Tunisia, helped reduce resistance by showcasing benefits, especially for marginalized communities and women.
- **Model Code as a Voluntary Option:** Create a model UCC that people can voluntarily opt into if they wish, especially in urban and mixed-community settings where people may prefer a secular personal law.
 - In Brazil, a single civil code was gradually accepted over generations as more people voluntarily adopted its secular provisions, which can be a path forward in India.
- **Strengthening Judicial Precedents for Gender Justice:** Encourage courts to interpret personal laws progressively, as seen in the Shah Bano and Shayara Bano (triple talaq) cases. Judicial rulings supporting equal rights across personal laws can pave the way for UCC.
- **Learning from International Models with Diverse Societies:** Study countries with diverse populations that have implemented unified civil codes, focusing on how they balanced secularism with religious and cultural diversity.
 - Countries like Turkey and France have implemented secular family laws, while others like South Africa have used a mixed approach. Learning from these models can help India tailor a UCC that respects its unique diversity.

PRACTICE QUESTION

PRACTICE QUESTION:

Q. "Analyze the role of the judiciary in supporting the implementation of the Uniform Civil Code (UCC) in India. Discuss how landmark judgments have contributed to the debate and evaluate the challenges associated with UCC versus personal law." (15 marks, 250 words)

APPROACH



MODEL ANSWER

Through landmark judgments like Shah Bano case the Supreme Court has repeatedly highlighted the need for a UCC to remove discrimination embedded in personal laws. However, judicial intervention in matters of personal law also faces challenges due to the diverse cultural and religious landscape of India.

ROLE OF JUDICIARY IN SUPPORTING UCC IN INDIA

- Reinforcing the Constitutional Directive:** Article 44 of the Indian Constitution encourages the state to strive for a UCC. The judiciary has often referenced this Article to underline the importance of a UCC in promoting equality and addressing inconsistencies in personal laws.
- Addressing Gender Inequality:** The judiciary has consistently sought to uphold gender equality in personal law matters, especially in cases involving divorce, maintenance, and inheritance. By advocating for uniformity in these aspects, the judiciary has underscored the UCC as a tool to eliminate gender-based disparities.
 - Example: The Shayara Bano case (2017) declared *triple talaq* unconstitutional, emphasizing the need for reforms that protect women's rights within personal laws. The judgment reinforced the notion that certain practices cannot be protected under religious freedom if they violate gender equality.
- Balance Article 14 and Article 25 without compromising equality:** The judiciary must balance the fundamental right to religious freedom (Article 25) with the right to equality (Article 14). Judicial interventions in personal laws sometimes face criticism for potentially infringing on religious practices and customs.

CONTRIBUTIONS OF LANDMARK JUDGMENTS TO THE UCC DEBATE

- Increased Public Awareness and Debate:** Judicial pronouncements in favor of the UCC have brought the issue into the public domain, fostering discussions about the importance of uniform laws and the need to reform discriminatory personal laws.
- Reinforcing Gender Justice and Social Equity:** The judiciary's emphasis on equal rights and social justice has influenced public opinion on the UCC, positioning it as a means to ensure fair treatment for women across communities.

3. **Pressuring the Legislature:** While the judiciary cannot enforce a UCC, its repeated calls for legislative action have put pressure on lawmakers to consider reforms in personal laws that align with the constitutional principles of equality and secularism.
4. **Landmark Judgments Advocating for UCC:**
 1. **Shah Bano Case (1985):** The Supreme Court awarded maintenance to Shah Bano, a Muslim woman divorced by her husband, under Section 125 of the Criminal Procedure Code, which applies to all citizens. In its judgment, the Court invoked Article 44, noting that a UCC could prevent such gender-based discrimination in personal laws and protect the rights of divorced women, irrespective of religion.
 2. **Sarla Mudgal Case (1995):** This case dealt with the misuse of religious conversion to practice polygamy. The Court highlighted the need for a UCC to prevent individuals from using religious laws to evade legal obligations, especially in matters of marriage. It emphasized that a common code would ensure legal uniformity and strengthen national unity.
 3. **John Vallamattom v. Union of India (2003):** The Court struck down a provision in Christian personal law that restricted bequests for charitable purposes, urging the government to adopt a UCC to reduce conflicts and discrimination arising from diverse personal laws.

CHALLENGES ASSOCIATED WITH UCC v. PERSONAL LAWS

Religious Freedom versus Legal Uniformity

- Challenge for UCC: Implementing a UCC is seen by many as a threat to religious freedom, as it would standardize laws across communities, potentially infringing on religious practices protected under Articles 25–28 of the Constitution.
- Challenge for Personal Laws: Practices like polygamy allowed in Muslim personal law are not permitted in Hindu law, resulting in legal disparities that conflict with the principles of equality and secularism in a democratic society.

Gender Equality versus Cultural Sensitivity

- Challenge for UCC: A primary argument for the UCC is to promote gender equality across communities. However, communities argue that uniform laws might disregard cultural norms and values that they believe are essential.
- Challenge for Personal Laws: Muslim personal laws previously allowed *triple talaq*, creating unequal divorce rights for men and women. The Hindu Succession Act, prior to its amendment, gave sons more inheritance rights than daughters, highlighting gender biases within personal laws.

National Integration versus Diversity of Customs

- Challenge for UCC: Proponents argue that a UCC could foster national unity by creating a "one nation, one law" framework. However, critics worry that imposing a UCC could alienate certain communities and erode India's pluralistic ethos, where diversity of practices is valued.
- Challenge for Personal Laws: While personal laws respect cultural diversity, they can lead to legal fragmentation, which may create conflicts between communities and undermine the concept of a unified legal system. This diversity in laws complicates the legal system and often hinders judicial efficiency.

Simplification of Legal Processes versus Regional Autonomy

- Challenge for UCC: A UCC could simplify legal processes by removing the need to apply multiple sets of personal laws. However, this approach may fail to recognize regional and customary practices that are integral to various communities, especially in regions like the Northeast where local customs govern personal laws.
- Challenge for Personal Laws: Personal laws are complex and region-specific, creating legal challenges for the judiciary when resolving disputes involving citizens from different religious

backgrounds. This results in inconsistent judgments and makes the legal process longer and more expensive.

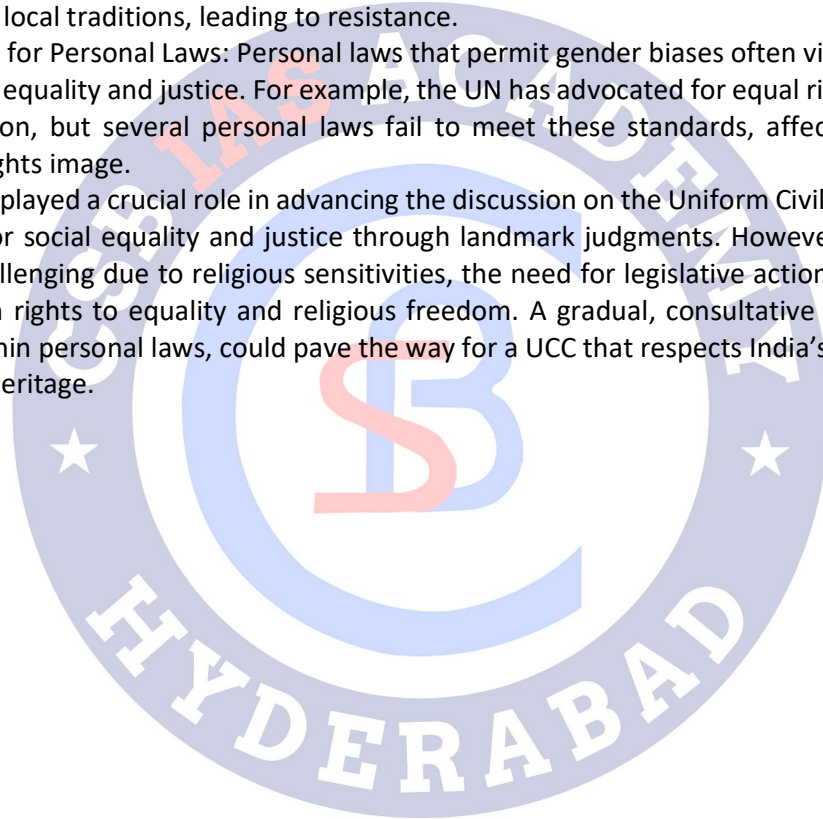
Judicial Consistency versus Religious Autonomy

- Challenge for UCC: By standardizing laws, the UCC could bring consistency and predictability in judicial rulings across similar cases. However, the risk is that it could restrict religious communities' autonomy in matters that they regard as personal and sacred, potentially leading to backlash.
- Challenge for Personal Laws: Personal laws often lead to inconsistent judicial decisions, as courts interpret and apply different religious codes in personal matters. This inconsistency complicates the judiciary's ability to deliver fair and equal treatment, with some citizens benefitting more than others depending on the personal law they follow.

Global Human Rights Standards versus Localized Practices

- Challenge for UCC: A UCC aligns India with international human rights standards, addressing gender equality and nondiscrimination. However, communities may see it as imposing foreign values on local traditions, leading to resistance.
- Challenge for Personal Laws: Personal laws that permit gender biases often violate international norms on equality and justice. For example, the UN has advocated for equal rights across gender and religion, but several personal laws fail to meet these standards, affecting India's global human rights image.

The judiciary has played a crucial role in advancing the discussion on the Uniform Civil Code, highlighting its importance for social equality and justice through landmark judgments. However, implementing a UCC remains challenging due to religious sensitivities, the need for legislative action, and the complex balance between rights to equality and religious freedom. A gradual, consultative approach, starting with reforms within personal laws, could pave the way for a UCC that respects India's secular fabric and diverse cultural heritage.



3. RIGHT TO PROPERTY

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Constitution >> Rights

REFERENCE NEWS:

In a landmark ruling that has implications on the citizen's right to hold property, a nine-judge bench of the Supreme Court ruled that not all private property can be deemed "material resource of the community" for redistribution under Article 39(b) of the Constitution.

RIGHT TO PROPERTY IN INDIA:

Originally, the **Right to Property was enshrined as a fundamental right** under Article 19(1)(f) and Article 31 of the Indian Constitution. The inclusion of this right as a fundamental right was influenced by the fact that many Indians had suffered arbitrary confiscation of property under colonial rule.

- **Article 19(1)(f)** provided the right to acquire, hold, and dispose of property
- **Article 31** guaranteed that no person would be deprived of their property except by law, and mandated compensation for property acquired by the state.

First Amendment Act, 1951: This amendment added Article 31A and 31B to protect land reform laws from being challenged as violating the right to property. Article 31B introduced the Ninth Schedule, allowing certain laws to be placed beyond judicial review, even if they infringed on property rights.

Fourth Amendment Act, 1955: This amendment restricted compensation payable for property acquisition, making it less onerous for the government to acquire property for public purposes.

25th Amendment Act, 1971: Article 31C introduced which outlined that any law giving effect to clauses (b) and (c) of Article 39 could not be deemed void on grounds that they contravened Article 14 and 19.

Right to Property as a Constitutional Right: The **44th Amendment Act of 1978** was a landmark development that redefined the Right to Property. It repealed Article 19(1)(f) and Article 31, removing the Right to Property from the list of fundamental rights. A new provision, **Article 300A**, was introduced in Part XII of the Constitution. It states: "No person shall be deprived of his property save by authority of law."

This change **downgraded the Right to Property from a fundamental right to a mere legal or constitutional right**. As a result, while citizens cannot claim the right as inviolable, they can seek recourse if the property is taken without due process of law.

Key Judicial Interpretations

- **Kesavananda Bharati v. State of Kerala (1973):** Established the basic structure doctrine, asserting that fundamental rights could not be amended to violate the basic structure of the Constitution.
- **Waman Rao v. Union of India (1981):** The Supreme Court upheld the Ninth Schedule's power but ruled that post-1973 additions to the Ninth Schedule could still be subject to judicial review if they violated basic structure principles.

The recent judgment, delivered by an 8:1 majority of a nine-judge bench of the Supreme Court on November 5, 2024, deals with the **interpretation of Article 39(b)** of the Indian Constitution concerning the state's power to acquire and redistribute private property for public welfare.

- **Core Issue:** The case addressed whether all private property could be deemed "material resources of the community" under Article 39(b) and thus eligible for acquisition and redistribution by the government. Article 39(b), part of the Directive Principles of State Policy (DPSP), requires that the state ensure the distribution of material resources to serve the common good.
- **Background and Legal Precedents:** Article 31C, was partially upheld in the **Kesavananda Bharati** case (1973), which affirmed the importance of judicial review and limited the immunity provided by Article 31C. The dispute over amendments to the **Maharashtra Housing and Area**

Development Act (MHADA), which allowed government acquisition of private property in Mumbai with 70% resident consent for redevelopment also led to judicial interventions.

○ **Majority Opinion**

- Chief Justice D.Y. Chandrachud, writing for the majority, clarified that **not all private property qualifies as "material resources of the community"** under Article 39(b).
- The ruling stated that categorizing all private property for state acquisition would reflect an outdated "rigid economic dogma" of excessive state control, incompatible with India's market-oriented economy.
- Instead, the court called for a **case-by-case assessment** of whether private resources serve communal needs, considering factors like the resource's nature, availability, impact on public welfare, and ownership concentration.
- The court upheld Article 31C, affirming that laws supporting Article 39(b) are generally protected from challenges based on Articles 14 and 19 but emphasized that property acquisition must comply with constitutional principles, including Articles 14 and 300A (Right to Property).

○ **Concurrences and Dissent**

- **Justice B.V. Nagarathna's Partial Concurrence:** She agreed that some private resources critical to public welfare might fall under Article 39(b) but asserted that personal possessions should be excluded.
- **Justice Sudhanshu Dhulia's Dissent:** Justice Dhulia argued that excluding private property from Article 39(b) could undermine DPSP goals, particularly in addressing wealth inequality.

IMPLICATIONS OF THE JUDGEMENT:

Positive Implications

- **Balanced Economic Policy:** The ruling acknowledges India's transition from state-controlled economic policies to a more liberalized economy, encouraging both public and private investment. This approach supports private enterprise while still allowing the state to act in public welfare, marking a balance between private property rights and social equity goals
- **Case-by-Case Evaluation:** By requiring a case-by-case analysis to determine if private property serves "communal significance," the judgment adds nuance to property acquisitions. This prevents broad interpretations that could lead to unnecessary or excessive state intervention in private ownership, ensuring that acquisitions are more targeted and justifiable
- **Protection of Private Property Rights:** The decision reinforces constitutional protections by emphasizing that not all private property is subject to state acquisition under Article 39(b). This clarification prevents arbitrary seizure of private property, which is especially important in fostering investor confidence and supporting individual property rights within a market-driven economy
- **Enhanced Judicial Oversight:** The court's stance that property acquisition must respect constitutional guarantees (Articles 14 and 300A) ensures that the judiciary can continue to oversee and correct any overreach, maintaining checks and balances on state power. This oversight acts as a safeguard for property owners against unjust acquisitions

Negative Implications

- **Limitations on Wealth Redistribution:** The exclusion of most private properties from Article 39(b) could hinder efforts at wealth redistribution, a key component of the Directive Principles of State Policy (DPSP). Justice Dhulia's dissent highlighted concerns that restricting redistribution could deepen economic inequality, as it limits the state's capacity to equitably distribute resources during a time of widening economic disparity
- **Potential for Increased Litigation:** Since each property acquisition must now be evaluated individually, the judgment could lead to an increase in litigation, with property owners challenging acquisitions on grounds that their properties do not serve the "common good." This

may delay the government's ability to acquire property for legitimate public purposes and lead to legal backlogs

- **Ambiguity in Determining Communal Significance:** Although the judgment provides criteria for assessing "communal significance," the flexibility of these factors may lead to inconsistencies in application. This ambiguity could result in uneven enforcement and possibly leave room for subjective interpretations by lower courts or state authorities
- **Challenge to Social Welfare Policies:** The ruling could make it harder to enact social welfare policies that require property acquisition, particularly in sectors like affordable housing and public infrastructure. By limiting state acquisition power, this decision might restrict government efforts to address housing shortages or provide resources to marginalized communities, especially in densely populated areas like Mumbai

TO BALANCE PRIVATE PROPERTY RIGHTS AND ECONOMIC WELFARE:

- **Strengthen the Framework for "Public Purpose" and "Communal Significance":** The government could introduce laws that more precisely define "public purpose" and "communal significance" in relation to Article 39(b), distinguishing between essential communal resources and individual properties. Establish an independent regulatory body to evaluate whether certain acquisitions serve a legitimate public purpose, assessing each case against specific criteria to prevent arbitrary seizures.
- **Introduce Fair Compensation Mechanisms:** Strengthening the compensation provisions under Article 300A by implementing compensation models that include market rates or benefit-sharing schemes (such as annuities or development-linked benefits) could help mitigate property owners' concerns.
 - For acquisitions affecting communities or smaller landowners, providing enhanced resettlement support and development programs can ensure that those affected gain long-term benefits, reducing resistance to redistributive policies.
- **Enhanced Use of Public-Private Partnerships (PPPs):** Encourage public-private partnerships for developing essential resources, such as affordable housing or infrastructure, where the government could retain partial ownership while allowing private investors to manage and develop the property.
 - Implement revenue-sharing or joint ownership models in PPPs, especially in resource-driven sectors, ensuring that the community benefits while maintaining private property interests.
- **Prioritize Strategic Sectors for Redistribution:** Rather than broadly targeting private property, the state could focus on acquiring resources in specific sectors crucial for equitable growth—such as housing, healthcare, and education. This targeted approach would allow the government to meet redistribution goals without encroaching excessively on individual property rights.
- **Strengthen Judicial Review and Grievance Redressal:** Strengthen judicial oversight to ensure acquisitions meet the standards of necessity and fairness, and establish dedicated tribunals to expedite grievances related to property acquisition, minimizing lengthy litigation.

International Practices as Models

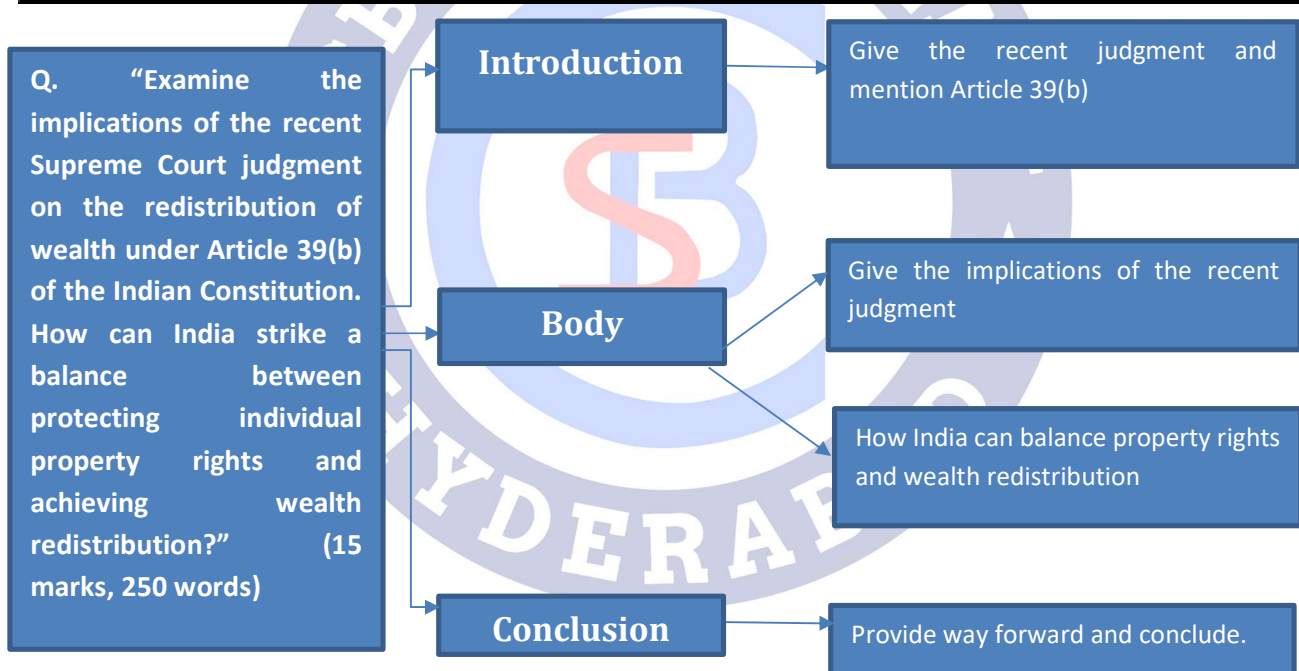
- **Germany's Social Market Economy:** Germany's constitution includes property rights protection but also allows for "social obligations" tied to ownership. Laws focus on property being used responsibly, balancing ownership with social welfare. This model provides a structure for government interventions to prevent harmful concentration of resources, yet respects private property unless it's critical for public interest.
- **UK's Community Land Trusts (CLTs):** In the UK, CLTs allow communities to hold land in trust for specific uses like affordable housing and community development. These trusts acquire property through donations or public funds and develop it for communal benefit, while ensuring that ownership remains with the community.

- **Brazil's Agrarian Reform:** Brazil uses a system of "social function of property," where land not fulfilling a social purpose, like underutilized agricultural land, can be expropriated and redistributed. This approach limits land expropriation to cases where properties aren't effectively used and ties ownership to a broader social responsibility.
- **Singapore's Housing Model:** Singapore employs a leasehold system, where the government retains ownership of land and leases it for private or commercial use, ensuring the availability of affordable housing. This model balances private property with state ownership, maintaining state control over critical resources like land, while allowing private entities to develop and utilize it.
- **South Korea's Land Compensation and Benefit-Sharing Models:** South Korea has a well-regulated land acquisition model with comprehensive compensation and benefit-sharing provisions. When land is acquired, affected communities receive a share of the benefits, often linked to the new developments.

PRACTICE QUESTION

Q. "Examine the implications of the recent Supreme Court judgment on the redistribution of wealth under Article 39(b) of the Indian Constitution. How can India strike a balance between protecting individual property rights and achieving wealth redistribution?" (15 marks, 250 words)

APPROACH



MODEL ANSWER

Recently, in a landmark ruling, the Supreme Court held that not all private property could be classified as "material resources of the community" for state acquisition under Article 39(b). This judgment reflects India's evolving economic landscape and raises questions about balancing individual rights with social welfare goals.

IMPLICATIONS OF THE JUDGMENT

1. Positive Implications:

- **Protection of Private Property:** By narrowing the scope of state acquisition, the judgment reinforces private property rights, which is critical for fostering investor confidence and economic growth.

- **Case-by-Case Assessment:** The requirement for a detailed, case-specific evaluation prevents arbitrary acquisitions and ensures that only genuinely communal resources are taken over for public welfare.
 - **Judicial Oversight:** Emphasizing adherence to constitutional guarantees (Articles 14 and 300A) provides safeguards against unjust acquisitions and helps maintain a balance of power between the state and judiciary.
- 2. Negative Implications:**
- **Constraints on Wealth Redistribution:** Restricting state acquisition powers limits the government's ability to address economic inequality, as highlighted in Justice Dhulia's dissent.
 - **Potential Legal Challenges:** The case-by-case approach could increase litigation, with property owners challenging acquisitions, potentially delaying important projects.
 - **Ambiguity in Interpretation:** The criteria for determining "communal significance" could lead to inconsistent application, complicating acquisition processes and enforcement.

BALANCING PRIVATE PROPERTY RIGHTS AND ECONOMIC WELFARE

1. **Clear Definition of "Public Purpose" and "Communal Significance":** The government should legislate a precise definition of "public purpose" and "communal significance" under Article 39(b). An independent body could review acquisitions to verify that they serve a legitimate public need, ensuring consistency and transparency.
2. **Fair Compensation Models:** Implementing compensation schemes that include market rates or benefit-sharing arrangements could help property owners receive fair compensation. For acquisitions affecting entire communities, resettlement support should be prioritized to secure long-term benefits and reduce resistance.
3. **Public-Private Partnerships (PPPs):** Encouraging PPPs in sectors like affordable housing and infrastructure could enable resource development without heavy state acquisition. Models of joint ownership and revenue sharing would ensure community benefits while retaining private property rights.
4. **Prioritizing Strategic Sectors for Redistribution:** Instead of broadly targeting all private properties, the state could focus on acquiring resources in critical areas, such as affordable housing, healthcare, and education, thereby advancing equity without extensive private property acquisitions.
5. **Strengthened Judicial Review:** Dedicated tribunals could expedite grievances related to property acquisition, reducing lengthy legal processes. Periodic judicial review of acquisition laws would ensure that the law adapts to changing socio-economic contexts.

International Practices for India to Consider

1. **Germany's Social Market Economy:** Germany's model of balancing property rights with social obligations could serve as an example. The state intervenes only when necessary for the public good, protecting private ownership unless a critical public interest is at stake.
2. **UK's Community Land Trusts (CLTs):** CLTs allow communities to own and develop land for communal use, particularly for affordable housing. India could adopt CLTs in urban areas, enabling communities to manage resources while reducing state acquisition needs.
3. **South Korea's Benefit-Sharing Models:** South Korea's compensation framework includes revenue sharing with affected communities in large-scale acquisitions. This approach could be useful in India, particularly in urban redevelopment projects, to ensure that affected communities benefit from new developments.

The recent Supreme Court judgment provides a balanced perspective by protecting private property rights while recognizing the state's duty to serve public welfare. For India to achieve sustainable growth and equity, a nuanced approach is essential—one that respects individual ownership while promoting fair redistribution. By adopting best practices from other countries, India can foster a fair and just property rights system aligned with its socio-economic objectives.

4. BULLDOZER JUSTICE

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Constitution >> Fundamental Rights

REFERENCE NEWS:

The Supreme Court laid down a series of guidelines to ensure that **due process** is followed for demolishing the properties of citizens. These guidelines were a part of the court's verdict in a case that had raised the issue of demolition of properties by state authorities as a punishment for the alleged involvement of the property owner in a crime. The case pertained to a set of pleas that challenged the "extra-legal" practice of demolishing houses of people accused of criminal activities. The practice has been observed in recent years in Uttar Pradesh, Madhya Pradesh and Uttarakhand. It was also seen in Rajasthan, in 2022.

BULLDOZER JUSTICE:

- "Bulldozer justice" refers to a form of immediate, forceful administrative action where properties—such as homes, businesses, or other structures—are demolished by authorities. The justification provided is often illegal construction, encroachment, or as a response to an alleged crime.
- The practice is often perceived as a method of delivering "instant justice" without formal legal proceedings.

Legal and Constitutional Framework in India

- **Right to Equality:** Article 14 of the Indian Constitution **guarantees equality before the law and equal protection of the laws**. The practice of bulldozer justice has been criticized for potential violations of this principle, as it may involve **selective targeting** of individuals or communities **without following due process**.
- **Right to Life and Personal Liberty:** Article 21 provides that no person shall be deprived of life or personal liberty except according to **the procedure established by law**. Demolitions without proper legal process may infringe upon the right to shelter, which has been recognized by the Supreme Court as part of the fundamental right to life.
- **Right to Property:** Though not a fundamental right, Article 300A of the Constitution states that no person shall be deprived of their property except by authority of law. This requires that property demolition must be conducted following legal procedures, such as providing notice and the opportunity for a hearing.
- **Municipal and Urban Development Laws:** Various state and municipal laws govern construction and urban development, requiring proper permits for buildings. **Demolitions are legally justified when constructions are unauthorized or encroach upon public land.**

Key Legal Cases and Judicial Interpretations

- **Olga Tellis v. Bombay Municipal Corporation (1985 AIR 180):** This case dealt with the eviction of pavement dwellers and slum-dwellers in Mumbai. The authorities sought to remove them on the grounds of illegal encroachment.
 - **Judgment:** The Supreme Court ruled that the right to life includes the right to livelihood and that adequate notice and the opportunity to be heard must be provided before any eviction. The decision highlighted that any demolition without following due process would violate Article 21 of the Constitution.
- **Ajay Maken v. Union of India (2019 SCC Online SC 1470):** The case involved the demolition of unauthorized structures in Delhi without notice to the occupants. The affected parties argued that the demolition violated their right to shelter and due process.

- **Judgment:** The Delhi High Court ruled that demolitions must follow due process, including issuing proper notices and allowing time for response. It emphasized that the state cannot take punitive actions without providing adequate opportunities for legal recourse.
- **Municipal Corporation of Delhi v. Gurnam Kaur (1989 AIR 38):** The case focused on the powers of municipal authorities to demolish unauthorized constructions in Delhi.
 - **Judgment:** The Supreme Court ruled that while municipalities have the right to remove illegal structures, they must comply with procedural requirements such as issuing notices and ensuring that the affected parties have an opportunity to contest the action.
- **Golak Nath v. State of Punjab (AIR 1967 SC 1643):** This landmark case did not involve demolitions directly but **focused on the limits of state power and the protection of fundamental rights**. It is often cited to emphasize that the state must operate within the bounds of law.
 - **Judgment:** The Supreme Court held that fundamental rights cannot be restricted or taken away by legislative actions unless authorized by the Constitution itself.
- The Supreme Court in **Maneka Gandhi vs Union of India of 1978** held that the executive procedures must be fair, just, and reasonable.
- The Supreme Court in **Municipal Corporation of Ludhiana vs Inderjit Singh of 2008** held that no authority can directly proceed with demolitions, even of illegal constructions, without providing notice and an opportunity to be heard to the occupant.

ARGUMENTS IN FAVOUR OF BULLDOZER JUSTICE:

- **Swift Action Against Illegal Encroachments:** Bulldozer justice enables quick removal of illegal encroachments and unauthorized constructions, which often take years to resolve through the traditional judicial process.
 - In cities like Delhi, Mumbai, and Lucknow, authorities have used bulldozers to clear illegal encroachments from public land and roads, easing congestion and allowing for better traffic management
- **Enforcement of Urban Order and Planning Laws:** Bulldozer justice helps enforce municipal laws and urban planning regulations, preventing unauthorized constructions that violate zoning rules, safety norms, and building codes
 - In the case of **Municipal Corporation of Greater Mumbai v. State of Maharashtra (2006)**, the Bombay High Court upheld the demolition of illegal structures in Mumbai, affirming that municipal authorities have the right to take corrective action to uphold zoning laws and urban planning.
- **Visible Deterrent to Future Violations:** The visible use of bulldozers as a form of immediate action acts as a deterrent to others who might consider violating laws, particularly regarding illegal construction and encroachment.
 - In Uttar Pradesh, the use of bulldozers by the state government to demolish illegal properties linked to criminals was cited as a strategy to deter future criminal activities. Authorities claimed a drop in crime rates in some regions, attributing it to the visible crackdown on properties linked to illegal activities.
- **Efficient Use of State Resources:** Bulldozer justice allows for efficient use of state resources, reducing the burden on the judiciary and minimizing lengthy legal procedures.
 - In Delhi, the demolition of illegal structures along riverbanks was expedited to address safety concerns related to flood-prone areas. The swift action prevented potential risks to public safety, highlighting the importance of immediate administrative intervention.
- **Restoration of Rule of Law:** Bulldozer justice emphasizes the rule of law by demonstrating that violations will not be tolerated and that the law applies equally to all upholding principle of accountability.
 - In **Aligarh Muslim University v. Mansoor Ali Khan (2000)**, the Supreme Court reiterated the importance of maintaining the rule of law in addressing illegal encroachments. The

court emphasized that authorities must act firmly when dealing with illegal structures to preserve the integrity of the legal framework.

- **Protection of Public Interest:** Bulldozer justice is often justified on the grounds of protecting public interest, particularly in cases where illegal constructions affect essential services, public safety, or community welfare.
 - In Bhopal, the local administration used bulldozers to remove illegal encroachments on sidewalks, enabling better pedestrian movement and safety. Such actions are often framed as being in the "public interest" to ensure that public resources are used as intended.
- **Judicial Support for Administrative Actions in Clear Cases of Illegality:** Indian courts have, in several instances, upheld administrative demolitions where the illegality of construction is evident and due process is followed.
 - In the case of **Gurgaon Municipal Corporation v. Laxmi Narain (2018)**, the Punjab and Haryana High Court upheld the demolition of unauthorized constructions after the municipal authority had issued proper notices. The court emphasized that enforcement actions are valid if due process is followed.
- **Addressing Security and Law Enforcement Concerns:** In some cases, properties associated with criminal activities are demolished as part of a broader law enforcement strategy.
 - In Madhya Pradesh, the state government conducted demolitions of properties allegedly linked to organized crime, citing public safety concerns. The demolitions were part of a larger strategy to tackle crime and restore law and order in the region.

CHALLENGES OF BULLDOZER JUSTICE:

- **Violation of Due Process of Law:** The **Right to Fair Procedure** is an integral part of **Article 21** of the Indian Constitution, which guarantees the right to life and personal liberty. The Supreme Court has repeatedly emphasized that any action depriving a person of their property or rights must follow a legal process.
- **Discrimination and Selective Targeting:** Bulldozer justice has been criticized for disproportionately targeting marginalized communities, particularly religious and ethnic minorities, leading to accusations of discrimination. This violates the constitutional right to equality under **Article 14**.
 - **State of West Bengal v. Anwar Ali Sarkar (1952 AIR 75):** The Supreme Court ruled that laws and actions must be non-arbitrary and must apply equally to all persons, reinforcing the idea of equality under Article 14.
- **Lack of Judicial Oversight:** Many demolitions carried out under bulldozer justice are administrative decisions with limited judicial oversight. This absence of scrutiny raises concerns about the unchecked use of executive power.
- **Impact on the Right to Shelter:** Bulldozer justice can violate the right to shelter, which the Supreme Court has interpreted as an essential part of the right to life under **Article 21**. Evictions and demolitions without proper rehabilitation or alternative housing cause severe hardship to affected individuals and families.
 - **Chameli Singh v. State of Uttar Pradesh (1996 2 SCC 549):** The Supreme Court held that the right to shelter is part of the right to life and that evictions should be carried out in a humane manner, with adequate provisions for rehabilitation.
- **Arbitrary and Excessive Use of Executive Power:** The principle of **Rule of Law** requires that state actions be governed by established legal procedures and not by arbitrary decisions. Excessive executive power undermines constitutional governance and the separation of powers.
 - **D.K. Basu v. State of West Bengal (1997 1 SCC 416):** The Supreme Court laid down procedural safeguards to prevent the abuse of executive power, emphasizing that any state action must follow established legal procedures.

- **Absence of Proper Rehabilitation Measures:** Article 21 includes the right to live with dignity, implying that forced evictions must be accompanied by proper rehabilitation to avoid infringing on human dignity. The government has a duty to protect the interests of displaced individuals.
 - **Sudama Singh v. Government of Delhi (2010 168 DLT 218):** The Delhi High Court ruled that evictions should not take place without a proper survey and rehabilitation plan for affected residents.
- **Inadequate Compensation for Affected Individuals:** Article 300A of the Indian Constitution protects the right to property, stipulating that no person shall be deprived of their property except by authority of law. This implies that due compensation must be provided if property is taken or demolished.
 - **Bachan Singh v. State of Punjab (1980 2 SCC 684):** The judgment emphasized that penalties or actions taken by the state must be proportional and fair, applicable to property rights and compensation as well.

SC GUIDELINES:

The Supreme Court of India has established guidelines for demolition processes to ensure transparency, accountability, and respect for due process. These guidelines emphasize that demolitions should not be punitive actions against accused individuals without proper legal procedure. The guidelines outline several key points:

- **Notice Requirement:** A minimum of 15 days' notice must be provided to the owner or occupier before any demolition, including the details of the structure and the reasons for demolition. A personal hearing must also be offered to contest the decision.
- **Hearing and Final Order:** A hearing should be conducted, with a record of the proceedings. The final demolition order must include details on why the case cannot be resolved and whether partial or complete demolition is necessary. Justification for choosing demolition as the last resort must be included.
- **Post-Demolition Order:** After the final order is issued, there is a 15-day window allowing the owner to remove the construction or challenge the decision in court. Demolition should proceed only if the order is not stayed and construction remains.
- **Documentation:** Demolition must be video-recorded, and both an inspection report and a post-demolition report must be prepared.

The Supreme Court highlights several key constitutional principles:

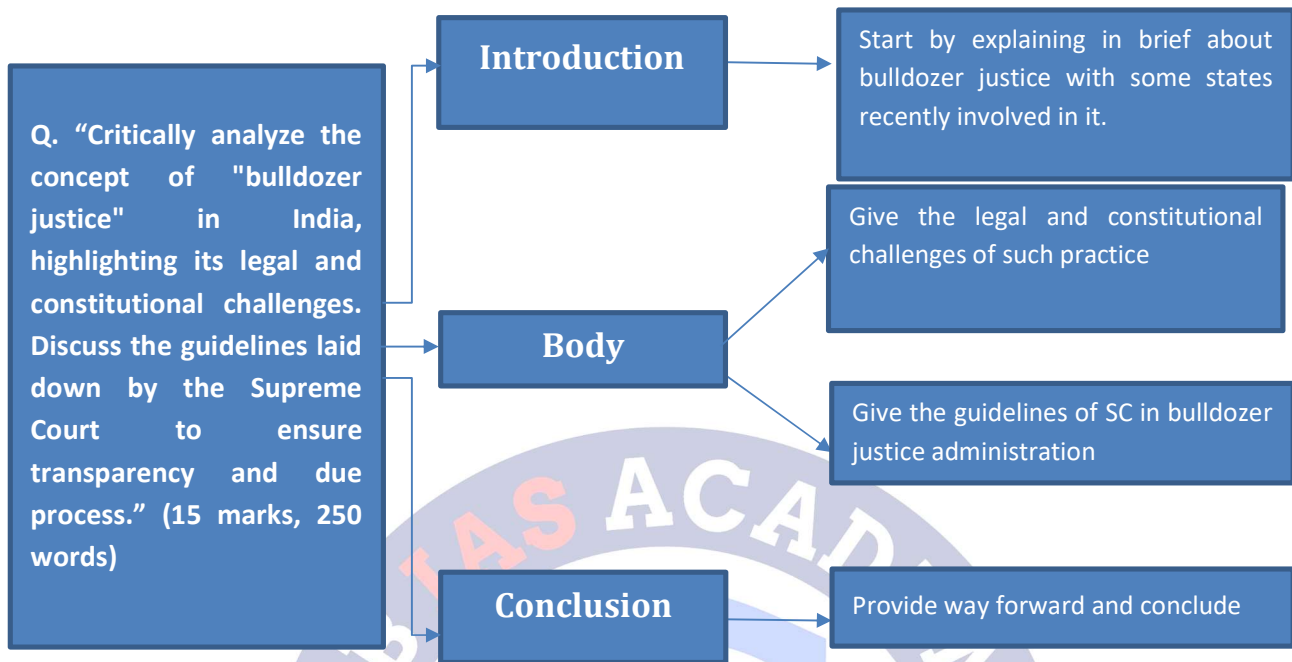
- **Separation of Powers:** The judiciary is responsible for adjudicating guilt, not the executive. It is "impermissible" for state officials to use demolition as punishment.
- **Public Trust & Transparency:** Public officials must be accountable for their actions, and demolition orders should not target properties merely because the owner is an accused.
- **Right to Shelter:** Under Article 21, which protects the right to life and dignity, demolitions that deprive innocent family members of their shelter are unconstitutional.

The guidelines do not apply to unauthorized structures in public spaces or to demolitions ordered by a court of law.

PRACTICE QUESTION

Q. "Critically analyze the concept of "bulldozer justice" in India, highlighting its legal and constitutional challenges. Discuss the guidelines laid down by the Supreme Court to ensure transparency and due process." (15 marks, 250 words)

APPROACH



MODEL ANSWER

"Bulldozer justice" in India refers to the practice of using administrative authority to demolish properties allegedly linked to illegal activities or unauthorized constructions. This approach, often perceived as a form of "instant justice," has been criticized for bypassing legal procedures and potentially violating constitutional rights. It has been observed in states like Uttar Pradesh, Madhya Pradesh, and Uttarakhand, raising concerns about fairness, transparency, and adherence to the rule of law.

LEGAL AND CONSTITUTIONAL CHALLENGES ASSOCIATED WITH BULLDOZER JUSTICE:

- **Violation of Due Process of Law:** Bulldozer justice often skips legal procedures such as notices and hearings, violating the right to fair procedure under **Article 21** of the Indian Constitution, which guarantees the right to life and personal liberty. The Supreme Court in *Olga Tellis v. Bombay Municipal Corporation (1985)* established that evictions must follow due process, with adequate notice and the opportunity for a hearing.
- **Discrimination and Selective Targeting:** This practice has faced criticism for disproportionately affecting marginalized communities, particularly minorities, raising concerns about discrimination under **Article 14**, which ensures equality before the law. In *State of West Bengal v. Anwar Ali Sarkar (1952)*, the Supreme Court stressed that state actions must be non-arbitrary and apply equally to all citizens.
- **Impact on Right to Shelter:** The right to shelter is an integral part of the right to life under **Article 21**. Bulldozer justice has been criticized for displacing families without adequate alternative arrangements, infringing upon this right. In *Chameli Singh v. State of Uttar Pradesh (1996)*, the Supreme Court held that evictions must be carried out humanely, with provisions for rehabilitation.
- **Arbitrary Use of Executive Power:** The unchecked power of the executive in demolitions undermines constitutional governance and the separation of powers. The Supreme Court in *D.K. Basu v. State of West Bengal (1997)* emphasized that state actions must be based on established legal procedures to prevent arbitrary use of authority.

SUPREME COURT GUIDELINES TO ENSURE TRANSPARENCY AND DUE PROCESS:

- **Notice Requirement:** A minimum of 15 days' notice must be given to the owner or occupier, detailing the reasons for the demolition and allowing time for a personal hearing to contest the decision.
- **Hearing and Final Order:** A proper hearing should be conducted, with records of the proceedings. The final demolition order must explain why demolition is necessary and whether it should be partial or complete.
- **Post-Demolition Protocol:** After the final order, there is a 15-day window for the owner to remove the structure or seek legal redress. Demolition should only proceed if the order is not stayed and the construction remains. The demolition must be documented through video recording, inspection reports, and post-demolition reports.
- **Accountability and Transparency:** The guidelines emphasize the **separation of powers**, noting that the executive cannot assume judicial functions, such as punishing individuals through demolition. Public officials are accountable for their actions, and demolition should not target properties simply because the owner is an accused

Judicial Interpretations and Key Case Laws:

- In *Ajay Maken v. Union of India (2019)*, the Delhi High Court mandated that demolitions must adhere to due process, including proper notice and opportunities for appeal
- The Supreme Court in *Municipal Corporation of Ludhiana v. Inderjit Singh (2008)* affirmed that even illegal constructions require notice and a chance for the owner to be heard before any demolition can take place

To ensure that bulldozer justice does not violate constitutional principles, it is crucial to:

- **Strengthen Procedural Safeguards:** Implement strict guidelines for issuing notices, conducting hearings, and providing adequate time for legal recourse.
- **Enhance Judicial Oversight:** Establish fast-track courts to review demolition cases, ensuring that administrative actions do not bypass judicial scrutiny.
- **Prevent Discriminatory Practices:** Enforce anti-discrimination measures to ensure demolitions are based on objective criteria, not on selective targeting of communities.
- **Ensure Proper Rehabilitation:** Develop comprehensive resettlement plans and compensation for displaced individuals, safeguarding the right to shelter and dignity.

"Bulldozer justice" poses significant legal and constitutional challenges, particularly in ensuring fairness, preventing discrimination, and upholding the right to shelter. While it aims to address unauthorized constructions and maintain public order, the practice must align with the rule of law and due process principles. The Supreme Court's guidelines underscore the need for transparency, accountability, and judicial oversight to protect individual rights.

5. NON-COMMUNICABLE DISEASES

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Social Justice >> Health

REFERENCE NEWS:

The World Bank's 2024 report, Unlocking the Power of Healthy Longevity, highlights a rapidly aging population and the rise of NCDs in Low-and Middle-Income Countries (LMICs).

NON-COMMUNICABLE DISEASES:

According to WHO, the term **NCDs** refers to a group of conditions that are not mainly caused by an acute infection, result in **long-term health consequences** and often create a need for long-term treatment and care.

- NCDs now account for **over 70% of global deaths annually**, and this trend is set to continue. **By 2050**, the total number of deaths is projected to rise from 61 million in 2023 to **92 million** as per WHO.

Non-Communicable Diseases (NCDs) are chronic medical conditions that are not transmitted from person to person. They are typically long-lasting and progress slowly. The major types of NCDs include cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes. These diseases are primarily driven by **lifestyle factors** and **environmental influences**, such as poor diet, lack of physical activity, tobacco use, and excessive alcohol consumption.

PREVALENCE OF NCDs IN INDIA:

- According to the World Health Organization (WHO), NCDs account for approximately **63% of total deaths** in India, with cardiovascular diseases leading the burden at **27%**.
- India has witnessed a shift from communicable diseases to non-communicable diseases as the leading cause of mortality and morbidity, a phenomenon known as the **epidemiological transition**.
- The Indian Council of Medical Research (ICMR) projects that the number of people living with NCDs will continue to increase, largely due to aging, urbanization, and changing lifestyles.
- **Between 2019 and 2023, per capita health spending grew modestly**—0.4% in LICs and 0.9% in LMICs—compared to pre-pandemic growth rates of 4.2% and 2.4%, respectively.
- **Cardiovascular Diseases (CVDs):** CVDs, including heart disease and stroke, are the leading cause of death in India, contributing to over **25% of total deaths**.
 - The rise in hypertension and obesity is a major contributor to heart disease. According to the National Family Health Survey (NFHS-5), **24% of men and 21% of women** in India are hypertensive.
- **Diabetes:** India is known as the **“Diabetes Capital of the World,”** with over **77 million** people living with diabetes as of 2020, according to the International Diabetes Federation.
- **Chronic Respiratory Diseases (CRDs):** Chronic obstructive pulmonary disease (COPD) and asthma are leading respiratory conditions. In India, COPD is responsible for around **10% of total deaths**.
 - Air pollution, both indoor and outdoor, is a significant factor contributing to respiratory diseases. The Global Burden of Disease (GBD) study highlighted that **India has the highest rate of deaths due to chronic respiratory diseases globally**.
- **Cancers:** Cancer cases in India have been steadily increasing, with an estimated **1.39 million** new cases in 2020, according to the ICMR. The most common cancers include breast, cervical, and oral cancer.
 - Tobacco use is a major risk factor for cancers in India. It is estimated that **40% of all cancers in India are related to tobacco use**, including lung and oral cancers.

Government Initiatives to Combat NCDs

- **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS):** Aimed at reducing the burden of NCDs by focusing on lifestyle interventions, early diagnosis, and health education. This is being implemented under National Health Mission
- **Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (PM-JAY):** Provides financial protection for secondary and tertiary care, including NCD treatment, to economically disadvantaged populations.
- **Fit India Movement:** Encourages physical activity and healthy living to address rising obesity and lifestyle-related diseases.
- **Tobacco Control Measures:** Increased taxes on tobacco products, pictorial warnings on packaging, and anti-tobacco awareness campaigns have been key measures to reduce tobacco use.
- Oncology in its various aspects has a focus in case of new AIIMS and many upgraded institutions under **Pradhan Mantri Swasthya Suraksha Yojana**
- **Affordable Medicines and Reliable Implants for Treatment (AMRIT)** Deendayal outlets have been opened at 159 Institutions/Hospitals with an objective to **make available Cancer and Cardiovascular Diseases drugs and implants at discounted prices to the patients.**
- **Jan Aushadhi stores** are set up by the Department of Pharmaceuticals to provide generic medicines at affordable prices.

IMPACT OF NON-COMMUNICABLE DISEASES ON INDIA:

Impact on the Indian Economy

- **Economic Burden and Healthcare Costs:** NCDs impose a substantial financial burden on India's healthcare system due to the cost of long-term treatments, hospitalizations, medications, and diagnostics.
 - The World Health Organization (WHO) estimates that NCDs could cost India around **\$4.58 trillion** in economic output by 2030 due to healthcare costs and reduced labour productivity. According to the **Public Health Foundation of India (PHFI)**, NCDs account for approximately **25% of all hospital admissions** and nearly **50% of all healthcare expenditures** in India, indicating the high economic strain they cause.
- **Loss of Productivity:** NCDs affect the working-age population, leading to **absenteeism**, reduced productivity, and early retirements. The loss of a healthy workforce directly impacts economic growth and development.
 - The Indian Council of Medical Research (ICMR) suggests that adults between the ages of **30 and 60**, the prime working age group, are increasingly affected by NCDs, leading to a decline in labour force participation.
- **Increase in Out-of-Pocket Expenditure (OOPE):** The high cost of managing chronic conditions often leads to significant out-of-pocket expenses for Indian households, pushing many families into poverty.
 - The **National Sample Survey Office (NSSO)** report (2018) highlighted that **over 70%** of healthcare costs in India are borne by households, with a substantial portion attributed to the treatment of NCDs.

Impact on Indian Demography

- **Increased Morbidity and Mortality:** NCDs are now the leading cause of death in India, accounting for about **63% of all deaths**, according to the WHO. The burden has shifted from communicable diseases to NCDs, impacting life expectancy and health outcomes.
- **Premature Deaths and Life Expectancy:** NCDs are increasingly affecting younger age groups in India, leading to premature deaths and reducing the country's potential demographic dividend.

- According to a study by the ICMR, NCDs account for nearly **60% of all premature deaths** in India, affecting individuals aged between 30 and 69.
- **Demographic Shift:** As India's population ages, the prevalence of NCDs is expected to rise, leading to increased demand for healthcare services, including long-term care and geriatric support.
 - The number of elderly in India (aged 60 and above) is projected to increase from **104 million in 2011 to 340 million by 2050**. This demographic shift will likely exacerbate the NCD burden, straining healthcare systems.

Impact on Indian Society

- **Shift in Disease Patterns (Epidemiological Transition):** The shift from infectious diseases to NCDs has altered India's public health landscape, requiring a change in health priorities, resources, and infrastructure.
- **Impact on Social Dynamics and Family Structure:** Chronic NCDs lead to long-term financial burdens on families and can create emotional stress, impacting social stability. The care required for NCD patients often falls on family members, affecting their quality of life.
 - The NSSO reported that **over 18%** of household income in India is spent on healthcare, and in cases of severe chronic illness, this percentage can be significantly higher, impacting household well-being.
- **Increased Urbanization and Lifestyle Changes:** Rapid urbanization and lifestyle changes have contributed to a rise in NCDs. Increased consumption of processed foods, sedentary lifestyles, and stress have led to higher rates of obesity, hypertension, and diabetes.
 - Air pollution, a major urban issue, is a leading cause of chronic respiratory diseases in India. According to the GBD study, **India has some of the highest rates of deaths due to air pollution-related diseases**, affecting both urban and semi-urban populations.

WAY FORWARD:

Strengthening Primary Healthcare System

- The **High-Level Expert Group (HLEG) on Universal Health Coverage** in 2011 emphasized the need to strengthen the primary healthcare system to manage NCDs.
- **Thailand's Universal Health Coverage Scheme** is a notable example where primary healthcare was made the cornerstone of NCD management. The scheme focuses on **community-based health** promotion and NCD prevention, significantly reducing hospitalization rates for chronic diseases.

Implementing Comprehensive Preventive Health Programs

- The **National Health Policy 2017** advocates for a preventive approach to healthcare, with an emphasis on lifestyle changes, early screening, and community awareness to reduce NCD risk factors.
- **Finland's North Karelia Project** is a globally recognized success in reducing cardiovascular diseases. The project focused on promoting dietary changes, increasing physical activity, and reducing tobacco consumption, leading to a significant decline in heart disease mortality.

Targeted Screening and Early Detection

- **Cuba's Comprehensive Primary Healthcare System** is renowned for its proactive screening and preventive care for NCDs. It has a robust network of primary care centers that conduct regular screening for diabetes, hypertension, and cancers, leading to early diagnosis and better outcomes.

Promoting Multi-Sectoral Collaboration

- The **NITI Aayog's Strategy for New India @ 75** (2018) emphasizes a **multi-sectoral approach** to combat NCDs, involving various ministries such as health, education, urban development, agriculture, and finance.
- **Australia's National Strategic Framework for Chronic Conditions** employs a multi-sectoral strategy, involving collaboration between the healthcare sector, local governments, and non-health sectors to address the social determinants of health and reduce NCD prevalence.

Strengthening Tobacco and Alcohol Control Measures

- The **WHO Framework Convention on Tobacco Control (FCTC)**, which India is a signatory to, recommends strict regulation of tobacco products, higher taxation, and public awareness campaigns to reduce tobacco consumption.
- **Australia's Plain Packaging Law** for tobacco and the increased excise tax on cigarettes have significantly reduced smoking rates, leading to lower incidences of tobacco-related diseases.

Adopting Technology and Data-Driven Approaches

- **Singapore's National Electronic Health Record (NEHR)** system provides an integrated platform for healthcare providers to track patient data, monitor NCD management, and deliver coordinated care.

Expanding Access to Affordable Medicines and Treatment

- **Brazil's Farmácia Popular Program** subsidizes essential medicines for NCDs, including diabetes and hypertension, making them affordable for low-income populations.

Scaling Up Health Workforce Capacity

- **Sri Lanka's Capacity Building Initiative** trained primary healthcare workers and community health volunteers in NCD management, leading to improved diagnosis and care at the grassroots level.

Fostering Public-Private Partnerships (PPP)

- The **NITI Aayog's Health Sector Roadmap** recommends leveraging public-private partnerships to improve healthcare infrastructure, technology, and delivery of NCD care.

Life-Course Approach to NCDs

- WHO report advocates a life-course approach to managing NCDs, emphasizing prevention, early diagnosis, and continuous management across all ages. This approach requires reforms across health, labour, and social protection sectors to support long-term care and reduce NCD burdens.

Addressing Gender and Social Equity

- Targeted health and social protections for women are necessary to address the challenges they face as caregivers and as individuals who experience a greater burden of NCDs in older age.

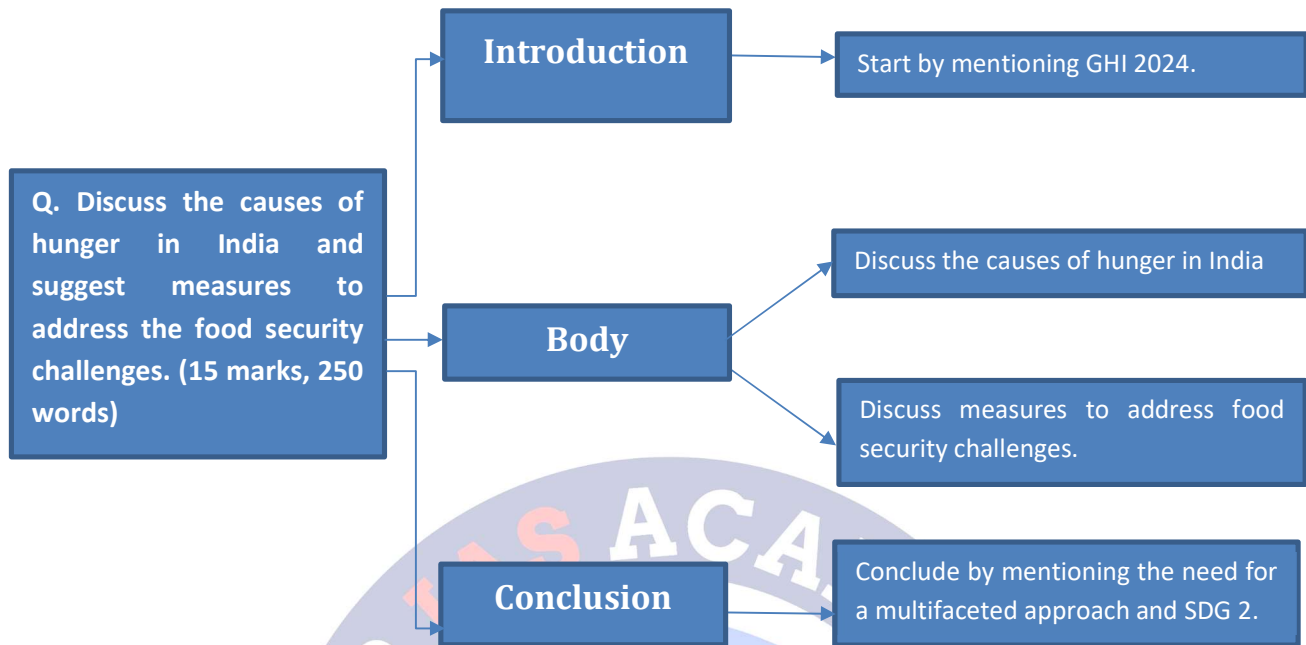
Agenda for Sustainable Development

- As part of the 2030 Agenda for Sustainable Development, **heads of state and government committed to develop ambitious national responses, by 2030**, to reduce by one third premature mortality from NCDs through prevention and treatment (SDG target 3.4).

PRACTICE QUESTION

Q. "Non-Communicable Diseases (NCDs) have become the leading cause of mortality and morbidity in India, significantly impacting the economy, society, and healthcare system. Discuss the current status of NCDs in India, their impact, and suggest a way forward to manage the growing burden effectively." (15marks, 250 words)

MODEL ANSWER



MODEL ANSWER

According to the World Health Organization (WHO), NCDs account for over **63% of all deaths** in India. The country has undergone an epidemiological shift from infectious diseases to NCDs, posing a major public health challenge.

CURRENT STATUS OF NCDs IN INDIA:

- **Prevalence and Rising Burden:** NCDs are now the leading cause of death, with cardiovascular diseases contributing to **27% of all deaths**. India has one of the highest numbers of diabetes cases, with over **77 million** affected as of 2020.
- **Major NCDs Impact:**
 - **Cardiovascular Diseases (CVDs):** CVDs are the top cause of mortality, driven by rising hypertension and obesity rates. The National Family Health Survey (NFHS-5) indicates **24% of men and 21% of women** in India are hypertensive.
 - **Diabetes:** India is known as the “Diabetes Capital of the World,” with a high prevalence in urban areas due to lifestyle changes.
 - **Chronic Respiratory Diseases (CRDs):** COPD and asthma are prevalent, with indoor and outdoor air pollution contributing significantly. India has the highest rate of deaths due to chronic respiratory diseases globally.
 - **Cancers:** Increasing tobacco use is linked to **40% of cancer cases** in India, particularly lung and oral cancers

IMPACT OF NCDs ON INDIA:

- **Economic Impact:**
 - **Healthcare Costs:** NCDs impose a heavy financial burden due to long-term treatments and hospitalizations. According to WHO, they could cost India around **\$4.58 trillion** by 2030, impacting economic productivity.
 - **Loss of Productivity:** NCDs affect the working-age population, leading to absenteeism and early retirements. The Indian Council of Medical Research (ICMR) reports that NCDs significantly reduce labor force participation
 - **Out-of-Pocket Expenditure:** High healthcare costs lead to substantial out-of-pocket spending, pushing families into poverty. The National Sample Survey Office (NSSO) noted

that over **70% of healthcare costs** are covered by households, with a large portion attributed to NCD treatment

- **Demographic Impact:**

- **Increased Morbidity and Mortality:** NCDs account for nearly **60% of premature deaths**, particularly affecting individuals aged 30-69 years. This impacts the country's potential demographic dividend
- **Aging Population:** As India's population ages, the NCD burden is expected to rise, leading to increased demand for geriatric and long-term healthcare.

- **Social Impact:**

- **Changing Disease Patterns:** The transition from infectious diseases to NCDs has altered healthcare priorities and infrastructure needs.
- **Impact on Families:** The financial and emotional strain of managing chronic diseases affects household stability, with over **18% of household income** spent on healthcare, particularly for severe illnesses
- **Urbanization and Lifestyle Changes:** Rapid urbanization has led to sedentary lifestyles and dietary shifts, increasing obesity, diabetes, and cardiovascular diseases.

WAY FORWARD TO MANAGE NCDs IN INDIA:

- **Strengthening Primary Healthcare:** Implement the **High-Level Expert Group's (HLEG)** recommendations to improve primary healthcare for NCD management. Equip Primary Health Centers (PHCs) to provide preventive care, early diagnosis, and chronic disease management.
- **Promoting Preventive Health Programs:** Focus on lifestyle interventions, such as healthy eating, increased physical activity, and reducing tobacco and alcohol use. The **National Health Policy 2017** calls for preventive measures to tackle NCD risk factors.
 - Finland's **North Karelia Project** significantly reduced cardiovascular diseases by promoting healthy diets and active living.
- **Early Detection and Targeted Screening:** Integrate NCD screening into routine healthcare at primary and community levels, using mobile health (mHealth) apps for remote areas. Utilize the **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS)** for mass screening.
- **Strengthening Tobacco and Alcohol Control:** Increase taxes on tobacco and alcohol, introduce plain packaging for tobacco products, and enforce strict regulations to limit advertising. India is a signatory to the **WHO Framework Convention on Tobacco Control (FCTC)**, which supports these measures.
- **Adopting Technology for Data-Driven Decisions:** Use digital health platforms for tracking NCD cases, monitoring patient health, and delivering personalized care. Develop a **National Health Registry** for NCDs to monitor trends and improve healthcare delivery.
- **Public-Private Partnerships:** Foster collaboration between the government and private sector to enhance healthcare infrastructure, technology, and delivery. Encourage private investment in setting up NCD clinics, diagnostics, and telemedicine.

The growing prevalence of NCDs in India presents a significant challenge, impacting the economy, demography, and society. A comprehensive strategy involving preventive healthcare, early detection, technology integration, and multi-sectoral collaboration is essential to manage the NCD burden. Learning from global best practices and implementing strong policy measures will be crucial in ensuring a healthier future for India.

6. REPRESENTATION OF WOMEN IN LOCAL GOVERNMENT

IMPACT ANALYSIS

SYLLABUS:

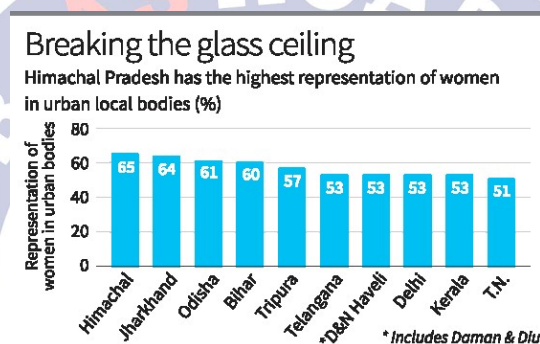
GS 2 > Governance >> Women Representation in Governance

REFERENCE NEWS:

Around 46% of the councillors in India are women, and in 19 out of 21 capital cities that have active urban local bodies, including Patna, Shimla, Ranchi and Bhubaneswar, the figure goes well over 60%. Among the States, Tamil Nadu has the highest number of women councillors, according to a roadmap on urban transformation in India. The other States in the top 10 are Rajasthan, Madhya Pradesh, Maharashtra, Andhra Pradesh, Karnataka, Uttar Pradesh, Kerala, Bihar and Chhattisgarh.

WOMEN IN INDIAN GRASSROOT GOVERNANCE:

Elected Women Representatives have been instrumental in driving positive change at the grassroots level. India stands at the forefront globally, with **1.4 million women** serving as elected members of Panchayati Raj Institutions / Rural Local Bodies, constituting **46% of the total elected representatives of PRIs**.



Constitutional and Legislative Framework

- **73rd and 74th Constitutional Amendments (1992):** A minimum of 33% of seats in Panchayats (rural local bodies) and Municipalities (urban local bodies) are reserved for women.
- **Enhanced Reservation in Some States:** Several states have gone beyond the constitutional mandate of 33% reservation and implemented 50% reservation for women in local bodies.
 - According to the report **'Roadmap for India's City Systems Reforms'** by Janaagraha, working to strengthen systems of governance in India's cities, 17 States (Bihar, Madhya Pradesh, Chattisgarh, Kerala, Maharashtra etc) have legislated for 50% women's reservation, well over the constitutional minimum of 33%.

Notable Case Studies of Women's Success in Local Government

- **Self-Help Group (SHG) Movement in Tamil Nadu:** Women leaders in Tamil Nadu, leveraging their experience in SHGs, have been successful in initiating community-driven development projects, such as waste management and micro-financing schemes for rural women.
- **Maharashtra's Water Conservation Initiatives:** In Ahmednagar District, women Sarpanches have been instrumental in implementing rainwater harvesting and watershed management projects, leading to better water security for the local population.

IMPACT OF HIGHER WOMEN REPRESENTATION IN LOCAL GOVERNANCE:

- **Improved Governance and Transparency:** A study by the UNDP in 2012 found that women-led Panchayats in Rajasthan and West Bengal were more effective in implementing development projects and managing resources transparently compared to male-led Panchayats.
 - Research by the International Food Policy Research Institute (IFPRI) found that female leadership in local governments led to a 62% increase in investments in drinking water infrastructure, reflecting greater transparency and prioritization of public goods.

- **Focus on Social Welfare and Development:** A study by the Ministry of Panchayati Raj revealed that women-led Panchayats in Karnataka invested more in health and education, resulting in higher literacy rates and better health outcomes in their villages.
 - In Kerala, women Panchayat members have been instrumental in improving maternal and child health services, contributing to Kerala's high Human Development Index (HDI) compared to other states.
- **Empowerment and Gender Equality:** Increased representation in local self-government has empowered women, giving them a platform to voice their concerns and break traditional gender roles. This has had a ripple effect on societal attitudes, challenging stereotypes and increasing acceptance of women in leadership.
 - In Bihar, after the introduction of 50% reservation for women in Panchayats, there was a noticeable increase in female literacy rates and school enrolment of girls, as women leaders actively promoted education.
 - A study conducted by the IIM Ahmedabad highlighted that villages with female Sarpanches had a 25% higher probability of having women attending village meetings and participating in decision-making processes.
- **Better Representation of Women's Issues:** Women leaders are more likely to address issues that directly affect women, such as domestic violence, sanitation, and access to basic services, which often go overlooked in male-dominated councils.
 - In West Bengal, women-led Panchayats successfully implemented schemes to provide toilets in households, significantly reducing open defecation and improving women's safety.
- **Greater Participation in Local Development:** Women's leadership has led to increased grassroots participation, especially by other women, in local governance, planning, and development projects. This inclusivity has fostered a sense of community ownership and collaboration.
 - The Kudumbashree movement in Kerala, which empowers women through local self-help groups, has significantly increased women's participation in local governance and economic activities, leading to better social outcomes.

CHALLENGES OF WOMEN REPRESENTATION:

- **Challenges of Proxy Representation:** In some regions, women are elected to local bodies as "proxies" for male family members ("Sarpanch Pati"), where men control decision-making while women serve as symbolic representatives. A study by the Institute of Social Studies Trust (ISST) found that around 20-25% of women in Panchayats faced interference from male family members, impacting their ability to govern independently.
 - In Haryana and Uttar Pradesh, instances of male relatives attending meetings and making decisions on behalf of elected women representatives have been reported, limiting the autonomy of women leaders.
- **Limited Capacity and Experience:** According to a report by the National Institute of Rural Development and Panchayati Raj (NIRDPR), only about 45% of women Panchayat members received formal training, indicating a gap in capacity building. This is particularly challenging in rural areas, where patriarchal norms and traditional gender roles persist.
 - In Odisha, a study found that some women Panchayat members faced difficulties in understanding budgetary processes and government schemes, affecting their capacity to make informed decisions.
- **Resistance to Women's Leadership:** A survey by the Centre for the Study of Developing Societies (CSDS) found that in states like Madhya Pradesh and Bihar, over 30% of women representatives experienced resistance or discrimination from male members within the Panchayat system.
 - In Rajasthan, women leaders have faced challenges in convening meetings and asserting their authority, with some male members refusing to acknowledge their leadership.

- **Social and Cultural Barriers:** Social and cultural barriers, such as caste, religious norms, and gender biases, limit the effectiveness of women in leadership roles. The UN Women Report (2015) highlighted that intersectional challenges—based on caste, religion, and economic status—limit the participation and influence of women in local self-governance.
 - In Jharkhand, female Panchayat members from marginalized communities reported facing caste-based discrimination, which hindered their ability to represent their constituents effectively.
- **Tokenism and Lack of Real Power:** In some cases, women's presence in local governance is more symbolic than substantive, with limited real power to make decisions. This can result in tokenism, where women's representation does not translate into meaningful influence over policy and development.
 - In urban areas, such as Delhi and Mumbai, women councillors have reported that despite being elected, they are often sidelined during major decision-making processes, reducing their impact.

WAY FORWARD:

- **Quota for Marginalised Genders:** Expanding reservation to include marginalized genders, such as transgender individuals, will ensure representation beyond the binary gender framework.
 - In Karnataka, the state government reserved seats for transgender individuals in local bodies, setting an example for inclusive representation at a regional level.
 - Nepal's Constitution reserves seats for women, Dalits, and other marginalized communities, including LGBTQ+ individuals, to ensure comprehensive representation.
- **Skill Development and Training for Women and Marginalized Genders:** Providing leadership training, capacity-building programs, and workshops on governance, budget management, and legal rights can empower women and other genders to be effective leaders.
 - The 2nd ARC recommended targeted training for elected women representatives to improve governance outcomes. It emphasized skill-building in decision-making, financial management, and public administration.
 - Rwanda has implemented a Gender parity model with a robust capacity-building program for women leaders through the Gender Monitoring Office, ensuring that women in governance roles are well-trained and informed.
- **Mentorship Programs:** Establishing mentorship networks where experienced leaders mentor women and marginalized genders can build confidence and political acumen.
 - The Women's Leadership Training Program in Kerala, under the Kudumbashree initiative, has been effective in preparing women for leadership roles in local governance.
- **Increased Financial Support for Women's Political Participation:** Allocating funds specifically for the training and political empowerment of women and marginalized genders can facilitate their entry into politics.
 - The National Rural Livelihoods Mission has facilitated the creation of Self-Help Groups (SHGs) that serve as a platform for women to enter politics.
- **Promoting Gender Audits:** Introducing mandatory gender audits in government programs to assess the impact of policies on women and other genders, ensuring inclusivity.
 - The Gender Budgeting Initiative in Canada requires all government budgets to assess the gender impact of policies, ensuring that resources are allocated equitably.
- **Awareness Campaigns for Gender Equality:** Launching nationwide awareness campaigns to change societal attitudes toward women and other genders in leadership roles.
 - The High-Level Committee on the Status of Women in India (2015) emphasized the need for media campaigns to challenge stereotypes and promote the visibility of women in politics.

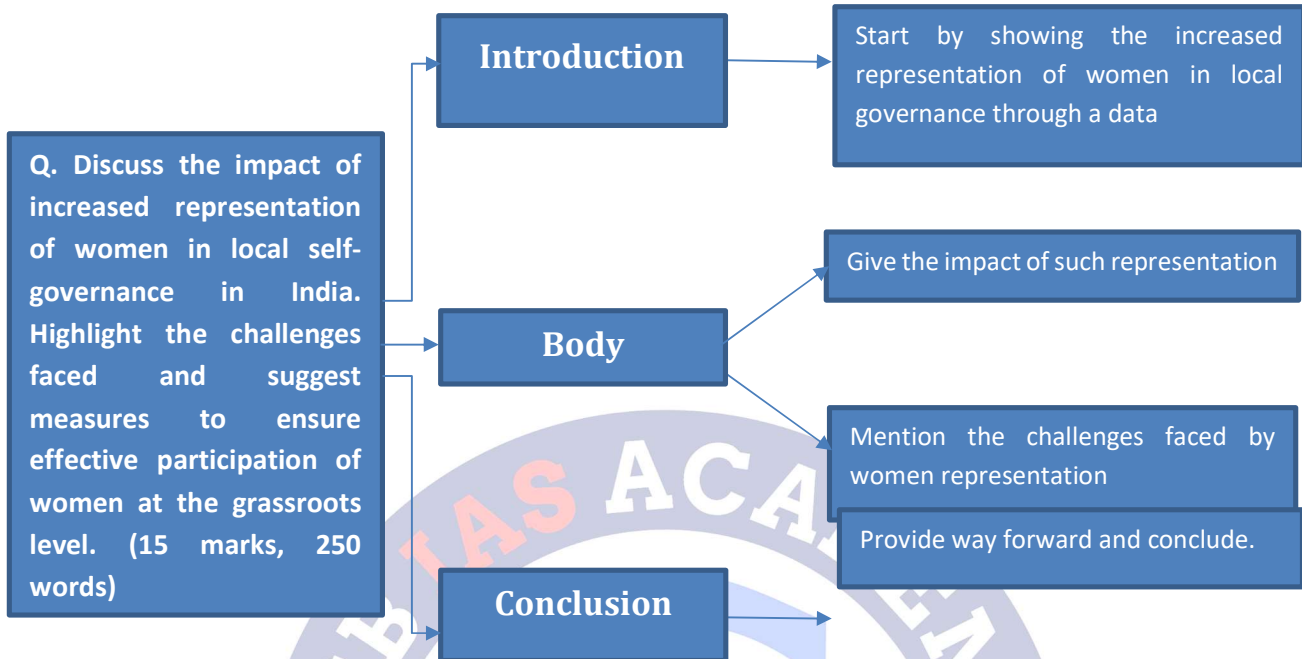
- **Gender Quotas in Political Parties:** Mandating that political parties include a minimum percentage of women and marginalized genders among their candidates can increase representation at all levels of governance.
 - In Norway, a 40% quota for women in political party candidate lists has led to increased representation in Parliament, setting an example for gender-inclusive political systems.
- **Legal Reforms for Inclusivity:** Amending existing laws to provide legal protection and support for marginalized genders in politics, including the introduction of anti-discrimination policies in political parties and government bodies.
 - The National Policy for Women draft proposed by the Ministry of Women and Child Development recommends gender-sensitive legal reforms to enhance women's political participation.
- **Strengthening Anti-Harassment Measures:** Introducing stricter anti-harassment policies in political and government institutions to protect women and marginalized genders from discrimination and abuse.
 - In the United Kingdom, a robust code of conduct for Parliamentarians ensures a safe and respectful environment, setting an example for gender-friendly governance mechanisms.
- **Digital Platforms for Capacity Building:** Leveraging digital tools for online training and skill development of women and marginalized genders in remote areas to prepare them for governance roles.
 - In Rajasthan, the government's e-Panchayat initiative provides digital training to women Panchayat members, empowering them with knowledge and skills for better governance.
- **Promoting E-Governance and Participation:** Encouraging digital participation in governance through online platforms, making it easier for women and marginalized genders to engage in political processes.
 - Estonia's e-Governance model enables citizens, including women and marginalized groups, to participate in decision-making processes digitally, ensuring a more inclusive democratic framework.
- **Sweden's Gender Mainstreaming:** Sweden's approach of integrating gender equality into all policy areas, including budgetary decisions and institutional planning, has made it a global leader in inclusive governance.
- **South Africa's Electoral Reforms:** South Africa's proportional representation system, combined with gender quotas within political parties, has led to increased representation of women and marginalized groups.

Canada's Gender-Sensitive Budgeting: Canada's implementation of gender-sensitive budgeting ensures that every government policy and financial decision considers its impact on women and other genders.

PRACTICE QUESTION

Q. Discuss the impact of increased representation of women in local self-governance in India. Highlight the challenges faced and suggest measures to ensure effective participation of women at the grassroots level. (15 marks, 250 words)

APPROACH



MODEL ANSWER

The 73rd and 74th Constitutional Amendments in India, enacted in 1992, marked a significant step towards empowering women at the grassroots level. As of 2023, women constitute about 46% of elected representatives in Panchayati Raj Institutions (PRIs), showcasing a remarkable increase in women's participation in local governance.

POSITIVE IMPACTS OF INCREASED WOMEN'S REPRESENTATION IN LOCAL GOVERNANCE

- Improved Governance and Transparency:** A study by the UNDP in 2012 found that women-led Panchayats in Rajasthan and West Bengal were more effective in implementing development projects and managing resources transparently compared to male-led Panchayats.
- Focus on Social Welfare and Development:** Women in leadership roles tend to emphasize issues like education, healthcare, sanitation, and child welfare.
 - In Kerala, women Panchayat members played a critical role in improving maternal and child health services, contributing to the state's high Human Development Index (HDI) compared to other states. In Karnataka, women-led Panchayats invested more in health and education, resulting in higher literacy rates and better health outcomes.
- Empowerment and Gender Equality:** Increased representation in local self-government has given women a platform to voice their concerns, challenging traditional gender norms.
 - In Bihar, following the introduction of 50% reservation for women in Panchayats, there was a noticeable increase in female literacy rates and school enrolment for girls.
- Enhanced Focus on Women's Issues:** Women leaders are more likely to address issues that affect women directly, such as domestic violence, access to basic services, and sanitation.
 - In West Bengal, women-led Panchayats implemented schemes to provide household toilets, reducing open defecation and improving women's safety.

CHALLENGES FACED BY WOMEN IN LOCAL GOVERNANCE

- Proxy Representation and Patriarchal Norms:** In some regions, women are elected as symbolic leaders, while male family members control decision-making. This limits women's autonomy and reduces their impact.

- In states like Haryana and Uttar Pradesh, instances of "Sarpanch Pati" (husband of a female leader) attending meetings on behalf of elected women representatives are common
- 2. **Limited Capacity and Experience:** Many women elected to local bodies lack adequate training in governance and budget management, affecting their effectiveness.
 - A study in Odisha revealed that some women Panchayat members had difficulties understanding budgetary processes, impacting their decision-making ability
- 3. **Resistance to Women's Leadership:** In conservative and rural areas, male colleagues and societal expectations often undermine women's authority.
 - In Rajasthan, women leaders have faced resistance in convening meetings, with some male members refusing to acknowledge their leadership
- 4. **Social and Cultural Barriers:** Gender biases, caste-based discrimination, and traditional norms limit the effectiveness of women in leadership roles.
 - In Jharkhand, female Panchayat members from marginalized communities faced caste-based discrimination, affecting their ability to govern effectively.

WAY FORWARD FOR EFFECTIVE WOMEN'S PARTICIPATION

1. **Skill Development and Capacity Building:** The Second Administrative Reforms Commission (ARC) emphasized targeted training for women in decision-making, financial management, and public administration
2. **Mentorship and Support Networks:** Kerala's Kudumbashree initiative has successfully used mentorship to prepare women for leadership roles in local governance
3. **Implementing Gender Quotas in Political Parties:** Mandating that political parties include a minimum percentage of women candidates can enhance representation beyond local bodies. Norway has a 40% gender quota for political party candidate lists, which has resulted in increased female representation in Parliament.
4. **Legal and Institutional Reforms:** The draft National Policy for Women proposed by the Ministry of Women and Child Development advocates for gender-sensitive legal reforms to enhance women's political participation

The increased representation of women in local self-governance has brought about significant positive changes, particularly in social welfare, governance, and empowerment. India must leverage its constitutional mandates and draw inspiration from global best practices to ensure that women's representation leads to substantial and sustainable change in governance.

7. INDIA-ITALY RELATIONS

IMPACT ANALYSIS

SYLLABUS:

GS 2 > International Relations >> Bilateral Relations

REFERENCE NEWS:

Prime Minister Narendra Modi and his Italian counterpart Giorgia Meloni announced a **five-year strategic action plan** outlining their vision for collaboration in a range of key sectors, including defence, trade, energy and space. The two leaders unveiled the Joint Strategic Action Plan 2025-29 as they met on the sidelines of the G20 Summit in Rio de Janeiro, Brazil.

INDIA-ITALY RELATIONS:

- **Ancient Contacts:** During the Roman Empire, there were commercial exchanges between the Indian subcontinent and the Roman territories, particularly involving spices, textiles, and other goods.
- **Medieval Period:** During the medieval period, Italian explorers, scholars, and traders like Marco Polo contributed to the knowledge of India in Europe, documenting their observations of Indian society, culture, and economy.
- **Establishment of Diplomatic Ties (1947):** After India gained independence in 1947, formal diplomatic relations with Italy were established in 1947. Both nations opened embassies in each other's capitals, marking the beginning of official bilateral relations.
- **Cold War Period:** During the Cold War, India and Italy maintained cordial diplomatic relations despite being on different geopolitical alignments—India followed a policy of non-alignment, while Italy was part of the Western bloc and a member of NATO.
- **Regular High-Level Visits:** Diplomatic engagement between India and Italy intensified from the 1980s, with regular high-level visits that laid the foundation for stronger political and economic ties.
- **United Nations Cooperation:** Both countries support reforming the UN Security Council, and Italy has been a part of the "Uniting for Consensus" group, advocating for a more inclusive reform process.
- **Growth in Trade and Investment:** In 1991, the formation of the Indo-Italian Joint Commission for Economic Cooperation paved the way for enhanced economic cooperation. Trade volumes have consistently increased over the decades.

SIGNIFICANCE OF INDIA-ITALY RELATIONS:

- **Bilateral Trade Growth:** Italy is one of India's major trading partners in the European Union. In 2023, the bilateral trade between India and Italy was valued at over \$14 billion. This trade covers diverse sectors such as machinery, chemicals, fashion, textiles, food products, and automobiles.
 - Italy is India's fourth-largest trading partner in the European Union, while India is one of Italy's most important trading partners in Asia.
- **Italian Investment in India:** Over 600 Italian companies operate in India, creating jobs and fostering technological exchange. Italian investment in India is estimated to be around \$3 billion, reflecting a strong economic partnership.
 - Italian companies like Fiat, Ferrero, Piaggio, and Enel have established a strong presence in India, contributing to the growth of India's manufacturing and services sectors.
- **Indian Presence in Italy:** Indian companies are also investing in Italy, particularly in the sectors of IT, pharmaceuticals, and manufacturing.
 - Indian IT companies like Tata Consultancy Services (TCS), Infosys, and Wipro have a growing presence in Italy, supporting Italian businesses with digital transformation.

- **Strategic Partnership:** Italy is a key partner for India in the defence sector, with growing cooperation in defence technology, joint ventures, and military exchanges. Both countries share an interest in maintaining stability in the Indo-Pacific region.
 - In 2021, India and Italy established a strategic partnership on energy transition, mobility, and defence cooperation, underlining the importance of their relationship in ensuring regional and global security.
- **Defence Collaboration:** Italy and India are exploring joint ventures in defence manufacturing and technology transfer, focusing on aerospace, naval equipment, and advanced defence systems.
 - The establishment of the Indo-Italian Joint Working Group on Defence Cooperation has led to discussions on collaboration in maritime security and aerospace technology.
- **Counter-Terrorism Cooperation:** India and Italy share a commitment to combating terrorism and organized crime. They collaborate on intelligence sharing, counter-terrorism measures, and capacity building.
 - In 2022, India and Italy renewed their agreement on counter-terrorism cooperation, focusing on intelligence sharing, cybersecurity, and preventing radicalization.
- **Joint Initiatives in Innovation:** In 2022, India and Italy signed agreements for cooperation in space technology, including satellite communication and earth observation. This cooperation aims to strengthen research in areas such as climate monitoring and disaster management.
 - The India-Italy Innovation Day, held annually, showcases technological collaborations between Indian and Italian companies and institutions, emphasizing innovation in sectors like robotics, clean energy, and digital startups.
- **Focus on Renewable Energy:** Italy and India share a commitment to sustainable development, with a focus on renewable energy projects like solar, wind, and green hydrogen.
 - Italy supports India's renewable energy goals, contributing to initiatives like the International Solar Alliance (ISA). Both countries are collaborating to promote energy efficiency and green technology.
- **Collaboration in Multilateral Forums:** India and Italy cooperate in various multilateral settings, including the United Nations, G20, and World Trade Organization (WTO), where they work together on global economic issues, climate change, and sustainable development.
 - In 2021, India and Italy collaborated closely during Italy's presidency of the G20, focusing on issues like climate action, global health, and economic recovery post-COVID-19.
- **Climate and Environmental Cooperation:** India and Italy are key partners in global climate action, promoting sustainability, renewable energy, and green initiatives.
 - In 2021, India and Italy launched a strategic partnership focused on energy transition, circular economy, and environmental conservation. Both countries are committed to the Paris Agreement goals, and Italy has expressed support for India's initiatives like the Coalition for Disaster Resilient Infrastructure (CDRI).
- **Tourism and Academic Exchanges:** Tourism and educational collaborations have seen steady growth between India and Italy, contributing to stronger people-to-people ties. Over 20,000 Indian students are currently studying in Italy, reflecting the growing educational partnership between the two countries.
 - Italy is a popular destination for Indian students, particularly in fields like design, fashion, and architecture. Indian tourists also contribute significantly to Italy's tourism sector, attracted by its historical sites and cultural heritage.
- **Diplomatic Normalization:** Despite challenges, such as the Italian marines' controversy and the AgustaWestland helicopter scandal, both countries have shown resilience in overcoming diplomatic hurdles.
 - The resolution of the marines' case in 2021, with compensation and a diplomatic agreement, normalized relations and allowed both nations to focus on strengthening their partnership.

- **Engagement in the Indo-Pacific:** Italy acknowledges India's growing influence in the Indo-Pacific region, aligning with India's vision of a free, open, and inclusive region.
 - As Italy becomes more involved in Indo-Pacific affairs, India's role as a key partner for regional stability and economic cooperation is gaining recognition.

CHALLENGES OF INDIA-ITALY RELATIONS:

- **Diplomatic Incidents and Tensions: Italian Marines Case (2012-2021)** strained bilateral relations, with Italy challenging India's jurisdiction over the case and India asserting its legal rights. In 2021, the case was resolved following an agreement at the Permanent Court of Arbitration in The Hague, which ruled that Italy had jurisdiction over the marines. Italy agreed to compensate the families of the victims, allowing both countries to normalize relations.
- **Non-Tariff Barriers and Trade Disputes:** Indian exporters have expressed concerns over stringent European Union standards that affect access to the Italian market, particularly in the pharmaceutical and agricultural sectors. Italy, as a member of the EU, must comply with these standards, which sometimes complicates trade negotiations.
 - In 2015, India and the EU, including Italy, faced disputes over the import of generic Indian drugs due to concerns over compliance with EU standards.
- **Intellectual Property Rights (IPR) Issues:** Intellectual Property Rights (IPR) remain a point of contention, particularly concerning India's approach to patents and Italy's preference for stricter IPR enforcement. Differences in patent regulations impact sectors like pharmaceuticals, where India's generic drug industry plays a crucial role.
- **Impact of Past Scandals on Defence Ties:** The AgustaWestland scandal had a lingering impact on defence relations, leading to a temporary freeze in defence cooperation. Issues of transparency and trust have been central challenges in renewing defence collaboration.
- **Differences in Defence Procurement Priorities:** India's defence procurement strategy emphasizes indigenization and self-reliance under the "Make in India" initiative. This focus sometimes complicates negotiations with foreign defence suppliers, including Italy, due to technology transfer and local production requirements.
- **Differing Geopolitical Alignments:** Geopolitical differences can create divergences in foreign policy stances, particularly regarding global conflicts, sanctions, and strategic alliances. For instance, India's close relationship with Russia can sometimes contrast with Italy's stance as an EU member, affecting cooperation on certain international issues.
- **Limited Engagement in the Indo-Pacific:** While India plays a crucial role in the Indo-Pacific region, Italy's involvement in the Indo-Pacific has been limited compared to other European nations like France and Germany.
- **Different Socio-Cultural Contexts:** India and Italy have distinct socio-cultural contexts, which can sometimes pose challenges in diplomatic and business engagements. Differences in work culture, communication styles, and business ethics require careful navigation in bilateral negotiations.
- **Broad EU-India Negotiations:** India's relationship with the European Union (EU), of which Italy is a prominent member, plays a crucial role in shaping India-Italy relations. Challenges in EU-India negotiations on trade agreements, human rights concerns, and climate policies can indirectly impact India's bilateral ties with Italy.
- **Free Trade Agreement (FTA) Negotiations:** India and the EU have been negotiating a Free Trade Agreement (FTA) for years, with Italy being a strong supporter of the FTA. However, disagreements over market access, labour standards, and sustainability measures have delayed the agreement.
- **Complex Visa and Immigration Policies:** Differences in visa policies and work permit regulations have been a challenge for both Indian professionals working in Italy and Italian businesses operating in India. Complicated visa processes can hinder business exchanges, academic cooperation, and people-to-people contact.

WAY FORWARD:

- **Enhancing Economic and Trade Cooperation:** Italy's expertise in food processing and design can complement India's agricultural and manufacturing sectors. Initiatives like the Indo-Italian Food Processing Cluster can enhance collaboration in high-potential sectors.
- **Fostering Innovation and Technology Exchange:** Launch the Indo-Italian Innovation and Incubation Exchange Programme, bringing together academia, industry experts, and startups to collaborate on cutting-edge technologies.
- **Strengthening Strategic and Defence Ties:** Develop a Defence Industrial Roadmap to outline areas of cooperation, particularly in aerospace, naval systems, and cyber defence. Increase joint military exercises, maritime patrols, and defence R&D collaboration.
- **Promoting Sustainable Development and Green Partnership:** Launch a *Green Technology Partnership* focusing on joint research in renewable energy solutions, energy efficiency, and circular economy practices.

KEY HIGHLIGHTS OF ITALY-INDIA JOINT STRATEGIC ACTION PLAN 2025-2029

Political Dialogue

- Regular meetings between Heads of Government, Foreign, Trade, and Defence Ministers.
- Annual bilateral consultations between the two Foreign Ministries.
- Intensify ministerial-level meetings to enhance sectoral cooperation.

Economic Cooperation and Investments

- Strengthen bilateral trade, investment, and joint ventures in high-potential sectors (e.g., green technologies, sustainable mobility, food processing, semiconductors).
- Promote trade fairs, business forums, and industrial partnerships.
- Advance collaboration in automotive, infrastructure, and advanced manufacturing.

Connectivity

- Collaborate on sustainable transport and climate action.
- Enhance maritime and land infrastructure cooperation, including the India-Middle East-Europe Economic Corridor.
- Finalize a maritime and port cooperation agreement.

Science, Technology, IT, Innovation, and Start-ups

- Expand partnerships in critical technologies like AI, telecom, and digital services.
- Explore Industry 4.0, clean energy, and critical minerals initiatives involving academia and SMEs.
- Enhance STEM research collaborations, scholarships, and joint projects.
- Launch the Indo-Italian Innovation and Incubation Exchange Programme.

Space Sector

- Expand ASI-ISRO collaboration on Earth observation, heliophysics, and lunar exploration.
- Promote peaceful outer space usage and commercial space partnerships.
- Organize an Italian space delegation visit to India by mid-2025.

Energy Transition

- Organize "Tech Summits" to foster industrial partnerships.
- Collaborate on green hydrogen, biofuels, and renewable energy solutions.
- Support the Global Biofuels Alliance and International Solar Alliance.

Defence Cooperation

- Hold annual Joint Defence Consultative meetings and Joint Staff Talks.
- Enhance interoperability and cooperation in the Indo-Pacific.
- Develop a Defence Industrial Roadmap and MoU between SIDM and AIAD.
- Focus on maritime cooperation and defence research.

Security Cooperation

- Enhance cybersecurity, counterterrorism, and capacity-building efforts.

- Hold yearly Joint Working Group meetings on international terrorism and crime.
- Share best practices and conclude agreements on classified information protection.

Migration and Mobility

- Promote safe migration channels and labour training, with a pilot project for health professionals.
- Enhance student, researcher, and academic mobility.
- Counter irregular migration effectively.

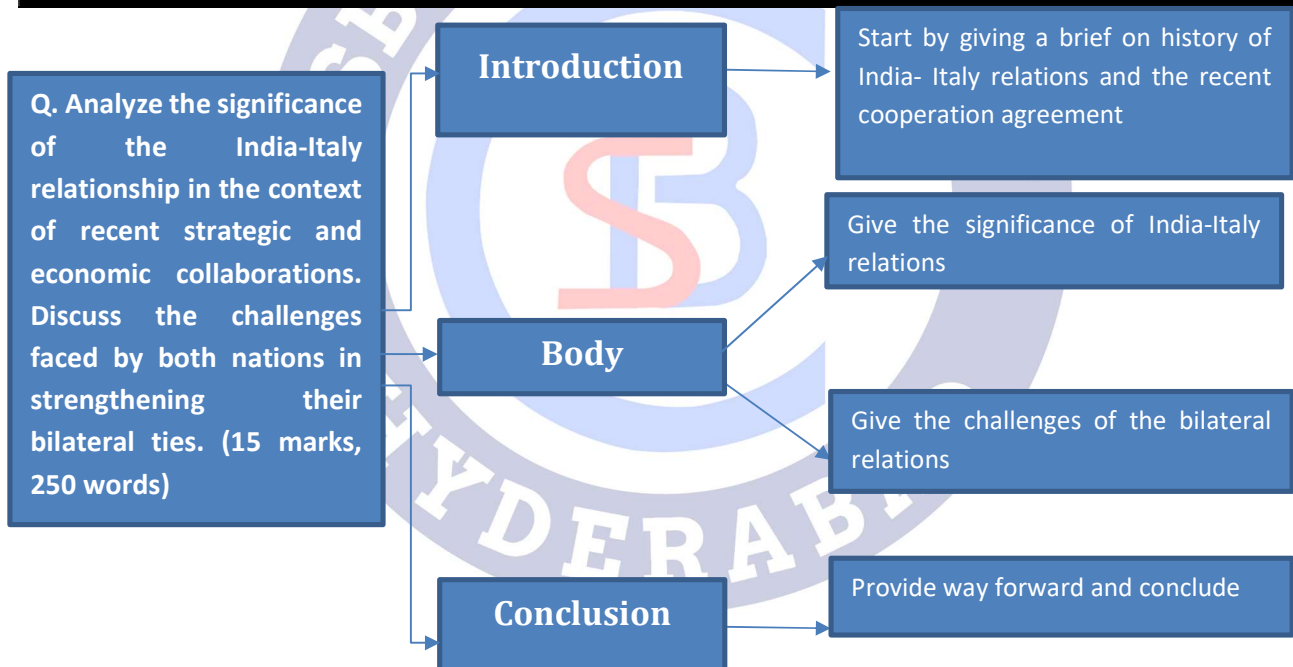
Culture, Academia, Cinema, and Tourism

- Foster exchanges between universities and technical education institutions.
- Collaborate on exhibitions, heritage preservation, and restoration projects.
- Promote film co-productions and enhance tourism.
- Strengthen cultural bonds and implement the 2023 Executive Programme of Cultural Cooperation.

PRACTICE QUESTION

Q. Analyze the significance of the India-Italy relationship in the context of recent strategic and economic collaborations. Discuss the challenges faced by both nations in strengthening their bilateral ties. (15 marks, 250 words)

APPROACH



MODEL ANSWER

India and Italy share a multifaceted relationship that spans historical, economic, cultural, and strategic dimensions. Formal diplomatic ties were established in 1947, and since then, the relationship has evolved into a comprehensive partnership. In recent years, both countries have sought to deepen their ties through strategic, economic, and technological cooperation, as reflected in the announcement of the Joint Strategic Action Plan 2025-2029.

SIGNIFICANCE OF INDIA-ITALY RELATIONSHIP

1. Economic and Trade Cooperation

- **Bilateral Trade Growth:** Italy is a key economic partner for India within the European Union, with bilateral trade covering sectors like machinery, chemicals, fashion, textiles, and food products. In 2023, trade between India and Italy was valued at over \$14 billion, showcasing the growing economic ties
- **Investment and Joint Ventures:** Over 600 Italian companies operate in India, investing in sectors such as automotive, manufacturing, and food processing. This investment supports India's economic modernization and technological advancements.
 - **Example:** Italian companies like Fiat, Ferrero, and Enel contribute significantly to India's manufacturing and services sectors, fostering job creation and technological exchange

2. Strategic and Defence Collaboration

- **Defence Ties and Technology Transfer:** In 2021, India and Italy established a strategic partnership focused on defence, energy transition, and mobility, underscoring the alignment of their strategic interests

3. Technological and Renewable Energy Collaboration

- **Innovation and Space Cooperation:** In 2022, both nations signed agreements for cooperation in space technology, focusing on satellite communication, earth observation, and climate monitoring.
- **Renewable Energy Goals:** Italy supports India's ambitions in renewable energy through initiatives like the International Solar Alliance (ISA). Both countries focus on green technology and sustainable energy solutions.

4. Cultural and People-to-People Ties

- **Cultural Exchange and Tourism:** India and Italy have deep-rooted cultural exchanges, including academic partnerships, tourism, and joint film productions. Over 20,000 Indian students currently study in Italy, strengthening educational cooperation.

CHALLENGES IN INDIA-ITALY RELATIONS

1. Diplomatic Incidents and Tensions

- **Italian Marines Case (2012-2021):** A major diplomatic challenge arose when two Italian marines were accused of killing Indian fishermen, leading to a prolonged legal dispute. The case was resolved in 2021, allowing for the normalization of relations

2. Trade Disputes and Regulatory Challenges

- **Non-Tariff Barriers:** Indian exporters face challenges due to stringent EU standards, which Italy, as a member, must follow. This affects sectors like pharmaceuticals and agriculture.
- **Intellectual Property Rights (IPR) Issues:** Differences in patent enforcement and IPR standards create friction, particularly in sectors like pharmaceuticals.

3. Defence Cooperation and Trust Issues

- **Impact of Past Scandals:** The AgustaWestland helicopter scandal in 2013, involving allegations of corruption, temporarily strained defence cooperation between India and Italy.

4. Geopolitical Differences and Limited Indo-Pacific Engagement

- **Differing Alignments:** As an EU and NATO member, Italy's geopolitical stance occasionally diverges from India's non-aligned position, particularly on international conflicts and sanctions.
- **Limited Indo-Pacific Presence:** Unlike other European countries, Italy's engagement in the Indo-Pacific region is limited, reducing opportunities for deeper cooperation in maritime security.

MEASURES TO ENHANCE INDIA-ITALY PARTNERSHIP

1. **Strengthening Economic and Trade Relations:** Simplify regulatory standards, address non-tariff barriers, and harmonize quality standards to facilitate trade. Focus on sectors like green technology, sustainable mobility, and advanced manufacturing as outlined in the India-Italy Joint Strategic Action Plan 2025-2029
2. **Enhancing Defence and Strategic Cooperation:** Foster transparency in defence contracts and strengthen mechanisms for joint defence production and technology transfer. Focus on maritime security in the Indo-Pacific to enhance regional stability.
3. **Promoting Cultural and Academic Exchange:** Increase academic collaborations, scholarships, and cultural exchange programs to deepen people-to-people ties. Promote joint projects in heritage conservation and tourism.
4. **Addressing Diplomatic Challenges Proactively:** Create formal dialogue mechanisms to address diplomatic tensions, ensuring that incidents like the marines' case are handled swiftly and effectively. Use multilateral platforms like the G20 for constructive dialogue.

The India-Italy relationship is a dynamic and evolving partnership that is significant for both nations. It encompasses economic, strategic, and cultural dimensions, supporting India's development goals and Italy's aspirations in the Indo-Pacific. By focusing on economic cooperation, defence collaboration, cultural ties, and proactive diplomacy, India and Italy can enhance their bilateral relationship, contributing to regional stability and global prosperity.



8. TREATY ON CRIMES AGAINST HUMANITY

IMPACT ANALYSIS

SYLLABUS:

GS 2 > International Relations >> United Nations >>> Human Rights

REFERENCE NEWS:

A key United Nations (U.N.) General Assembly committee adopted a resolution paving way for negotiations on a first-ever treaty on **preventing and punishing** crimes against humanity after Russia dropped amendments that would have derailed the effort.

The resolution was approved by consensus by the assembly's legal committee, which includes all 193-member U.N. nations, after tense last-minute negotiations between its supporters and Russia that dragged through the day.

The resolution calls for a time-bound process with preparatory sessions in 2026 and 2027, and three-week negotiating sessions in 2028 and 2029 to finalise a treaty on crimes against humanity.

TREATY ON CRIMES AGAINST HUMANITY:

There are global treaties that cover war crimes, genocide and torture — but there has been no specific treaty addressing crimes against humanity. Pointing to the proliferation of crimes against humanity around the world, a treaty will be strong, progressive and survivor-centric.

- Crimes against humanity were first codified in international law during the Nuremberg Trials (1945-1946), where Nazi officials were prosecuted for atrocities committed during World War II. This laid the foundation for future efforts to create legal norms around crimes against humanity.

Global Efforts to Address Crimes Against Humanity

- **1949 Geneva Conventions** are a set of four international treaties establishing humanitarian protections during armed conflicts. They safeguard wounded soldiers, prisoners of war, and civilians, emphasizing humane treatment and non-combatant rights.
- **International Humanitarian Law:** The Law of Armed Conflict (LOAC), also known as International Humanitarian Law (IHL), governs the conduct of warfare. It aims to protect those who are not actively participating in hostilities, such as civilians, medical personnel, and prisoners of war. It sets out rules to limit the methods and means of warfare, ensuring humanitarian protections and minimizing suffering.
- **Hague Conventions (1899, 1907):** These address the laws of war and war crimes, focusing on the conduct of hostilities, treatment of prisoners, and protection of civilians and cultural property.
- **International Criminal Court (ICC):** Established to punish major perpetrators of war crimes, crimes against humanity and genocide and it has 124 countries that are parties to it. The ICC says crimes against humanity are committed as part of a large-scale attack on civilians and it **lists 15 forms** including murder, rape, imprisonment, enforced disappearances, sexual slavery, torture and deportation. But the ICC does not have jurisdiction over nearly 70 other countries.
 - The ICC has investigated and prosecuted cases involving crimes against humanity in regions like the Democratic Republic of Congo, Sudan (Darfur), and Libya.
- **UN Conventions and Resolutions:** In 2005, the UN adopted the doctrine of the **Responsibility to Protect (R2P)**, which states that the international community has a responsibility to protect populations from genocide, war crimes, ethnic cleansing, and crimes against humanity when national governments fail to do so.
- **Draft Convention on Crimes Against Humanity:** In 2019, the International Law Commission (ILC) adopted a Draft Convention on Crimes Against Humanity, aiming to create a global treaty specifically dedicated to these crimes.

Regional Examples and Mechanisms to Address Crimes Against Humanity

- **European Court of Human Rights (ECHR):** While not explicitly focused on crimes against humanity, the ECHR addresses severe human rights violations, including those that may amount to crimes against humanity, by holding European states accountable.
- **Yugoslav Tribunal:** The **International Criminal Tribunal for the former Yugoslavia (ICTY)**, established in 1993 by the UN, was a significant regional mechanism for prosecuting crimes committed during the Balkan conflicts, including crimes against humanity. The ICTY prosecuted and convicted high-profile figures like Slobodan Milošević and Radovan Karadžić for crimes against humanity during the Yugoslav Wars.
- **African Union (AU) and Hybrid Courts:** The AU has established hybrid courts to prosecute crimes against humanity within African nations, often in collaboration with international bodies.
- The **Extraordinary African Chambers**, a special tribunal created within the Senegalese court system, convicted former Chadian dictator Hissène Habré in 2016 for crimes against humanity, marking a landmark case of African-led justice.
- **African Court on Human and Peoples' Rights:** Though it primarily focuses on human rights, it can address severe violations related to crimes against humanity.
- **Inter-American Court of Human Rights:** In 2011, the Inter-American Court condemned the state of Chile for failing to investigate crimes against humanity committed during Augusto Pinochet's dictatorship, reinforcing the principle of accountability.
- The **International Crimes Tribunal in Bangladesh** was established to prosecute war crimes, genocide, and crimes against humanity committed during the 1971 Bangladesh Liberation War.
- The **UN's Independent International Commission of Inquiry on the Syrian Arab Republic** has documented crimes against humanity during the Syrian Civil War, though prosecution remains difficult due to geopolitical complexities.

WHY THERE IS A NEED FOR A SEPARATE TREATY FOR CRIMES AGAINST HUMANITY?

- **Lack of a Standalone Treaty:** Unlike genocide and war crimes, which are covered under the 1948 Genocide Convention and the Geneva Conventions, there is no standalone, comprehensive treaty that specifically addresses crimes against humanity. This results in inconsistencies in how these crimes are prosecuted and understood across different jurisdictions.
 - The Rome Statute of the ICC defines crimes against humanity, but not all countries are party to the ICC. A standalone treaty would create a universal legal framework, independent of the ICC's jurisdictional limitations.
- **Obligation to Prevent:** A separate treaty would place a stronger emphasis on the prevention of crimes against humanity, obligating states to take proactive measures to stop atrocities before they occur.
 - The Genocide Convention obligates states to prevent genocide, even beyond their borders. A similar obligation for crimes against humanity would strengthen the international community's ability to respond early to emerging crises.
- **Facilitating Mutual Assistance:** A treaty on crimes against humanity would create a formal framework for international cooperation in investigation, prosecution, extradition, and judicial assistance.
 - The proposed Draft Convention on Crimes Against Humanity, adopted by the International Law Commission (ILC) in 2019, emphasizes international cooperation, including provisions for mutual legal assistance and extradition.
- **Jurisdictional Gaps:** The ICC's jurisdiction is limited to crimes committed on the territory of member states or by their nationals. Many countries, including major powers like the United States, Russia, China, and India, are not parties to the Rome Statute, limiting the ICC's reach.
 - A separate treaty, with broad international support, could apply to countries that are not ICC members, providing a wider scope for prosecuting crimes against humanity.

- **Political Constraints:** The ICC faces political challenges, as investigations and prosecutions can be influenced by geopolitical considerations, limiting its effectiveness. A standalone treaty, ratified by a broad coalition of states, could have greater political legitimacy and reduce the perception of bias.
- **Promoting Victim-Centered Justice and Reparations:** A dedicated treaty would prioritize the rights of victims and survivors, emphasizing justice, reparations, and support for affected communities.
 - The Draft Convention on Crimes Against Humanity includes provisions for victim protection, reparations, and support services, recognizing the importance of addressing the needs of those affected by atrocities.
- **Alignment of Domestic Laws:** A standalone treaty would provide a clear legal framework for countries to incorporate crimes against humanity into their domestic legislation, enhancing the capacity of national courts to prosecute these crimes.
 - Countries like Germany, Argentina, and Canada have incorporated crimes against humanity into their domestic legal systems, enabling them to prosecute individuals for such crimes under national laws.
- **Deterring Future Atrocities:** A separate treaty would reinforce the international community's commitment to holding perpetrators accountable, creating a stronger deterrence effect against future crimes. By signalling that crimes against humanity will be prosecuted universally, the treaty would discourage potential offenders.
 - The existence of the Genocide Convention has deterred some potential acts of genocide by creating a clear international framework for accountability. A similar effect could be achieved for crimes against humanity.
- **Beyond War Crimes and Genocide:** Crimes against humanity are distinct from war crimes and genocide, encompassing a broader range of atrocities that may occur in peacetime or wartime. A separate treaty would ensure that these crimes are addressed comprehensively, irrespective of context.
 - Acts like apartheid, systemic persecution, enforced disappearances, and other inhumane acts may not fall under the strict definitions of genocide or war crimes but would be covered under a treaty on crimes against humanity.

WHAT MUST THE FUTURE TREATY ADDRESS?

- **Clear and Comprehensive Definition of Crimes Against Humanity:** Drawing from the best practices established by international law, including the Rome Statute, it should include acts like genocide, enslavement, persecution, enforced disappearances, apartheid, and other inhumane acts committed as part of a widespread or systematic attack against civilians.
 - Ensure that the definition covers gender-based violence, ethnic cleansing, forced labour, and other emerging forms of atrocities that have gained recognition in recent years.
- **Protection of Vulnerable Groups:** The treaty should explicitly protect vulnerable groups, such as women, children, indigenous communities, LGBTQ+ individuals, and persons with disabilities, ensuring that acts targeting these populations are considered crimes against humanity.
- **Proactive Prevention Mechanisms:** This could involve setting up an **international early warning system** to monitor potential situations of concern, analyze risk factors, and alert the global community when there is a likelihood of atrocities.
 - Include provisions for **preventive diplomacy** and mediation, empowering the international community to intervene early through dialogue, negotiation, and conflict resolution to prevent escalation.
- **Obligation to Report and Act:** States should be required to report any credible threat of crimes against humanity to a designated international body, such as a UN-based monitoring commission. Failure to report should have consequences, including the possibility of sanctions or loss of privileges within international organizations.

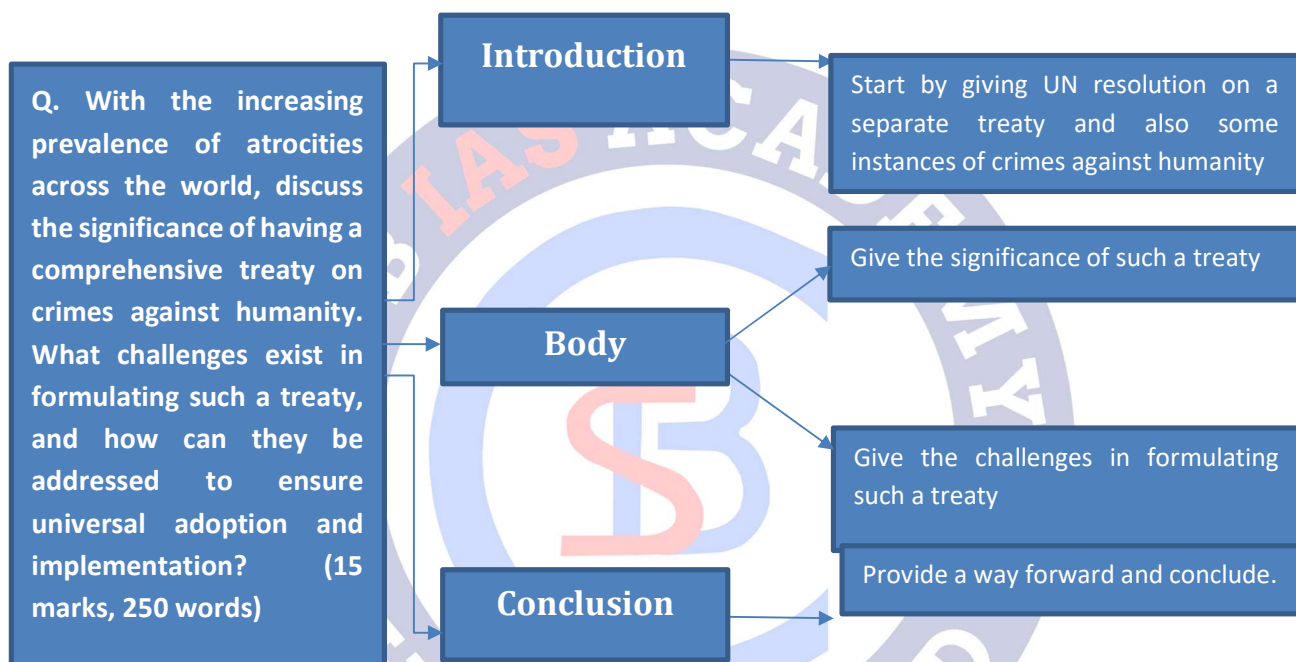
- **Focus on Victim Rights:** The treaty should prioritize the rights and needs of victims, ensuring justice, reparations, and support for affected communities. It should provide guidelines for fair trials, witness protection, psychosocial support, and restitution.
 - **Global Victim Fund:** Establish a Global Victim Compensation and Rehabilitation Fund, supported by contributions from member states, private donors, and fines imposed on convicted perpetrators.
- **Community-Based Justice Mechanisms:** Allow for community-based justice and reconciliation mechanisms, where appropriate, to facilitate healing and reparations. This could include restorative justice practices, traditional justice systems, and truth commissions that align with local cultural and legal traditions.
- **Incentivizing Domestic Prosecution:** Apply the principle of subsidiarity, which gives priority to national courts in prosecuting crimes against humanity unless the state is unwilling or unable to do so. This respects national sovereignty while ensuring accountability.
- **Clear Guidelines for Complementarity:** Clearly define the relationship between international and national jurisdictions. The treaty should establish a complementary mechanism, allowing the International Criminal Court or a designated international body to step in only when national courts fail to prosecute effectively.
- **Global Legal Assistance Network:** Establish an international network for legal assistance and mutual support among states to facilitate investigations, extradition, and prosecution. This network would provide forensic expertise, witness protection, evidence-gathering, and training for national judicial authorities.
- **Digital Evidence and Open-Source Investigation:** Encourage the use of digital evidence, satellite imagery, and open-source intelligence for investigating crimes against humanity. Develop international guidelines for the admissibility and verification of digital evidence to ensure fairness and reliability in trials.
 - **Blockchain Technology for Evidence Storage:** Implement blockchain technology for securely storing and managing evidence related to crimes against humanity. This would prevent tampering and ensure a transparent chain of custody for evidence.
- **Database of Atrocity Crimes:** Create a centralized, publicly accessible database that documents instances of crimes against humanity globally, with verified data, testimonies, and evidence. This database could be managed by a dedicated international institution and used for advocacy, awareness, and research.
- **Optional Protocols for Context-Specific Needs:** Introduce optional protocols that states can adopt to address specific issues, such as sexual and gender-based violence, protection of journalists, or atrocities related to environmental destruction. This flexibility would encourage broader participation while allowing countries to focus on areas most relevant to their context.
- **Sanctions for Non-Compliance:** While incentives are essential, there should also be provisions for sanctions against states that fail to implement the treaty's provisions, particularly in cases of gross violations or non-cooperation with international mechanisms. Use **diplomatic isolation**, travel bans, asset freezes, or exclusion from international bodies for countries that shield perpetrators or obstruct justice.
- **Recognition of Environmental Crimes:** Expand the definition of crimes against humanity to include ecocide—the mass destruction of the environment with severe impacts on civilian populations. Acknowledge that climate change can lead to displacement, resource conflicts, and atrocities. The treaty should include provisions to monitor and prevent crimes against humanity linked to environmental degradation and climate change.
- **Cyber Atrocities:** Address new forms of atrocities, including cyber-attacks that target critical civilian infrastructure, leading to mass harm. The treaty should define cybercrimes that can be categorized as crimes against humanity and develop mechanisms for their prosecution.

- **Establishment of an Independent Monitoring Body:** Create an independent international commission or ombudsman to monitor adherence to the treaty, investigate potential violations, and make recommendations. This body should be free from political influence and have access to reliable data.

PRACTICE QUESTION

Q. With the increasing prevalence of atrocities across the world, discuss the significance of having a comprehensive treaty on crimes against humanity. What challenges exist in formulating such a treaty, and how can they be addressed to ensure universal adoption and implementation? (15 marks, 250 words)

APPROACH



MODEL ANSWER

Despite the existence of international laws covering war crimes and genocide, there is no standalone treaty dedicated specifically to crimes against humanity. The growing instances of atrocities worldwide such as Russia Ukraine war, war led displacement and deaths in Israel-Palestine etc highlight the need for a comprehensive treaty that addresses these crimes consistently and effectively. UN has passed a collective resolution recently for a separate treaty on crimes against humanity.

SIGNIFICANCE OF A COMPREHENSIVE TREATY ON CRIMES AGAINST HUMANITY

1. **Establishing a Uniform Legal Framework:** A standalone treaty would create a consistent legal definition and framework for prosecuting crimes against humanity, independent of other legal instruments like the Rome Statute of the International Criminal Court (ICC).
 - Unlike the Genocide Convention (1948) and the Geneva Conventions (1949) that address specific forms of atrocities, crimes against humanity encompass a broader range of offenses that occur in both wartime and peacetime.

2. **Strengthening Prevention Mechanisms:** A dedicated treaty would emphasize proactive measures for preventing crimes against humanity. This includes establishing early warning systems, monitoring risk factors, and facilitating preventive diplomacy.
 - The draft proposal for the treaty includes provisions for an international early warning system to identify potential crises and empower the international community to intervene before atrocities escalate
3. **Facilitating International Cooperation and Accountability:** A separate treaty would foster international cooperation in investigations, extraditions, and judicial assistance, ensuring that perpetrators are held accountable regardless of jurisdiction.
 - The International Law Commission's (ILC) Draft Convention on Crimes Against Humanity emphasizes mutual legal assistance and extradition, facilitating cross-border collaboration to track and prosecute offenders
4. **Victim-Centered Justice and Reparations:** The treaty would prioritize victim rights, ensuring justice, reparations, and support for affected communities. This would include establishing a Global Victim Compensation and Rehabilitation Fund, providing financial and psychological assistance to survivors.
 - The draft convention proposes guidelines for victim support, fair trials, witness protection, and restitution, reinforcing a survivor-centric approach to justice

CHALLENGES IN FORMULATING A TREATY ON CRIMES AGAINST HUMANITY

1. **Geopolitical Complexities and Lack of Consensus:** Major geopolitical powers often have differing interests, leading to challenges in reaching a consensus on the scope and enforcement of a treaty. Countries may be reluctant to support a treaty that could expose their officials or allies to international prosecution.
 - The Rome Statute has not been ratified by key global players like the United States, Russia, China, and India, highlighting the difficulty in achieving universal agreement
2. **Jurisdictional Limitations and National Sovereignty:** Many nations fear that a comprehensive international treaty could undermine national sovereignty by imposing international standards over domestic laws, particularly in legal systems that are not aligned with international norms.
 - The ICC's jurisdictional limits have led to concerns about the overlap between international and domestic law, affecting the willingness of countries to ratify international agreements.
3. **Implementation and Capacity Challenges:** Developing countries may lack the legal and financial resources to effectively implement a treaty on crimes against humanity, affecting their ability to investigate, prosecute, and prevent atrocities.
4. **Political Influence and Selective Justice:** International justice mechanisms are often criticized for being influenced by political considerations, leading to selective prosecution and undermining the credibility of the justice process.
 - The ICC has faced accusations of bias, with many cases focused on African countries while avoiding investigations involving powerful nations.

WAY FORWARD

1. **Inclusive and Transparent Negotiations:** Involve a diverse group of stakeholders, including nations, civil society organizations, victim groups, and legal experts, to build broad consensus on the treaty's provisions.

2. **Incentivizing Participation and Compliance:** Provide incentives for countries to ratify and implement the treaty, such as access to development aid, technical assistance, and favorable trade agreements.
3. **Flexible Implementation and Optional Protocols:** Allow for phased implementation, enabling countries to gradually align their domestic laws with the treaty's standards.
4. **Promoting Public Awareness and Education:** Launch global campaigns to raise awareness about crimes against humanity and the importance of the treaty. Utilize media, educational institutions, and advocacy groups to inform the public and build support for international justice.

A comprehensive treaty on crimes against humanity is essential to address the gaps in existing international law and provide a robust framework for preventing and punishing atrocities. A well-designed treaty, focused on justice, accountability, and victim rights, can serve as a powerful deterrent against future crimes, fostering global stability and the rule of law.



9. ELECTION EXPENDITURE

IMPACT ANALYSIS

SYLLABUS:

- The cost of elections in democracies worldwide has reached unprecedented levels. In the 2024 U.S. presidential and congressional elections, total expenditure is estimated at around \$16 billion (₹1,36,000 crores). In India, the general election expenditure for the Lok Sabha in 2024 was around ₹1,00,000 crores, according to the Centre for Media Studies (CMS).

ELECTION EXPENDITURE LIMITS IN INDIA

- **Candidate Limits:**
 - **Lok Sabha:** ₹95 lakh in larger states, ₹75 lakh in smaller states.
 - **Legislative Assemblies:** ₹40 lakh in larger states, ₹28 lakh in smaller states.
 - These limits are periodically revised by the Election Commission (EC).
- **Political Parties:**
 - Currently, there are **no expenditure limits** on political parties during elections.

REGULATION OF ELECTION EXPENDITURE IN INDIA

India's electoral process is governed by a comprehensive legal framework designed to ensure transparency and fairness in election financing. The primary statutes regulating election expenditure include:

- **Representation of the People Act (RPA), 1951:**
 - **Section 77:** Mandates that every candidate must maintain a separate and accurate account of all election-related expenses incurred or authorized from the date of nomination until the declaration of results.
 - **Section 78:** Requires candidates to submit their election expense accounts to the District Election Officer within 30 days of the election results.
- **Companies Act, 2013:**
 - **Section 182:** Permits companies, other than government companies and those in existence for less than three financial years, to contribute any amount directly or indirectly to political parties. Such contributions must be authorized by a resolution passed at a meeting of the Board of Directors. The company is also required to disclose the total amount contributed in its profit and loss account for the relevant financial year.
- **Foreign Contribution (Regulation) Act (FCRA), 2010:** Prohibits political parties, candidates, and entities associated with elections from accepting foreign contributions, including funds, gifts, donations, or any financial assistance from foreign sources.

INTERNATIONAL STANDARDS ON ELECTION FINANCING

- **United States:**
 - **Financing Sources:** Primarily from individuals, corporations, and political action committees (PAC).
 - **Contribution Limits:** Limits are set for individual and PAC contributions to candidates. However, U.S. Supreme Court rulings allow unlimited spending through Super PACs, which can fund election campaigns without direct coordination with candidates.
 - **2024 Election Expenditure:**
 - Presidential Election: Approximately \$5.5 billion.
 - Congressional Elections: Approximately \$10.5 billion.
 - **Role of Super PACs:** Super PACs have contributed significantly to this expenditure, allowing large organizational donors to influence election spending.

- **United Kingdom:**
 - **Political Party Spending:** Each political party may spend up to £54,010 per constituency, totaling £35 million if contesting all constituencies.
 - **Candidate Spending:** Limits of £46-49,000 during the long campaign period (five months before House of Commons term ends) and £17-20,000 during the short campaign period.

CHALLENGES OF HIGH ELECTION EXPENDITURE:

- **Policy Manipulation:**
 - Heavy reliance on substantial donations often leads to **policy decisions favoring donors over the public interest**, compromising the integrity of governance.
- **Vote-Buying Practices:**
 - A significant portion of campaign funds is often allocated to illicit activities, such as distributing cash or goods to voters.
 - For instance, in the **2019 general election**, around **25% of total expenditure was reportedly used for illegal voter inducements** (source: Centre for Media Studies (CMS)).
- **Lack of Transparency and Accountability:**
 - The use of instruments like electoral bonds has been criticized for enabling **anonymous donations**, reducing transparency in political financing.
 - For instance, between 2017–18 and 2020–21, political parties redeemed electoral bonds worth approximately **₹6,500 crore** (source: Association for Democratic Reforms (ADR)).
- **Erosion of Democratic Integrity:**
 - Excessive spending allows affluent candidates and parties to **dominate electoral narratives**, marginalizing those with limited resources, thus undermining the principle of equal opportunity in democratic participation.
- **Post-Election Corruption:**
 - Candidates who spend heavily in elections may engage in **corrupt practices to recover campaign expenses**, perpetuating a cycle of corruption that undermines public trust.
- **Exclusion of Qualified Candidates:**
 - High campaign costs deter capable individuals from entering politics, limiting the diversity and quality of leadership, as many **cannot compete with financially powerful opponents**.
- **Inadequate Reporting:**
 - Discrepancies between reported and actual expenditures hinder effective monitoring and enforcement of election laws.
 - For instance, in 2019, **the BJP and Congress** declared official election expenditures of **₹1,264 crore and ₹820 crore**, respectively, though CMS reports suggest actual expenditure was **closer to ₹50,000 crore**.
- **Rising Expenditures:**
 - Election costs in India have surged over the years. The **2019 Lok Sabha elections** saw expenditures exceeding **₹55,000 crore**, a significant increase from **₹9,000 crore in 1998** (source: Association for Democratic Reforms (ADR)).
- **Media and Advertising Expenses:**
 - A substantial portion of funds is directed toward media campaigns and advertising, inflating overall election costs. Approximately **35% of total expenditure** in 2019 was allocated to campaigns and publicity (source: CMS).

- **Unequal Competition:**
 - Disparities in financial resources create an uneven playing field, **disadvantaging smaller parties and independent candidates** who cannot compete with the financial power of major parties.
- **Resource Misallocation:**
 - Funds diverted to electioneering could be better utilized for public welfare and development projects, thus impacting socio-economic development.
- **Public Disillusionment:**
 - The perception of money-driven politics erodes public trust in democratic institutions and processes, potentially leading to political apathy.

PROPOSED REFORMS TO ADDRESS ELECTION EXPENDITURE IN INDIA:

- **State Funding of Elections:**
 - **The Indrajit Gupta Committee (1998) and the Law Commission (1999)** recommended partial state funding for elections, where the government could bear some expenses for recognized political parties. However, practical implementation remains complex, with no clear mechanisms outlined.
- **Simultaneous Elections:**
 - Simultaneous elections aim to streamline the electoral process by holding national and state elections at the same time, **reducing repetitive costs** associated with separate campaigns and logistics.
 - But, raises issues related to federalism and constitutional amendments. Additionally, simultaneous elections might reduce campaign costs but would not prevent illegal cash distributions to voters.
- **Electoral Commission's Suggested Reforms (based on the EC's 2016 report on 'Proposed Electoral Reforms):**
 - **Inclusion of Party Financial Assistance in Candidate Limits:** Amending laws to include party contributions within the candidate's expenditure limits.
 - **Ceiling on Party Expenditure:** Setting a ceiling at the candidate limit multiplied by the number of party candidates contesting the election.
 - **Appointment of Additional Judges:** For quick disposal of election-related cases in High Courts to enforce compliance and act as a deterrent.
- **Ban on Government Advertisements Prior to Elections:**
 - Enforcing a ban on government advertisements during the six months leading up to elections to reduce the advantage held by the ruling party and promote fair competition among candidates.
- **Enhancing Transparency in Political Donations:**
 - Mandating comprehensive disclosure of all political donations, including those made through instruments like electoral bonds, to ensure transparency and accountability in political funding.
- **Strengthening Monitoring and Enforcement Mechanisms:**
 - Empowering the Election Commission of India with greater authority and resources to monitor election expenditures effectively and enforce compliance with expenditure limits and reporting requirements.
- **Public Awareness and Voter Education:**
 - Initiating campaigns to educate voters about the implications of high election expenditures and the importance of transparency and accountability in the electoral process.

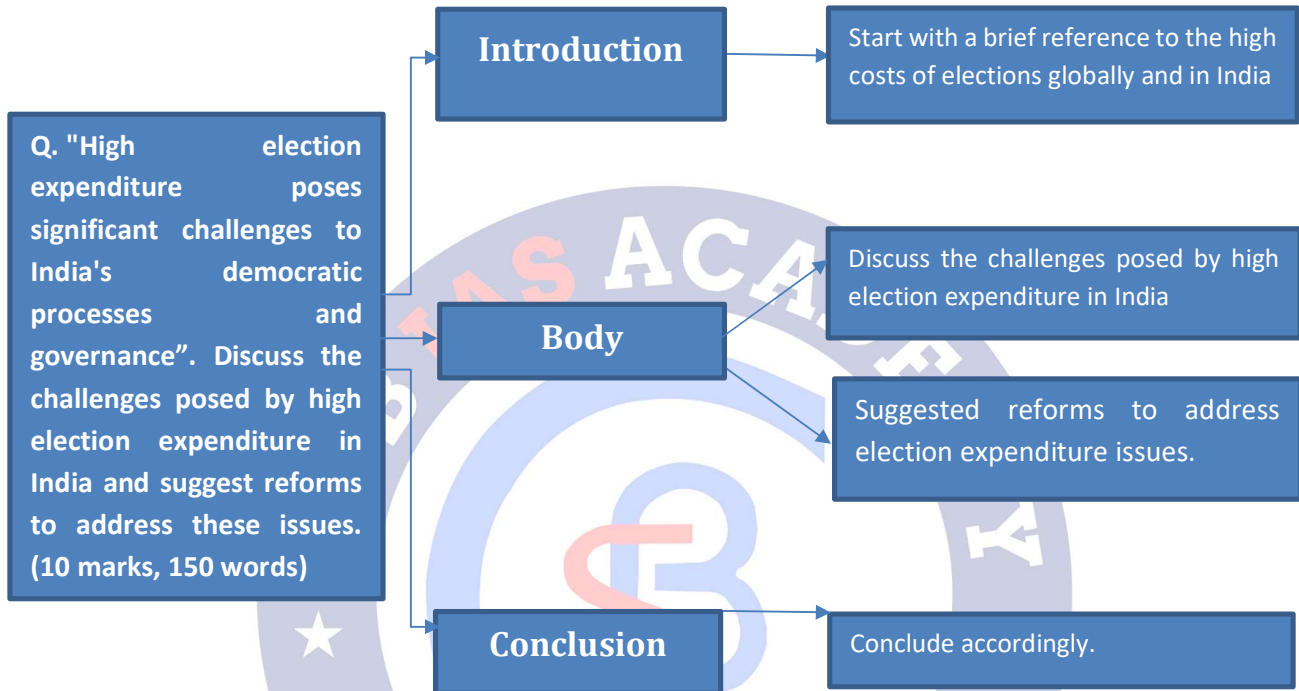
CONCLUSION: Rising election costs in India challenge democratic integrity and transparency. Reforms like state funding, simultaneous elections, and stricter enforcement by the Election Commission can

help address these issues. With public awareness and bipartisan support, India can move towards a fairer and more accountable electoral system.

PRACTICE QUESTION

Q. "High election expenditure poses significant challenges to India's democratic processes and governance". Discuss the challenges posed by high election expenditure in India and suggest reforms to address these issues. (10 marks, 150 words)

APPROACH



MODEL ANSWER

The rising cost of elections in democracies is a growing concern. In 2024, U.S. presidential and congressional elections are estimated to cost \$16 billion (₹1,36,000 crores), while **India's 2024 Lok Sabha elections cost approximately ₹1,00,000 crores (source: Centre for Media Studies)**. Such high expenditures pose significant challenges to India's democratic processes and governance.

Challenges Posed by High Election Expenditure in India:

- **Policy Manipulation**
 - Heavy dependence on substantial donations often leads to policy decisions that favor major donors over the public interest, compromising the integrity of governance.
- **Vote-Buying Practices**
 - Campaign funds are frequently allocated to illicit activities like cash or goods distribution. In 2019, around 25% of election expenditure was reportedly used for illegal voter inducements (source: Centre for Media Studies (CMS)).
- **Lack of Transparency and Accountability**
 - Electoral bonds, designed for anonymous donations, reduce transparency in political financing. Between 2017–18 and 2020–21, political parties redeemed electoral bonds worth approximately ₹6,500 crore (source: Association for Democratic Reforms (ADR)).
- **Erosion of Democratic Integrity**
 - Excessive spending allows affluent candidates and parties to dominate electoral narratives, marginalizing those with fewer resources and undermining equal opportunity in democratic participation.

- **Post-Election Corruption**
 - Candidates who incur high campaign costs may engage in corrupt practices post-election to recover their expenses, perpetuating a cycle of corruption that undermines public trust.
- **Exclusion of Qualified Candidates**
 - High election expenses deter capable individuals without substantial financial backing from entering politics, limiting diversity and the quality of leadership.
- **Rising Election Expenditures**
 - Campaign costs have surged over the years, with 2019 Lok Sabha election expenditures exceeding ₹55,000 crore, a significant rise from ₹9,000 crore in 1998 (source: ADR). A large portion of these funds was spent on media and advertising, which accounted for about 35% of the 2019 campaign expenditure (source: CMS).

Suggested Reforms to Address Election Expenditure Issues:

- **State Funding of Elections**
 - The Indrajit Gupta Committee (1998) and the Law Commission (1999) recommended partial state funding for recognized political parties. This could alleviate candidate expenses, though implementation remains complex due to undefined mechanisms.
- **Simultaneous Elections**
 - Holding national and state elections at the same time could reduce repetitive costs in campaigning and logistics. However, this proposal requires constitutional amendments and may not curb illegal cash distributions.
- **Electoral Commission's Suggested Reforms (2016)**

In its report, "Proposed Electoral Reforms" (2016), the Election Commission of India suggests:

 - **Inclusion of Party Assistance in Candidate Limits:** Amend laws to count party contributions within candidate expenditure limits.
 - **Ceiling on Party Expenditure:** Set a ceiling for party spending based on the candidate limit multiplied by the number of candidates.
 - **Appointment of Additional Judges:** Increase judges in High Courts for swift resolution of election-related cases.
- **Ban on Government Advertisements Prior to Elections**
 - Enforcing a ban on government advertisements during the six months leading up to elections would help reduce the ruling party's advantage and ensure fair competition among all candidates.
- **Enhancing Transparency in Political Donations**
 - Mandating comprehensive disclosure of all political donations, including those through electoral bonds, would increase accountability in political funding and limit anonymous contributions.
- **Strengthening Monitoring and Enforcement Mechanisms**
 - Empowering the Election Commission of India with greater authority and resources would improve its ability to monitor election expenditures effectively and enforce compliance with expenditure limits.
- **Public Awareness and Voter Education**
 - Educating voters on the implications of high election expenditures and the importance of transparency can drive public demand for cleaner and more accountable electoral processes.

High election expenditures challenge democratic values and transparency. Implementing reforms such as state funding, simultaneous elections, and stronger enforcement mechanisms, as recommended in the ECI's "Proposed Electoral Reforms", can help mitigate these issues. With public awareness and bipartisan support, India can advance toward a fairer, more accountable electoral system.

10. INDIA-USA RELATIONS

IMPACT ANALYSIS

SYLLABUS:

GS 2 > International relations > India and Global Powers > India-USA

REFERENCE NEWS:

- With Donald Trump's 2024 return to the White House, the future of India-US relations faces potential shifts. **Trump's "America First" approach** might steer the US towards a more isolationist stance. However, the **personal camaraderie between Trump and Indian Prime Minister Narendra Modi**, demonstrated during events like **"Howdy, Modi!"** and **"Namaste Trump,"** provides a unique foundation for a strengthened bilateral partnership.

TRUMP'S RE-ELECTION: IMPLICATIONS FOR INDIA-US RELATIONS:

Opportunities

- **Strengthening Economic Ties:**
 - Trump and Modi share a **pro-business mindset focused on economic growth**, deregulation, and innovation. This alignment presents a foundation for enhanced economic cooperation.
 - Both leaders are motivated by goals that align strategically: **India's aspiration to become the world's third-largest economy** complements the **US's desire for dependable economic allies**. With both looking to **counterbalance China's influence**, India offers a promising partner for US investments, especially if Trump continues his decoupling efforts from China.
- **Defense and Security in the Indo-Pacific:**
 - Defense ties have grown significantly between the two nations, with initiatives like the Initiative on **Critical and Emerging Technology (iCET)** and key defense deals under the Biden administration, such as the **GE-HAL jet engine agreement**.
 - Trump's second term may reinforce the **Quad alliance (US, India, Japan, and Australia)**, increasing military cooperation to counter **China's influence in the Indo-Pacific**. This alliance could enhance India's strategic role in regional security, promoting a free and open Indo-Pacific region.
- **Counterterrorism Collaboration:**
 - Counterterrorism remains a shared priority. Trump's **"Peace through Strength" doctrine** and Modi's firm stance on security align well, especially concerning Pakistan.
 - A strong US-India counterterrorism partnership under Trump could apply diplomatic pressure on nations harboring extremist groups, benefiting regional stability and enhancing India's security environment.
- **Influence on Indian-American Political Landscape:**
 - Trump's relationship with Modi could shift political dynamics within the Indian-American community, traditionally Democratic. Some Indian-Americans, drawn to conservative values and economic policies, may begin leaning Republican.
 - This shift could increase Republican influence within this wealthy and educated demographic, with Trump's rhetoric on business-friendly policies resonating among Indian-Americans who seek economic growth and family-oriented conservatism.

Challenges

- **Trade and Economic Tensions:**

- Trump's "**reciprocal taxes**" policy may prompt scrutiny of India's trade practices, with tariffs on US goods being a potential point of contention. Indian industries, particularly **IT, pharmaceuticals, and textiles** that rely heavily on the US market, could be impacted if Trump presses for more "**equitable**" trade policies.
- However, Trump's **efforts to decouple from China present opportunities** for India to attract US investments, positioning itself as a reliable manufacturing alternative for American companies.
- **Immigration and H-1B Visa Restrictions:**
 - Trump's previous administration imposed strict H-1B visa regulations, impacting Indian professionals in the US. A return to such policies could affect Indian talent pipelines and the tech sector, which relies heavily on skilled Indian workers.
 - A balanced compromise on immigration policies would be crucial to maintain synergy between India's tech industry and the American economy.
- **Transactional Defense Partnerships:**
 - Trump's transactional approach to alliances may demand more from India in terms of defense commitments, placing conditions on defense deals that could complicate traditional collaborations.
 - While defense ties could strengthen under Trump, this conditional approach may require careful negotiation to **ensure India's defense autonomy and policy independence**.
- **Contrasting Foreign Policy Agendas:**
 - **Trump's isolationist approach**, emphasizing minimal involvement in global agreements, may **conflict with Modi's vision of a globally engaged India**. This difference could limit opportunities for multilateral cooperation in areas like climate change, global health, and trade.
 - India may find itself **balancing between its global ambitions and Trump's inward-focused policies**, requiring careful diplomacy to advance shared objectives without compromising on multilateral engagements.

HISTORY OF INDIA-US RELATIONS:

- For decades, the US was unwilling to consider key areas for deepening bilateral and regional cooperation, largely due to **India's possession of nuclear weapons**.
- In the early 2000s, however, Washington began to view an active and constructive relationship with India as essential to making progress in a range of issues.
- Over the past two decades, the India-US relationship has expanded in almost every conceivable dimension—political, diplomatic, economic and military.

AREAS OF COOPERATION:

- **Political & Diplomatic:**
 - **Regular exchanges at the leadership-level** have been an integral element of the expanding bilateral engagement. Eg: PM Modi made his **first State Visit** to the US in June 2023 at the invitation of President Biden.
 - **India-U.S. 2+2 Ministerial Dialogue**
 - **Parliamentary exchanges:** There have been regular parliamentary exchanges to strengthen ties of friendship and cooperation.

WHAT ARE 2+2 MEETINGS?

- The 2+2 meetings signify the participation of two high-level representatives, **Ministers holding Foreign and Defence portfolios**, from each of the two countries who aim to enhance the scope of dialogue between them.

- The **US is India's oldest** and most important 2+2 talks partner. Additionally, India has held 2+2 meetings with ministers from **Australia, Japan, the United Kingdom, and Russia**.
- **Trade & Economic Relations:**
 - **US is the largest trading partner of India** with overall bilateral trade in goods and services of **USD 190.1 billion for calendar year 2023**. (Source: US Census data).
 - In 2020-21, the US replaced Mauritius as **second largest source of foreign direct investment into India** with inflows of USD 13.82 billion. US is one of the top 5 investment destinations for Indian FDI.
- **Defence Cooperation:**
 - India-US defence cooperation is based on **"New Framework for India US Defence Cooperation"**.
 - Several defense agreements have been signed in recent years. These include **Logistics Exchange Memorandum of Association (LEMOA), Communications Compatibility and Security Agreement (COMCASA) and Basic Exchange and Cooperation Agreement (BECA)**.
 - The two countries now conduct more bilateral exercises with each other than they do with any other country. Eg: **Tiger Triumph, Yudh Abhyas (Army); Vajra Prahar (Special Forces); RIMPAC and MALABAR Naval Exercise**.
- **Defence procurements:**
 - In 2018, India gained **Tier-1 status** in US Department of Commerce's **Strategic Trade Authorization license exception**, aligning it with top U.S. allies for trade. The **U.S.-India Defense Technology and Trade Initiative (DTTI)** aims to boost India's defense sector and strengthen U.S.-India business ties.
- **Strategic cooperation:**
 - Together with Australia and Japan, the United States and India convene as the **Quad** to promote a free and open Indo-Pacific and provide tangible benefits to the region.
 - India is also partnering with the United States on the **Indo-Pacific Economic Framework for Prosperity (IPEF)** to make the economies more connected, resilient, clean, and fair. The **I2U2, dubbed as West Asian Quad**, comprising Israel, India, United Arab Emirates, and the US, is another strategic dialogue mechanism.
- **Strategic Energy cooperation:**
 - The bilateral civil nuclear cooperation agreement (also called **the 123 agreement**) was signed in 2008. It gave India the recognition of being a **responsible nuclear weapon state**.
 - India has also signed MoU on **Strategic Petroleum Reserves** for cooperation on Strategic Petroleum Reserves operation and maintenance. A public-private **Hydrogen Task Force** was launched to help scale up technologies to produce hydrogen.
- **Diaspora/People-to-People ties:**
 - About 4.4 million Indian Americans/Indian origin people reside in the US. The Indian Americans (3.18 million) constitute the **third largest Asian ethnic group in the US**.
 - The Indian diaspora has been a catalyst in cementing closer ties between India and the U.S. There are **five persons of Indian origin in the U.S. Congress**.
- **International Cooperation:**
 - India and the United States cooperate closely at multilateral organizations, including the UN, G-20, ASEAN Regional Forum, IMF, World Bank, and WTO.
 - The United States welcomed India joining the UN Security Council in 2021 for a two-year term and **supports a reformed UN Security Council** that includes India as a permanent member.

- **S&T and Space Cooperation:**
 - The **Indo-US Science and Technology Forum (IUSSTF)** bolsters cooperation in science and technology. **ISRO collaborates with NASA**, NOAA, USGS, and U.S. academic institutions on civilian space projects. ISRO and NASA are jointly developing the **NASA-ISRO Synthetic Aperture Radar (NISAR)** satellite for Earth observation.
- **Health Cooperation:**
 - India and US collaboration under **Vaccine Action Program (VAP)** resulted in development of **ROTAVAC vaccine** against rotavirus causes severe diarrhea in children.
- **Education Cooperation:**
 - The **United States-India Educational Foundation (USIEF)** promotes mutual understanding between India and the U.S. through educational exchanges.
 - The "**21st Century Knowledge Initiative**" enhances collaboration between higher education institutions, and the **Global Initiative of Academic Networks (GIAN)** brings U.S. educators to teach in India annually.
- **Combating climate change:**
 - In 2021, the US joined the **International Solar Alliance** headquartered in India. India and U.S. are also members of the **Coalition for Disaster Resilient Infrastructure (CDRI)**.
- **Cyber Security Cooperation:**
 - The **India-US Cyber Framework** signed in September 2016, provides for expanding cooperation in cyber domain. The fourth India-US Cyber Security Dialogue was held in Washington in February 2018.
- **Cooperation in combating Covid-19 pandemic:**
 - In 2020, India provided the U.S. with pharmaceuticals, PPE, and medical supplies. During India's COVID-19 second wave in April 2021, the U.S. government and private sector supported India's response efforts.

AREAS OF CONCERN:

- **Relationship with rivalling countries:**
 - India's ties with **Russia and Iran** are a concern for USA, while USA's ties with Pakistan is a concern for India.
- **Role in Indian ocean region:**
 - By encouraging the United States to assume a dominant role in South Asia, India **might be on a path to relinquish its status as a net security provider** in the region.
- **US Sanctions:**
 - US sanctions are increasingly affecting India's national interests. The **CAATSA law** has been a part of the discussion on India's purchase of the S-400 missile defence system from Russia. Also, US sanctions on **Iran and Venezuela** are putting India's energy security at stake.
- **Mistrust against India:**
 - Unlike US allies, India does not always vote in line with the United States at the United Nations. This, along with India's frequent multilateral alignment with Russia and China has led some experts believe that India is part of a **counterhegemonic bloc that can jeopardize many US interests**.
- **On India's IP regime:**
 - India continues to be on the 'Priority Watch List' of the United States Trade Representative (USTR) for lack of adequate intellectual property (IP) rights protection and enforcement, the USTR said in its Annual **Special 301 Report**.
- **Revoking Generalised System of Preferences:**
 - GSP is a preferential tariff system that provides tariff reduction on various products for developing countries. India's GSP benefits were terminated in June 2019, which is

affecting India's export-oriented sectors such as pharmaceuticals, textiles and automotive parts.

○ **Slow pace of nuclear deal:**

- While the US has been discussing the sale of nuclear reactors to India since the 2008 pact, progress of greenfield projects has been tardy. At present, Russia is the only country setting up imported Light Water Reactor-based nuclear projects in India.

○ **Question over Afghan:**

- With the recalling of armed forces, the US strategy towards Afghanistan has changed. The void left by the US in Afghan is being filled by the Taliban, Pakistan and China, all of which is detrimental to India's interests.

○ **US questioning India's religious freedom:**

- The US Commission on International Religious Freedom (USCIRF) in its '2021 Report on International Religious Freedom' alleged "repression" of critical voices, especially religious minorities in India. This has been criticised by MEA for its "biased" and "inaccurate" comments.

○ **On India's data localisation:**

- The US has criticised India's proposed data localisation requirements, under which firms need to store data within India. USA argues that it would serve as significant barriers to digital trade between the US and India.

WAY FORWARD:

- **Collaborate for a multipolar rule-based world: US and India have common interests when it comes to rivalry with China:** human rights, rule of law, rights of self-determination and sovereignty, freedom of navigation in the seas, a free internet, free flow of data across borders, climate action responsibility, and so on. Hence, they should **continue to collaborate towards creating a multipolar rule-based world order.**
- **Enhance counter terrorism cooperation:** USA's military withdrawal from Afghanistan has reduced its dependence on Pakistan. India should utilise this opportunity to **promote counterterrorism cooperation** and apply pressure on the Pakistan to abandon support for terrorist groups.
- **Cooperate in digital ecosystem:** The United States and India should pursue a "**digital handshake**" to address policy differences and create institutional structures to drive progress in emerging technologies, artificial intelligence and cyber security.
- **Attract investments:** So far, the idea of American firms diversifying out of China, towards India, has not materialised. Hence, India and the US must look toward strengthening two-way foreign direct investments and provide incentives for the private sector to make investments.

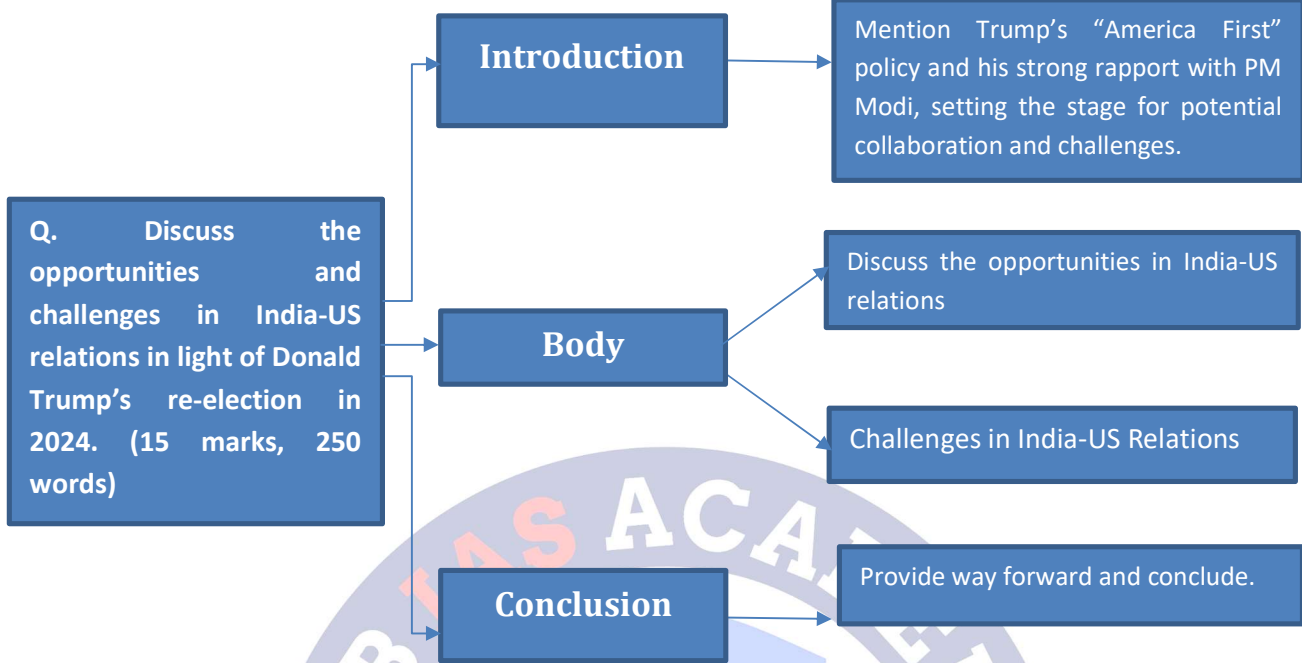
CONCLUSION:

- Trump's re-election and Modi's continued leadership present a mix of opportunities and challenges. Together, they can redefine India-US relations based on economic and security goals. However, success will rely on navigating trade, immigration, and defense dynamics with careful diplomacy to balance Trump's "America First" focus with India's global ambitions.

PRACTICE QUESTION

Q. Discuss the opportunities and challenges in India-US relations in light of Donald Trump's re-election in 2024. (15 marks, 250 words)

APPROACH



MODEL ANSWER

With Donald Trump's re-election in 2024, India-US relations are set to face both opportunities and challenges. **Trump's "America First" policy and his close rapport with Indian Prime Minister Narendra Modi**, as seen in events like "Howdy, Modi!" and "Namaste Trump," suggest a foundation for potential collaboration. However, **Trump's isolationist stance and focus on reciprocal trade practices** bring complexities to the relationship, especially in trade, defense, and multilateral engagements.

Opportunities in India-US Relations

1. Economic and Trade Relations

- Trump and Modi's pro-business approach bolsters trade, with the US as India's largest trading partner (\$190.1 billion in 2023). India's role as a manufacturing alternative to China could attract US investment.

2. Defense and Security Cooperation

- Key agreements like LEMOA, COMCASA, and BECA, along with the GE-HAL agreement, solidify defense ties. Initiatives like DTTI and the Quad further enhance Indo-Pacific security.

3. Counterterrorism Collaboration

- Trump's "Peace through Strength" aligns with India's security concerns, creating a foundation for strong counterterrorism cooperation, especially concerning Pakistan.

4. Influence on the Indian-American Political Landscape

- Trump's policies resonate with Indian-Americans, traditionally Democratic, shifting toward conservative values. Increased Republican support could enhance India's influence in US policy.

5. Energy and Climate Cooperation

- Despite conservative climate policies, Trump's administration values clean energy partnerships. Initiatives like the Hydrogen Task Force align with India's energy goals.

6. Technology and Space Cooperation

- Collaborations like the Indo-US Science and Technology Forum and NASA-ISRO's NISAR project create avenues for joint innovation in technology and space.

Challenges in India-US Relations

1. Trade and Economic Tensions

- Trump's "reciprocal taxes" may lead to scrutiny on India's tariffs, impacting IT, pharma, and other sectors reliant on US markets. The revocation of GSP benefits strains trade further.

2. Immigration and H-1B Visa Policies

- Trump's restrictions on H-1B visas affected Indian tech talent. Similar policies may disrupt talent pipelines, impacting India's tech sector in the US.

3. Transactional Defense Partnerships

- Trump's transactional approach may impose conditions on defense agreements, impacting India's defense autonomy and requiring careful negotiation.

4. Foreign Policy Divergence

- Trump's isolationist stance may conflict with Modi's global engagement, limiting cooperation on climate, health, and trade where India prefers multilateral solutions.

5. Human Rights and Religious Freedom Concerns

- US criticism of India's internal policies on religious freedom has created diplomatic tensions, especially through reports from USCIRF.

6. Sanctions and Relations with Rivals

- US concerns over India's ties with Russia and Iran, especially with CAATSA sanctions on the S-400 purchase, present ongoing diplomatic challenges.

Way Forward

- **Enhance Counterterrorism Collaboration:** Deepen ties in counterterrorism, leveraging reduced US dependence on Pakistan.
- **Foster Digital and Technology Partnerships:** Work toward a "digital handshake" on AI, cybersecurity, and digital infrastructure.
- **Encourage Bilateral Investments:** Make India an attractive base for US companies diversifying from China.
- **Promote Multilateral Cooperation:** Align on shared interests like climate change and maritime security for a rule-based world order.
- **Balance Defense Autonomy with Collaboration:** Preserve defense independence while enhancing US partnerships.
- **Strengthen People-to-People Ties:** Expand cultural exchanges and strengthen ties with the Indian-American diaspora.

Trump's re-election and Modi's continued leadership present both opportunities and challenges for India-US relations. While the path forward will require navigating complexities in trade, defense, and policy alignment, a balanced approach focusing on shared goals can help both nations capitalize on mutual interests. By embracing strategic cooperation and fostering a resilient partnership, India and the US can contribute to regional stability and create a robust framework for a sustainable and multipolar global order in the years ahead.

11. MINORITY EDUCATIONAL INSTITUTION STATUS

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Polity and Constitution / Social Justice

REFERENCE NEWS:

- The recent judgment from the Supreme Court regarding Aligarh Muslim University (AMU) has established a comprehensive framework for determining the minority status of educational institutions in India.
- In a narrow 4-3 decision, a seven-judge bench introduced a "holistic and realistic" test to assess institutions under Article 30 of the Indian Constitution. This pivotal decision could allow AMU to secure its minority status, marking a significant advancement in educational rights for minority communities.

BACKGROUND OF AMU'S CASE

- The legal tussle over Aligarh Muslim University's (AMU) status as a minority educational institution spans over half a century, rooted in a series of legislative amendments and judicial decisions.
- The foundational dispute originated with the **Supreme Court's 1967 ruling in *S. Azeez Basha vs Union of India***, where it was determined that **AMU was not established by the Muslim minority** but rather through the **Aligarh Muslim University Act of 1920** by the central legislature, thus **not qualifying under Article 30** of the Constitution which protects the rights of minorities to establish and administer educational institutions.
- Subsequent **amendments in 1951 and 1965** altered the governance structure of AMU, **diluting the Muslim community's control**, which was challenged as undermining their rights under Article 30.

Constitutional Provisions for Minority Educational Institutions (MEIs)

- Article 30(1) ensures that minorities have the **right to establish and administer their educational institutions**.
- These institutions can reserve up to **50% of seats for minority students** and exercise greater control over their administration, **exempting them from reservation quotas for SCs and STs under Article 15(5)**.
- The **1981 amendment attempted to reassert AMU's minority status** by declaring its establishment for the advancement of Muslims in India, a move that was **struck down by the Allahabad High Court in 2006** following the university's decision to reserve **50% of its postgraduate medical seats for Muslim students**.
- **Supreme Court's 2024 Majority Ruling:**
 - **On November 8, 2024**, the Supreme Court issued a **4-3 majority** verdict that **overruled its 1967 decision**, setting a new precedent for determining minority status of educational institutions. The Court laid down a comprehensive test for evaluating whether institutions like AMU can claim minority status under Article 30, thus addressing long-standing ambiguities about the criteria for such a designation. Although a **separate bench will make the final determination for AMU**, this ruling has significant implications for the legal framework governing minority educational institutions in India.
 - This decision **potentially paves the way for AMU to reclaim its minority status**, aligning the Aligarh Muslim University Act, 1920, with constitutional provisions post-amendments in 1951.

The St. Stephen's Precedent:

- The debate also touched upon the minority status of other institutions like **Delhi's St. Stephen's College, established by the Cambridge Mission without government intervention**, contrasting with AMU's establishment by an act of parliament and its receipt of government grants. The Centre argued that AMU should maintain its secular origins due to its national importance, whereas AMU advocates, including senior advocate Kapil Sibal, argued that **once a minority establishes an educational institution**, it inherently possesses the right to administer under Article 30, a principle supported by the Supreme Court's decision regarding St. Stephen's College.

TEST FOR DETERMINING THE MINORITY STATUS OF EDUCATIONAL INSTITUTIONS

The Supreme Court's ruling introduced a "holistic and realistic" test for determining the minority status of educational institutions under Article 30 of the Constitution. This test assesses two primary aspects of an institution's character—**its establishment and its administration**—to evaluate if it was genuinely created to serve a minority community.

1. Establishment Criteria:

- **Historical Origins:** The test requires courts to look into the origins of the institution, tracing back to the intent and purpose of its founders. The Court emphasized examining historical records, correspondences, and speeches to assess if the primary goal was to serve a minority community.
- **Purpose and Funding:** The institution's purpose must primarily benefit the minority community, although it may have other goals. Additionally, the sources of initial funding, land acquisition, and permissions required for its establishment are considered. These details help confirm if the institution was genuinely set up by a minority group.

2. Administration Criteria:

- **Control and Purpose in Administration:** Courts are instructed to examine if the institution's administration reflects its minority character, even if it includes members from outside the minority community. The Court specified that while the day-to-day administration need not be **exclusively** handled by the minority community, it should reflect the institution's minority character.
- **Historical Operation:** For institutions established before the Constitution, the Court suggested examining their administrative practices as of January 26, 1950, the date of the Constitution's enactment, to ensure minority community interests were upheld.

AMU's Case: The ruling delved into AMU's history, recognizing **efforts in the late 19th century by Sir Syed Ahmad Khan and the Muslim community to address their educational lag through the establishment of Muhammadan Anglo-Oriental (MAO) College**, leading to AMU's formation under the 1920 Act. The court acknowledged the substantial contributions from diverse sources, including the government, which influenced the university's governance and curriculum.

IMPLICATIONS OF THE SUPREME COURT RULING:

- **Potential Recognition of AMU's Minority Status:** This ruling paves the way for AMU to be recognized as a minority institution under Article 30 of the Indian Constitution. Such recognition would grant AMU greater autonomy in administrative matters, including the ability to reserve up to 50% of its seats for Muslim students, thereby aligning with its foundational objectives.
- **Impact on Reservation Policies:** As a minority institution, AMU would be exempt from the reservation mandates outlined in Article 15(5), which require educational institutions to reserve seats for Scheduled Castes (SCs) and Scheduled Tribes (STs). This exemption allows AMU to focus on serving the educational needs of the Muslim community, potentially leading to a more tailored and community-focused admission process.
- **Broader Implications for Educational Institutions:** The Supreme Court's decision sets a precedent for other educational institutions seeking minority status. By establishing a

comprehensive framework that considers the institution's origin, purpose, and administrative practices, the ruling provides a clearer pathway for institutions to claim minority status, ensuring that their foundational objectives are preserved and respected.

- **Balancing Minority Rights and National Interests:** While the ruling affirms the rights of minority communities to establish and administer educational institutions, it also emphasizes the need to balance these rights with national interests. Institutions recognized as minority entities must continue to uphold educational standards and contribute to the nation's broader educational objectives, ensuring that the pursuit of minority rights does not compromise the quality and inclusivity of education.

SIGNIFICANCE OF MINORITY EDUCATIONAL INSTITUTION (MEI) STATUS:

- **Autonomy in Administration:** MEIs enjoy significant autonomy over their internal affairs, including staff appointments and admissions. This independence enables them to create an educational environment aligned with their **community's cultural and educational objectives** without undue interference from the state. This control also allows MEIs to design their curricula to incorporate cultural education alongside standard academics, preserving the unique heritage of the community.
- **Admission Policies and Reservation for Minorities:** MEIs can reserve up to **50% of seats for students from their minority community**, ensuring prioritized access to education for community members. This policy not only strengthens the community's presence within the institution but also supports the promotion of unique cultural and linguistic heritage, contributing to the **overall diversity of the nation**.
- **Exemption from Certain Reservations:** MEIs are exempt from implementing reservation mandates for Scheduled Castes (SCs) and Scheduled Tribes (STs) under Article 15(5) of the Constitution. This exemption allows MEIs to focus on serving their minority community's educational needs, creating a more tailored and community-centered admission process.
- **Protection Against Discriminatory Regulations:** MEIs are protected from state regulations that could infringe on their right to administer their institutions. This safeguard ensures that any government intervention does not compromise the institution's minority character or its foundational objectives, allowing MEIs to maintain their unique cultural focus.
- **Preservation and Promotion of Cultural Identity:** MEIs serve as vital platforms for preserving and promoting **the languages, scripts, and cultural practices of minority communities**. By providing education within a familiar cultural context, MEIs contribute to the nation's rich diversity and enhance community cohesion and solidarity, reinforcing shared values and traditions among community members.
- **Access to Quality Education:** MEIs are instrumental in improving educational outcomes within minority communities, focusing on literacy and educational attainment among minority students. This focus contributes to better academic results, higher literacy rates, and increased educational opportunities, ultimately empowering the community.

CHALLENGES AND CONCERNS:

- **Balancing Minority Autonomy and Social Equity:** MEI status allows institutions to reserve up to 50% of seats for students from their own community, exempting them from SC/ST reservation mandates under Article 15(5). While this supports minority rights, it may **limit access for other disadvantaged groups**, creating a tension between cultural preservation and broader constitutional goals of equality and social justice.
- **Defining Minority Status in a Diverse Nation:** With diverse communities across India, defining which groups qualify as minorities can vary by region, making it difficult to standardize MEI status. The recent Supreme Court ruling's "holistic and realistic" test offers guidance, but complexities remain, particularly when addressing the unique cultural, religious, and linguistic distinctions within communities.

- **Quality of Education and Institutional Standards:** Due to the autonomy MEIs enjoy, concerns arise about the consistency of educational quality. The risk is that MEIs **might prioritize cultural education over academic rigor, potentially affecting their students' competitiveness.** With limited state oversight to protect MEI autonomy, some institutions may not meet national education standards.
- **Potential for Misuse of MEI Status:** Some institutions may seek MEI status to avoid regulatory restrictions rather than to genuinely serve minority interests, diluting the intended purpose of MEI designation. The Supreme Court's framework for scrutinizing an institution's origins and administration aims to address this, but consistent application is essential to prevent exploitation of MEI privileges.
- **Funding and Financial Constraints:** Many MEIs struggle with funding **due to limited access to government grants, impacting their infrastructure, teaching quality, and student support services.** Institutions in remote areas face particular challenges in meeting operational costs while upholding educational standards, especially smaller MEIs with fewer financial resources.
- **Community Pressures on Institutional Administration:** Minority institutions may experience pressures from within their communities regarding administrative appointments, curricula, or management practices. While these institutions are meant to reflect community interests, such external influence can sometimes compromise educational objectivity and administrative effectiveness, making it **challenging to maintain transparent and merit-based practices.**

WAY FORWARD

- **Regular Quality Assessments:** Implement periodic assessments to ensure MEIs maintain high educational standards while serving their community's interests.
- **Clear Eligibility Guidelines:** Establish consistent guidelines to clarify which institutions qualify for MEI status, reducing ambiguity and preventing misuse.
- **Financial Support and Partnerships:** Encourage grants and partnerships to help under-resourced MEIs improve infrastructure, faculty quality, and student support services.
- **Community-Government Dialogue:** Foster ongoing communication between MEIs and government bodies to align educational goals and uphold transparency.
- **Balanced Autonomy with Accountability:** Allow MEIs the freedom to operate in line with their cultural objectives while holding them accountable to national education standards.

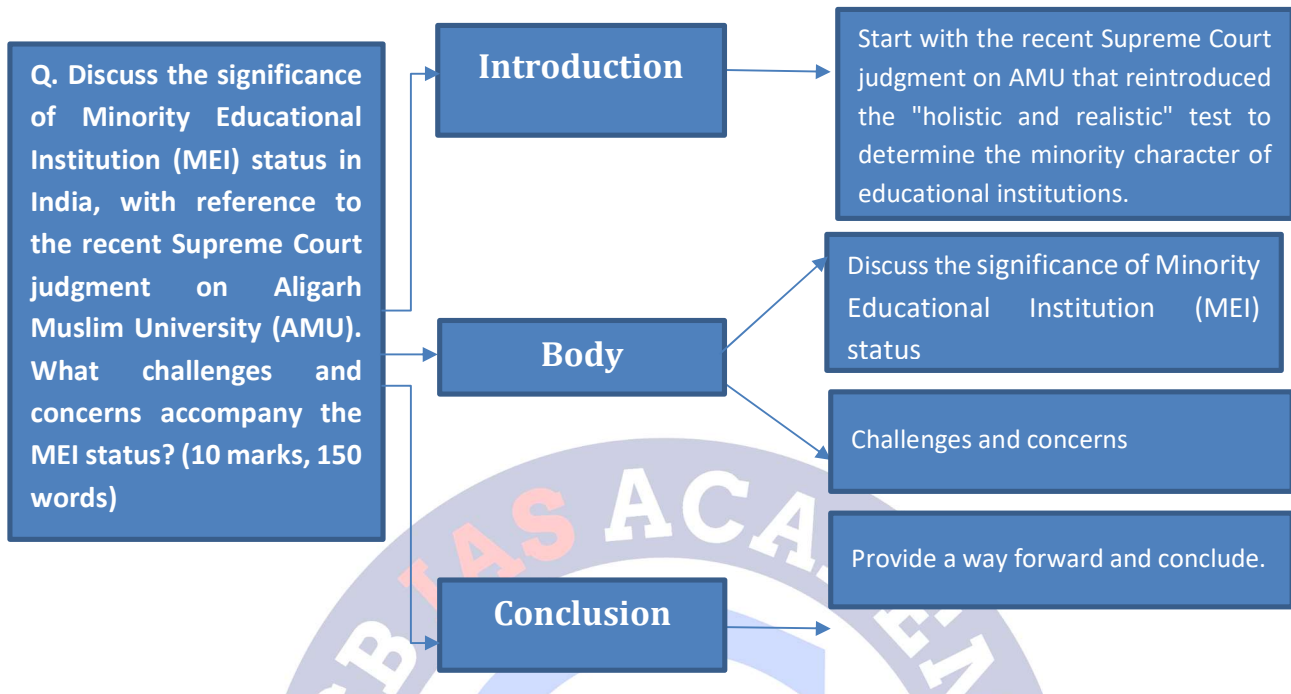
CONCLUSION

- MEI status plays a crucial role in preserving India's cultural diversity and promoting the educational aspirations of minority communities. While the recent Supreme Court ruling provides a clearer framework, addressing ongoing challenges requires careful balancing of minority rights with educational equity. By upholding standards and ensuring fair application, MEI status can continue to empower communities and enrich the nation's educational landscape.

PRACTICE QUESTION

Q. Discuss the significance of Minority Educational Institution (MEI) status in India, with reference to the recent Supreme Court judgment on Aligarh Muslim University (AMU). What challenges and concerns accompany the MEI status? (10 marks, 150 words)

APPROACH



MODEL ANSWER

The recent 4-3 Supreme Court ruling on Aligarh Muslim University (AMU) established a "holistic and realistic" test to assess the minority character of educational institutions in India, revisiting the **1967 S. Azeez Basha v. Union of India case**. This judgment, with potential to restore AMU's minority status under Article 30, holds broad implications for minority rights in education.

The "Holistic and Realistic" Test

The Supreme Court's test evaluates an institution's minority status based on:

1. **Establishment:** Verifying if the institution was genuinely founded to serve a minority community, considering historical purpose, founders' intent, and funding.
2. **Administration:** Examining if administrative practices align with the minority character, even if non-minority members are involved.

Significance of Minority Educational Institution (MEI) Status

1. **Autonomy in Administration:** Article 30(1) grants MEIs independence in staff appointments and admissions, aligning operations with cultural and educational goals.
2. **Community-Centric Reservation Policies:** MEIs can reserve up to 50% of seats for their community, as upheld in *St. Stephen's College v. University of Delhi (1992)*, supporting cultural preservation.
3. **Exemption from SC/ST Reservations:** MEIs are exempt from reservation mandates for SCs and STs under Article 15(5), allowing them to prioritize community needs.
4. **Protection from Regulatory Interference:** MEIs are shielded from state-imposed regulations that could undermine their minority mission, maintaining alignment with foundational goals.
5. **Preservation of Cultural Identity:** MEIs help sustain minority languages, cultures, and traditions, reinforcing India's cultural diversity through education.

Challenges and Concerns with MEI Status

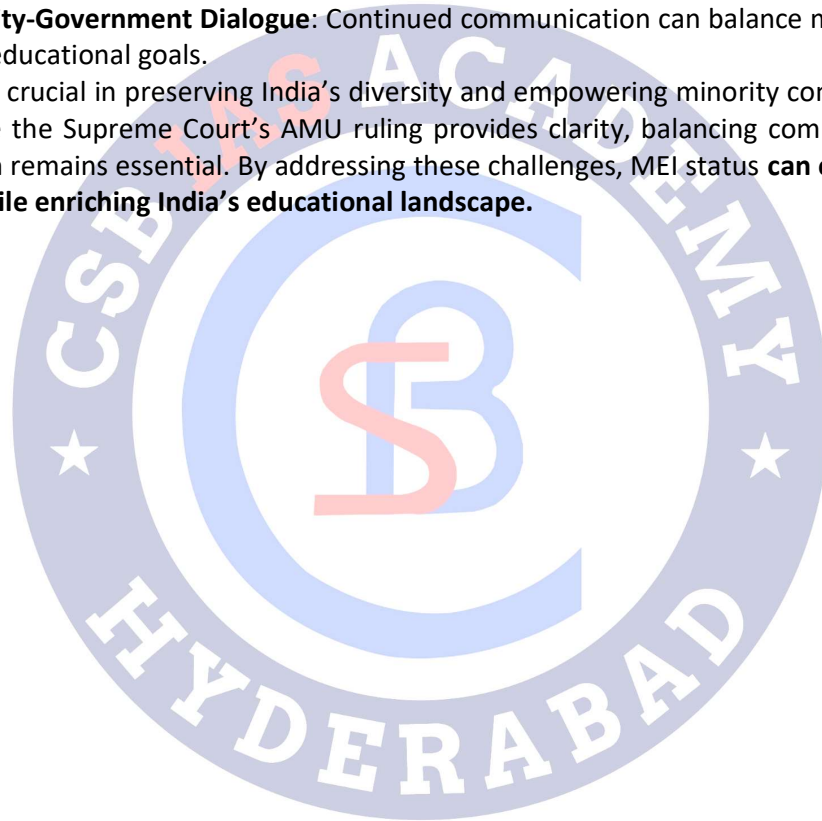
1. **Balancing Minority Rights and Social Equity:** The exemption from SC/ST reservations can lead to reduced access for other disadvantaged groups, complicating broader social justice goals.
2. **Defining Minority Status:** India's diverse regions complicate the definition of "minority," and applying the Court's test uniformly remains challenging.

3. **Quality of Education:** MEIs' autonomy may impact academic rigor, risking prioritization of cultural education over competitive standards.
4. **Potential Misuse of MEI Status:** Some institutions may **exploit MEI status for regulatory advantages** rather than serving minority needs, diluting the intended purpose.
5. **Funding Constraints:** Limited access to government funding can hamper infrastructure and faculty quality, especially for smaller MEIs.

Way Forward

- **Transparent Application of MEI Criteria:** Consistently applying the Supreme Court's test can prevent misuse and ensure only genuine institutions benefit.
- **Regular Quality Assessments:** Periodic reviews can help MEIs uphold academic standards alongside cultural goals.
- **Clear Eligibility Guidelines:** Establishing standard guidelines for MEI status can reduce ambiguity.
- **Increased Support for MEIs:** Government and private funding can enhance MEIs' quality and reach.
- **Community-Government Dialogue:** Continued communication can balance minority rights with national educational goals.

The MEI status is crucial in preserving India's diversity and empowering minority communities through education. While the Supreme Court's AMU ruling provides clarity, balancing community rights with quality education remains essential. By addressing these challenges, MEI status **can empower minority communities while enriching India's educational landscape.**



12. INDIA-MIDDLE EAST-EUROPE ECONOMIC CORRIDOR

IMPACT ANALYSIS

SYLLABUS:

GS 2 > International Relations > Agreements

REFERENCE NEWS:

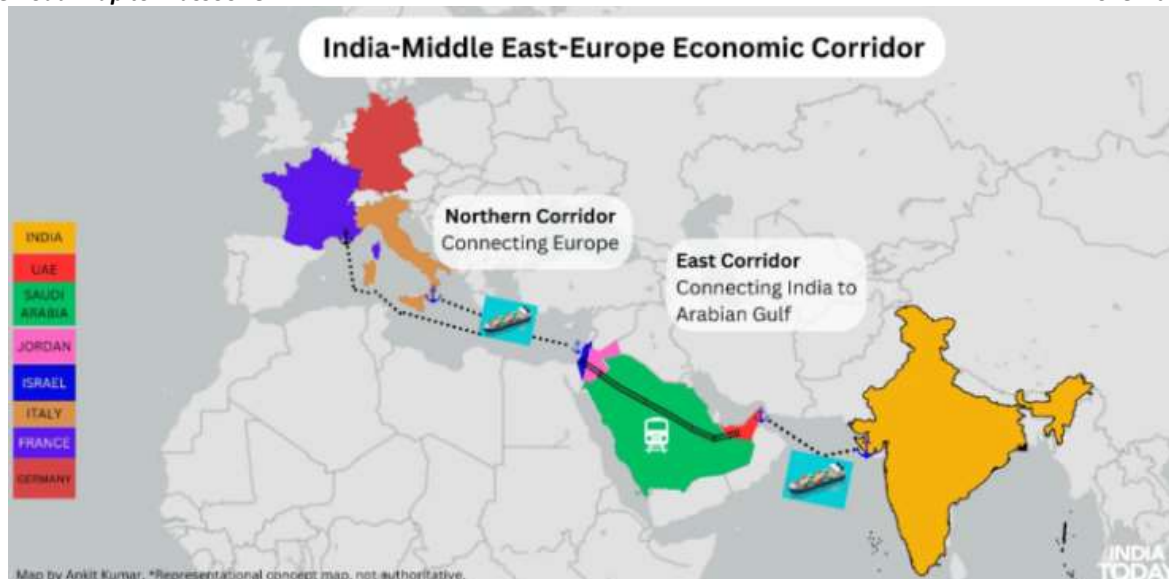
- The India-Middle East-Europe Economic Corridor (IMEC), announced during the G20 Summit in New Delhi in September 2023, aims to enhance connectivity and economic integration across Asia, the Middle East, and Europe.
- However, its progress has been **uneven due to geopolitical challenges, including the Israel-Palestine conflict, broader tensions in West Asia, and regional rivalries**, with countries like Egypt and Turkey viewing the corridor as a **threat to the Suez Canal's dominance** and an alternative to established land routes, thereby adding resistance.

INDIA-MIDDLE EAST-EUROPE ECONOMIC CORRIDOR (IMEC)

- The India-Middle East-Europe Economic Corridor (IMEC) was announced during the **G20 Summit in New Delhi in September 2023**.
- Aimed at enhancing connectivity, trade, and economic integration across **Asia, the Middle East, and Europe**.
- The IMEC is envisioned as a multi-modal trade and energy corridor **connecting India with Europe via the Middle East**, offering an alternative to traditional trade routes like the Suez Canal.
- Alongside the multi-modal transportation infrastructure, the project will include **cables for energy and digital connectivity** as well as a pipeline for clean hydrogen export.
- IMEC comprises two main segments:
 - **East Corridor: Connecting India to the Arabian Gulf.**
 - **Northern Corridor/Western Corridor: Linking the Arabian Gulf to Europe.**

Eastern Corridor

- **Scope:**
 - Connects **India** to the **United Arab Emirates (UAE)** through established **shipping routes**.
 - Focuses on strengthening trade ties between India and Gulf nations.
- **Progress:**
 - The eastern segment, connecting **India and UAE, is advancing swiftly**.
 - The **India-UAE Comprehensive Economic Partnership Agreement (CEPA)** (signed in 2022) has significantly boosted bilateral trade:
 - Total trade: **\$83.64 billion** in 2023-24 (93% growth from 2020-21).
 - Non-oil trade: **\$57.81 billion** in 2023-24.
 - Introduction of the **Virtual Trade Corridor**, which streamlines customs processes, reduces logistics costs, and improves trade efficiency.
- **Strategic Importance:**
 - Enhances India's access to Gulf markets and positions its exports for onward shipment to Europe.
 - Focus on building **green energy infrastructure** and **digital connectivity** for future growth.



Western/Northern Corridor

- **Scope:**
 - Extends from the **UAE to Europe**, crossing through **Saudi Arabia, Jordan, and Israel**.
 - Goods will be transported via **rail networks** from the UAE to Israel's **Haifa Port** on the Mediterranean Sea, then shipped to European destinations.
- **Challenges:**
 - The **Israel-Palestine conflict** (since October 2023) has stalled cooperation among key players like Saudi Arabia, Jordan, and Israel.
 - Regional tensions and **anti-US sentiment** have further delayed progress.
 - **Egypt** views **IMEC as a competitor to the Suez Canal**, while **Turkey** advocates for alternate routes like a rail corridor through Iraq.
- **Potential Benefits:**
 - Reduces transit time by up to **40%** and logistics costs by **30%** compared to the Suez Canal route.
 - Facilitates faster trade between Europe and Asia, supported by high-speed freight rail.

WHY IMEC IS SIGNIFICANT FOR INDIA:

- **Faster and Cost-Effective Trade Routes:**
 - IMEC provides a faster alternative to the traditional Suez Canal route, reducing transit times by up to **40%** and costs by **30%**.
 - **For instance**, goods from Mumbai can reach European markets via Haifa and rail routes within 10 days, boosting India's export efficiency.
- **Expanding Trade Opportunities:**
 - With the **United States being India's largest trading partner** (\$128.55 billion in bilateral trade in **2022-23**) and the European Union being a significant partner with \$120 billion in trade, IMEC strengthens connectivity with these key regions, enhancing trade efficiency and fostering deeper economic integration (**in 2023-24, China overtook the US as India's largest trading partner**).
 - It also enhances access to Middle Eastern markets, further leveraging India's **Comprehensive Economic Partnership Agreement (CEPA)** with the UAE.
- **Boosting Manufacturing and Exports:**
 - IMEC supports India's push to integrate into **Global Value Chains (GVCs)**, a critical step in making Indian exports globally competitive.

- **For example**, India's production-linked incentive (PLI) schemes can align with IMEC to support industries such as electronics, pharmaceuticals, and renewable energy.
- **Strategic Hub for Trade:**
 - India's location makes it a natural gateway for goods moving between Asia and Europe. By being a central player in IMEC, India can further position itself as a global trade hub.
- **Promoting Renewable Energy:**
 - IMEC includes renewable energy grids and clean hydrogen pipelines, aligning with India's **One Sun, One World, One Grid (OSOWOG)** initiative.
 - **For instance**, India's \$2.5 billion green hydrogen initiative positions the country as a potential exporter to energy-hungry European markets.
- **Reducing Carbon Footprint:**
 - The corridor's emphasis on efficient transport and green energy could help India reduce its trade-related emissions, aligning with its **Net Zero by 2070** goals.
- **Digital Infrastructure:**
 - The inclusion of **undersea data cables** in IMEC will boost India's IT and digital services exports to Europe and the Middle East.
 - **For example**, India's Unified Payments Interface (UPI), already operational in Saudi Arabia and the UAE, can serve as a model for digital payment integration across the corridor.
- **Countering China's Belt and Road Initiative (BRI):**
 - IMEC provides a collaborative and transparent alternative to China's **BRI**, which is often criticized for creating debt dependencies.
 - By participating in IMEC, India strengthens its partnerships with key players like the US, Saudi Arabia, UAE, and EU nations.
- **Reducing Reliance on Suez Canal:**
 - IMEC offers India a way to **bypass vulnerabilities associated with the Suez Canal**, such as blockages (e.g., the **Ever Given crisis in 2021**) and high insurance costs.
- **Strengthening Middle East Ties:**
 - The corridor enhances India's relations with **Gulf Cooperation Council (GCC)** nations, a region already accounting for over **\$240 billion** in trade in 2022-23.
 - **For instance**, Saudi Arabia and the UAE have committed \$100 billion and \$75 billion investments in India, respectively, which could be further integrated with IMEC's goals.
- **Diversification of Supply Routes:**
 - IMEC offers a secure trade alternative amid global supply chain disruptions caused by events like the COVID-19 pandemic and geopolitical conflicts.
 - It reduces India's dependence on chokepoints like the **Strait of Hormuz** and **Bab el-Mandeb**.
- **Port Development:**
 - IMEC complements India's focus on port modernization, such as the **Vadhavan Port** project worth \$9.14 billion, aimed at enhancing its western coastline's trade capacity.
- **Catalyzing Regional Stability:**
 - As a key player in IMEC, India can foster closer ties with partners like Saudi Arabia, Israel, and UAE, contributing to broader regional stability and cooperation. It also strengthens India's role in mediating between diverse political and economic systems.
- **Expanding Partnerships:**
 - India can use IMEC as a platform to invite more countries, such as Egypt and Turkey, to participate, potentially reducing geopolitical resistance and fostering inclusive growth.

CHALLENGES:

- **Israel-Palestine Conflict:**
 - The ongoing Israel-Palestine conflict, escalated since October 2023, has disrupted stability in the Middle East.

- **Cooperation among key stakeholders** like Israel, Saudi Arabia, and Jordan is **hindered, delaying progress on the northern corridor.**
- **Regional Rivalries:**
 - Countries like **Egypt** view IMEC as a competitor to the **Suez Canal**, which contributes significantly to their economy.
 - **Turkey**, excluded from the initial framework, advocates for alternative land routes through its territory, complicating regional dynamics.
- **Anti-US Sentiment in the Middle East:**
 - Increased anti-US sentiment in the region due to perceived American bias in conflicts affects trust and cooperation between IMEC member nations.
- **High Cost of Infrastructure:**
 - The estimated cost for the IMEC's transport corridor infrastructure ranges between **\$3 billion and \$8 billion per route**, with additional costs for energy grids, pipelines, and digital connectivity. Mobilizing such investments across multiple countries, **especially during global economic uncertainties**, poses a significant hurdle.
- **Dependency on Multilateral Financing:**
 - Funding relies heavily on multilateral institutions and investments from wealthier partners like Saudi Arabia and the UAE.
 - Securing long-term financing amidst differing national priorities and political instability could slow progress.
- **Trade Tariffs and Standardization:**
 - Disparities in tariffs, customs regulations, and trade policies across participating countries add to the complexity of seamless trade facilitation.
- **Fragmented Rail Networks:**
 - The Middle East lacks integrated rail networks essential for the IMEC.
 - **For instance**, Saudi Arabia and UAE are expanding their networks, but connectivity to Jordan and Israel remains incomplete.
- **Land Acquisition and Environmental Concerns:**
 - Acquiring land for rail and energy infrastructure can lead to displacement and environmental issues, potentially delaying construction and increasing costs.
- **Renewable Energy Dependence:**
 - The IMEC's reliance on renewable energy, such as solar power and green hydrogen, requires substantial investment in energy storage and transmission infrastructure. Current technologies for green hydrogen production and transport **remain expensive and inefficient.**
- **Carbon Footprint Concerns:**
 - While IMEC aims to reduce emissions, **construction activities and increased trade volumes** could initially contribute to a higher carbon footprint.
- **Coordination Among Stakeholders:**
 - The corridor involves multiple countries with diverse political systems, economic priorities, and governance structures.
 - Maintaining consensus and coordination across all stakeholders is critical for timely implementation.
- **Security Risks:**
 - Shipping routes in the **Bab el-Mandeb Strait** and rail corridors in conflict-prone regions like Jordan and Israel face potential security threats.
 - **For example, attacks on shipping lanes by Houthi militias** highlight vulnerabilities in the region.
- **Resistance from Excluded Nations:**

- Countries like **Egypt** and **Turkey**, excluded from IMEC, could resist its implementation by lobbying against it in multilateral forums.

WAY FORWARD:

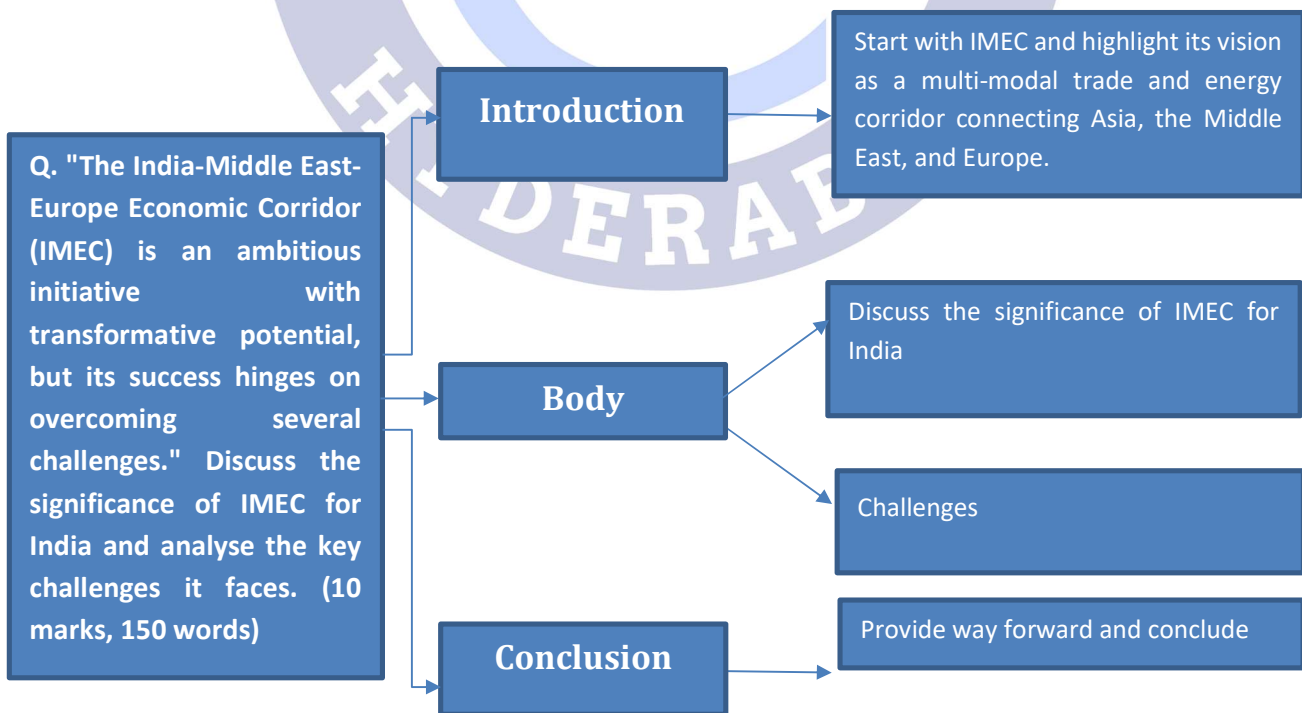
- **Geopolitical Cooperation:** Facilitate regional dialogues to mediate conflicts and engage excluded nations like Egypt and Turkey for broader acceptance of IMEC.
- **Financing and Investments:** Leverage sovereign wealth funds from Saudi Arabia and the UAE, complemented by multilateral financing to ensure long-term project sustainability.
- **Streamlined Trade:** Establish an IMEC Secretariat to harmonize trade policies and ensure coordinated infrastructure development across member nations.
- **Green Energy and Technology:** Promote collaboration on renewable energy grids and green hydrogen pipelines, aligning with global sustainability goals.
- **Security Measures:** Strengthen maritime and rail security through coordinated regional mechanisms to mitigate risks in vulnerable areas.
- **Digital Integration:** Expand digital payment systems like India's UPI to IMEC partners, enhancing cross-border trade and economic cooperation.

CONCLUSION: The IMEC offers a transformative opportunity to redefine global trade and connectivity across Asia, the Middle East, and Europe. With a focused and collaborative approach, the corridor can drive economic growth, sustainability, and regional stability, positioning India as a central player in this global initiative.

PRACTICE QUESTION

Q. "The India-Middle East-Europe Economic Corridor (IMEC) is an ambitious initiative with transformative potential, but its success hinges on overcoming several challenges." Discuss the significance of IMEC for India and analyse the key challenges it faces. (10 marks, 150 words)

APPROACH



MODEL ANSWER

The India-Middle East-Europe Economic Corridor (IMEC), announced during the G20 Summit in September 2023, is an ambitious initiative aimed at enhancing **trade, connectivity, and economic integration across Asia, the Middle East, and Europe**. Envisioned as a **multi-modal trade and energy corridor**, it offers an alternative to traditional routes like the Suez Canal. Alongside transport infrastructure, it includes **energy grids, digital connectivity, and clean hydrogen pipelines**. However, geopolitical challenges, such as the Israel-Palestine conflict and regional rivalries, pose significant hurdles to its realization.

Significance of IMEC for India:

1. **Strategic Trade Route:** IMEC provides a faster and cost-effective alternative to the Suez Canal, reducing transit time by 40% and costs by 30%. For instance, goods from Mumbai can reach European markets via Haifa and rail within 10 days, enhancing India's trade efficiency.
2. **Expanding Trade Opportunities:** Strengthens India's connectivity with its largest trading partners—the US (\$128.55 billion) and the EU (\$120 billion in 2022-23)—while deepening ties with Middle Eastern markets.
3. **Global Value Chains (GVCs):** Supports India's manufacturing push by integrating with GVCs, particularly in sectors like electronics, pharmaceuticals, and renewable energy, leveraging production-linked incentive (PLI) schemes.
4. **Energy Transition:** IMEC aligns with India's green energy goals by incorporating renewable energy grids and clean hydrogen pipelines, positioning India as a key supplier of green hydrogen to Europe.
5. **Countering China's BRI:** IMEC offers a collaborative and transparent alternative to China's Belt and Road Initiative (BRI), enhancing India's geopolitical influence in the region.

Challenges Facing IMEC:

1. **Geopolitical Instability:** The ongoing Israel-Palestine conflict disrupts cooperation among key players like Saudi Arabia, Jordan, and Israel, delaying progress on the northern corridor.
2. **Regional Rivalries:** Egypt views IMEC as a competitor to the Suez Canal, while Turkey advocates alternative routes, complicating collaboration.
3. **Infrastructure and Financing:** High costs for transport infrastructure (\$3-\$8 billion per route) and reliance on multilateral funding create financial constraints.
4. **Lack of Rail Connectivity:** Fragmented rail networks in the Middle East hinder seamless transport, with incomplete connectivity between Saudi Arabia, Jordan, and Israel.
5. **Security Risks:** Vulnerabilities in shipping lanes (e.g., Bab el-Mandeb Strait) and rail routes in conflict zones highlight security challenges.

Way Forward:

- **Geopolitical Cooperation:** Mediate conflicts and engage excluded nations like Egypt and Turkey to foster inclusivity and mitigate resistance.
- **Infrastructure and Investment:** Mobilize funds through sovereign wealth funds and multilateral institutions, alongside innovative financing models like Islamic financial products.
- **Digital and Green Integration:** Expand digital payment systems like UPI and prioritize renewable energy projects to align IMEC with global sustainability goals.
- **Security Measures:** Establish regional security frameworks to safeguard vulnerable trade and transport routes.

IMEC represents a transformative opportunity to reshape global trade and connectivity, offering India a strategic advantage in global supply chains, green energy leadership, and geopolitical influence. While challenges persist, a focused and collaborative approach can enable IMEC to drive sustainable growth and stability, heralding a new era of economic integration across three continents.

13. URBAN LOCAL BODIES

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Polity > Local Governance

REFERENCE NEWS:

- Recently, the **Comptroller and Auditor General of India (CAG)** released a comprehensive audit report highlighting critical issues in the implementation of the **74th Constitutional Amendment Act (CAA)** across urban local bodies (ULBs) in 18 states.
- The findings reveal significant gaps in **resources, expenditure, staffing, and devolution of functions**, three decades after the amendment aimed at empowering ULBs came into effect.
- The audit covered 393 ULBs across 18 states, namely Andhra Pradesh, Assam, Chhattisgarh, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Tripura, and Uttarakhand, catering to a population of 241 million.

KEY FINDINGS OF THE CAG AUDIT REPORT:

- **Resource-Expenditure Gap**
 - ULBs in these 18 states face a **42% gap between resources and expenditures**.
 - Only **32% of revenue** is generated internally by ULBs, with the rest coming from Union and state governments.
 - Realization of property tax stood at **56% of the demand**, indicating inefficiencies in revenue collection.
- **Expenditure Allocation**
 - Only **29% of ULB expenditure** is allocated to programmatic and developmental activities.
 - The remaining majority goes towards administrative and other operational costs.
- **Staffing and Recruitment**
 - **37% average vacancy** against sanctioned staff strength across ULBs.
 - Urban bodies in **16 states lack autonomy** in recruitment, further hampering their operational efficiency.
- **Devolution of Functions**
 - Of the **18 functions** mandated by the 74th Amendment, an average of **17 functions** has been devolved.
 - However, only **4 functions** are devolved with complete autonomy.
 - **Urban planning and fire services** remain the least devolved functions by law.
 - **Nine states**, including Chhattisgarh, Haryana, Jharkhand, and Maharashtra, have devolved all 18 functions.
- **Weak Compliance with the 74th Amendment**
 - The report flagged a lack of “in-spirit” compliance with the amendment’s provisions.
 - Urban local bodies are rarely involved in critical functions like planning, undermining their role in governance.

CONSTITUTIONAL PROVISIONS FOR URBAN LOCAL BODIES (ULBS) IN INDIA

- The **74th Constitutional Amendment Act, 1992**, is the cornerstone of urban governance in India.
- It introduced **Part IX-A to the Constitution**, encompassing **Articles 243P to 243ZG**, and provided the framework for the constitution, governance, and powers of Urban Local Bodies (ULBs).
- Additionally, it added the **Twelfth Schedule**, listing **18 functional items** to be delegated to ULBs, ensuring a uniform structure for urban governance across the country.

- **Types of ULBs:**
 - Article **243Q** mandates the constitution of the following three types of ULBs:
 - **Nagar Panchayat:** For areas in transition from rural to urban.
 - **Municipal Council:** For smaller urban areas.
 - **Municipal Corporation:** For larger urban areas.
- **Powers and Responsibilities:**
 - **Article 243W** empowers state legislatures to assign functions, authority, and responsibilities to ULBs concerning:
 - Urban planning, including town planning.
 - Regulation of land use and construction.
 - Public health, sanitation, water supply, and waste management.
 - Urban poverty alleviation and slum improvement.
 - Safeguarding the interests of weaker sections.

SIGNIFICANCE OF URBAN LOCAL BODIES (ULBS)

- **Decentralized Governance:** ULBs promote grassroots democracy by empowering local communities to participate in decision-making, ensuring policies align with local needs.
- **Efficient Service Delivery:** They are responsible for essential services such as water supply, sanitation, waste management, urban transport, and public health, directly impacting citizens' quality of life.
- **Urban Planning and Development:** ULBs play a key role in urban planning, regulating land use, and ensuring sustainable development of cities to accommodate growing populations.
- **Economic Growth:** By providing infrastructure and fostering investment, ULBs contribute to economic growth and employment generation in urban areas.
- **Implementation of National Programs:** ULBs act as implementing agencies for flagship schemes like Smart Cities Mission, AMRUT, and Swachh Bharat Abhiyan, translating national goals into local action.
- **Social Equity and Inclusion:** ULBs focus on urban poverty alleviation, slum improvement, and safeguarding weaker sections, ensuring equitable development across all strata of society.
- **Climate Resilience:** They play a crucial role in addressing urban environmental challenges, such as waste management, air quality improvement, and disaster preparedness, contributing to climate resilience.

CHALLENGES ASSOCIATED WITH URBAN LOCAL BODIES (ULBS) IN INDIA:

FUNDS:

- **Financial Constraints:**
 - ULBs rely heavily on grants from state and central governments, with limited capacity to generate their own revenue.
 - For instance, the recent **CAG audit report noted that only 32% of ULBs' total revenue is self-generated**, with the remaining 68% coming from government transfers.
- **Resource-Expenditure Gap:**
 - **For instance**, the recent **CAG Audit Report on 18 states** noted that **42% of ULBs** faced a significant gap between available resources and actual expenditure, highlighting systemic inefficiencies.
- **Low Property Tax Collection:**
 - Property tax is a major revenue source for ULBs; however, its collection efficiency is low.
 - **For instance**, the CAG audit report found that ULBs are **only able to realize 56% of their total property tax demand**.
- **Reduced Revenue in the GST Era:**
 - The introduction of GST has significantly curtailed the independent revenue-generation capacity of ULBs by subsuming taxes such as sales tax, octroi, and entertainment taxes.

- **For instance**, the Municipal Corporation of Greater Mumbai (MCGM) faced a ₹7,000 crore (35%) revenue loss due to the elimination of octroi taxes under GST.

FUNCTIONS:

○ **Improper Devolution of Functions:**

- Most ULBs lack decision-making power due to financial and administrative control by state governments.
- **For instance**, the CAG audit report highlighted that **only 4 out of 18 functions have been effectively devolved** to ULBs **with complete autonomy**.

○ **Inadequate Infrastructure:**

- Insufficient infrastructure for water supply, sanitation, and waste management.
- **For instance**, According to the **2018 Swachh Bharat Urban Report**, only 35% of ULBs could ensure 100% waste segregation at the source.

○ **Non-Functional District Planning Committees (DPCs):**

- The lack of functional District Planning Committees (DPCs), which are mandated to consolidate and integrate development plans from panchayats and ULBs, remains a significant challenge.
- **For instance**, a study by the India Development Review found that **DPCs are inactive in 9 states**, while in 15 states, they have failed to prepare integrated development plans effectively.

○ **Multiplicity of Agencies:**

- Overlapping responsibilities between municipal corporations and **parastatal agencies** (e.g., development authorities, water boards).

Parastatal agencies are state-controlled bodies performing specific functions like water supply, urban development, and transport, limiting ULBs' autonomy.

- **For example**, in **Delhi**, both ULBs and the Delhi Jal Board manage water supply, leading to accountability gaps, as noted in the **2022 CAG report**.

FUNCTIONARIES:

○ **Shortage of Personnel:**

- ULBs often face a dearth of qualified staff for urban planning, sanitation, and waste management.
- **For instance**, the CAG audit report found that ULBs have an **average vacancy rate of 37%**, severely affecting their capacity to function effectively.
- Also, a **2021 NITI Aayog report** highlighted that **40% of ULBs do not have trained urban planners**, impacting urban development projects.

○ **Delays in Elections:**

- States often delay municipal elections, leaving ULBs under administrative control.
- **For instance**, **municipal elections in Bengaluru** were delayed by three years (2019-2022), impacting local governance.

○ **Criminalization in ULBs:**

- The increasing selection of corporators with criminal backgrounds undermines the integrity and effectiveness of Urban Local Bodies.

○ **Challenges to Women's Political Empowerment:**

- The rise of the "**Corporator Pati/Mayor Pati**" **syndrome** has hindered the true empowerment of women in urban governance.

The "**Corporator Pati/Mayor Pati**" **syndrome** refers to the practice where women elected as corporators or mayors in Urban Local Bodies (ULBs) are nominally in power, but their male relatives—often husbands—exercise the actual authority.

- **Bureaucratic Dominance:**
 - **State-appointed municipal commissioners** often overshadow elected mayors, reducing their role to ceremonial positions in cash-rich corporations.

FUNCTIONALITY:

- **Corruption Issues:**
 - Corruption scandals, such as irregularities in contract awards by the Municipal Corporation of Delhi (MCD), have significantly hampered the effectiveness of ULBs.
 - Furthermore, only 11 out of 35 states/UTs have enacted Public Disclosure Laws, which are critical for ensuring transparency in urban governance.
- **Urban Poverty and Slums:**
 - ULBs lack resources and planning to address housing and basic service requirements for slum dwellers.
 - For example, a study by Participatory Research in Asia **PRIA (2022)** found that in Mumbai, 62% of slum households lacked access to safe drinking water.
- **Climate challenges:**
 - ULBs are ill-equipped to manage **urban flooding, heatwaves, and other climate challenges.**
 - For example, the **CAG Audit on Chennai Floods (2015)** revealed that poor maintenance of drainage systems contributed to severe urban flooding.

WAY FORWARD:

- **Enhance Financial Autonomy:** ULBs must be empowered to generate more revenue independently through wider taxation powers such as land-use taxes, local property taxes, and user fees. Improving property tax collection through GIS-based mapping can enhance efficiency. The central and state governments should revisit the GST framework to compensate for the loss of traditional ULB revenue sources.
- **Ensure Proper Devolution of Powers:** The full implementation of the 74th Constitutional Amendment must be prioritized by transferring all 18 functions listed in the Twelfth Schedule to ULBs. Functional District Planning Committees should be established to integrate development plans and address coordination gaps.
- **Build Institutional and Administrative Capacity:** Staffing shortages should be addressed by filling vacancies, especially in critical areas like urban planning and engineering. Regular training programs for both municipal staff and elected representatives can improve governance and service delivery. Empowering elected officials by reducing bureaucratic control is necessary to enhance accountability.
- **Promote Democratic Governance:** Timely elections should be ensured to uphold the democratic ethos of ULBs. Preventing criminalization in local governance by enforcing stricter eligibility criteria and promoting gender equality by addressing the "Corporator Pati/Mayor Pati" syndrome will strengthen ULB leadership.
- **Strengthen Infrastructure and Service Delivery:** Investments should be made in water supply, sanitation, public transport, and waste management to enhance service delivery. Scientific waste disposal practices and slum redevelopment projects should be prioritized to improve urban living standards. Climate-resilient urban planning, including heat action plans and better drainage systems, is vital to mitigate environmental challenges.
- **Foster Coordination and Integrated Planning:** Clear roles and responsibilities between ULBs and parastatal agencies must be established to avoid duplication and ensure accountability. Technology-driven urban planning tools like GIS can facilitate cohesive development plans. Effective collaboration between central, state, and local governments can align urban policies with local needs.

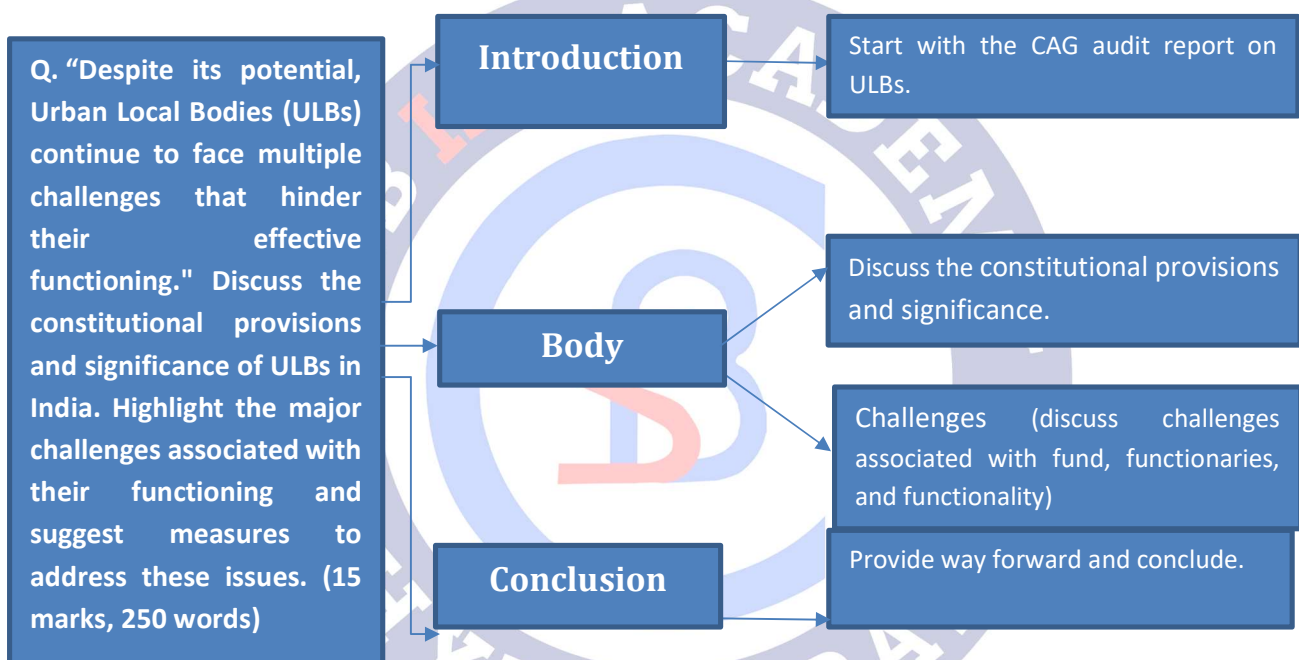
CONCLUSION:

- Empowering ULBs with financial independence, administrative capacity, and functional autonomy is critical to achieving sustainable urban governance. Addressing inefficiencies through timely reforms and implementing the recommendations of the CAG report can enable ULBs to meet the growing demands of urbanization while improving the quality of life for urban residents.

PRACTICE QUESTION

Q. "Despite its potential, Urban Local Bodies (ULBs) continue to face multiple challenges that hinder their effective functioning." Discuss the constitutional provisions and significance of ULBs in India. Highlight the major challenges associated with their functioning and suggest measures to address these issues. (15 marks, 250 words)

APPROACH



MODEL ANSWER

The 74th Constitutional Amendment Act (CAA), 1992, was a landmark reform to strengthen urban governance through Urban Local Bodies (ULBs). However, the **Comptroller and Auditor General (CAG) Report on ULBs in 18 states**, covering 393 ULBs catering to a population of 241 million, highlighted significant gaps in resource mobilization, staffing, and functional devolution, underscoring the persistent challenges even after three decades of the amendment.

Constitutional Provisions for ULBs

- Part IX-A of the Constitution:** Introduced under the 74th CAA, this encompasses **Articles 243P to 243ZG**, defining the structure, powers, and responsibilities of ULBs.
- Types of ULBs (Article 243Q):**
 - Nagar Panchayat:** Transitional rural-urban areas.
 - Municipal Council:** Smaller urban areas.
 - Municipal Corporation:** Larger urban areas.
- Twelfth Schedule:** Lists 18 functional responsibilities, including urban planning, water supply, public health, and slum improvement.

- **Article 243W:** Empowers state legislatures to devolve powers, ensuring local governance aligns with urban needs.

Significance of ULBs

1. **Decentralized Governance:** Enables grassroots democracy, allowing local participation in policymaking.
2. **Efficient Service Delivery:** Responsible for water supply, waste management, and public transport, directly impacting citizens' quality of life.
3. **Urban Planning and Development:** Addresses issues like housing and sustainable land use.
4. **Economic Growth:** Facilitates investments and infrastructure development, contributing to job creation.
5. **Implementation of Flagship Schemes:** ULBs implement programs like **AMRUT** and **Swachh Bharat Mission**, translating national goals into local action.
6. **Social Equity:** Focuses on slum improvement and safeguarding weaker sections, promoting inclusive growth.
7. **Climate Resilience:** Addresses urban flooding, air quality, and waste management challenges, critical for sustainable urbanization.

Challenges Associated with ULBs

1. Financial Constraints

- **Dependence on Transfers:** ULBs generate only **32% of their revenue**, relying heavily on state and central grants (**CAG Report**).
- **Resource-Expenditure Gap:** A **42% shortfall** in resources versus expenditure indicates systemic inefficiencies.
- **Property Tax Realization:** ULBs collect only **56% of their total property tax demand**, reflecting poor revenue mobilization.
- **Impact of GST:** The introduction of GST subsumed local taxes, leading to significant losses.
 - **Example:** The Municipal Corporation of Greater Mumbai lost ₹7,000 crore (35%) in revenue due to the elimination of octroi taxes.

2. Functional Gaps

- **Improper Devolution of Functions:** While 17 of 18 functions under the Twelfth Schedule have been devolved, only **4 are fully autonomous**, limiting ULBs' authority in critical areas like urban planning and fire services.
- **Inadequate Infrastructure:** Only **35% of ULBs** ensure 100% waste segregation (**Swachh Bharat Urban Report, 2018**).
- **Non-functional District Planning Committees (DPCs):**
 - **Inactive in 9 states**, while **15 states fail to prepare integrated plans** (India Development Review).
- **Multiplicity of Agencies:** Overlapping jurisdictions with parastatal agencies dilute accountability.
 - **Example:** In Delhi, the Delhi Jal Board and ULBs both manage water supply, creating gaps (**CAG Report, 2022**).

3. Functionary Challenges

- **Staffing Issues:** ULBs face **37% vacancy rates**, with **40% lacking trained urban planners** (NITI Aayog, 2021).
- **Delayed Elections:** Municipal elections are often postponed, leaving ULBs under administrative control.
 - **Example:** Bengaluru municipal elections were delayed by **three years (2019–2022)**.
- **Criminalization and Gender Inequality:** Criminal backgrounds of corporators and the "Corporator Pati/Mayor Pati" syndrome undermine governance.
- **Bureaucratic Dominance:** State-appointed commissioners overshadow elected officials, reducing mayors to ceremonial roles.

4. Functionality challenges

- **Corruption:** Irregularities in contract awards and fund utilization, as seen in the **MCD corruption case**, undermine efficiency.
- **Urban Poverty and Slums:** ULBs struggle to provide basic services to slum dwellers.
 - **Example:** In Mumbai, **62% of slum households lack access to safe drinking water (PRIA, 2022)**.
- **Climate Challenges:** Poor preparedness for urban flooding and heatwaves exacerbates vulnerabilities.
 - **Example:** The **Chennai Floods, 2015**, were worsened by inadequate drainage maintenance (**CAG Report**).

Way Forward

1. **Enhance Financial Autonomy:** Broaden taxation powers (e.g., land-use and property taxes). Improve collection efficiency through GIS-based mapping.
2. **Strengthen Functional Devolution:** Fully implement the 74th Amendment, transferring all 18 functions with autonomy. Activate and empower District Planning Committees.
3. **Address Staffing Shortages:** Fill vacancies and provide training to municipal staff. Strengthen accountability through Public Disclosure Laws.
4. **Promote Democratic Governance:** Ensure timely elections and stricter eligibility criteria for corporators.
5. **Build Climate Resilience:** Develop climate-adaptive infrastructure to mitigate flooding and heat-related risks.
6. **Foster Collaboration:** Define clear roles for ULBs and parastatal agencies to streamline governance.

Despite constitutional provisions, ULBs face persistent challenges in achieving their full potential. Addressing issues of financial dependency, functional autonomy, and operational inefficiencies is critical for empowering ULBs. Implementing the recommendations of the CAG report and strengthening local governance will ensure sustainable urban development and improve the quality of life for urban citizens.

14. INDIA-NIGERIA RELATIONS

IMPACT ANALYSIS

SYLLABUS:

GS 2 > International relations > India and Global Regions > India & Africa

REFERENCE NEWS:

- Prime Minister Narendra Modi's recent visit to Nigeria marked **the first trip by an Indian prime minister to the African nation in 17 years**. This visit was part of his itinerary before attending the G20 Leaders Summit in Brazil.
- During his visit, PM Modi was awarded **Nigeria's second-highest national honor**, the Grand Commander of the Order of Niger, acknowledging his efforts in fostering India-Nigeria relations. This made him the **first foreign leader to receive this award since 1969**.

MORE ON NEWS:

- During his visit, PM Modi engaged in comprehensive talks with Nigerian President Bola Ahmed Tinubu, focusing on strengthening bilateral cooperation across multiple sectors, including defense, trade, energy, and counter-terrorism.
- The leaders discussed several key areas:
 - **Defense and Security:** Enhanced cooperation in defense and security to jointly tackle challenges such as **terrorism, piracy, and radicalization**.
 - **Economic Ties:** Commitment to boosting economic interactions, especially in sectors like **energy and trade**, where there is considerable potential for growth.
 - **Health and Education:** Exploring opportunities in health and education sectors, particularly leveraging **India's strengths in affordable medicines and digital transformation**.
 - **Agriculture and Energy:** Sharing expertise in agriculture and renewable energy, aiming to **support Nigeria's development and sustainability goals**.
- Following their discussions, the nations signed **three Memoranda of Understanding (MoUs)** focusing on cultural exchange, customs cooperation, and survey cooperation, setting a formal framework for future collaborations.
- The talks also covered global and regional issues, with a specific focus on enhancing the **role of developing countries in international forums**.
- President Tinubu praised **India's leadership in platforms like the Voice of the Global South summits**, and both leaders agreed to collaborate towards fulfilling the developmental aspirations of the Global South.
- PM Modi acknowledged the significant contributions of the **60,000-strong Indian expatriate community in Nigeria**, emphasizing their role in strengthening the bilateral ties.
- Additionally, he announced India's commitment to sending **20 tonnes of relief supplies to support Nigerians affected by recent floods**, highlighting the humanitarian aspect of India's engagement with Nigeria.

HISTORICAL CONTEXT OF INDIA-NIGERIA RELATIONS

- India and Nigeria have maintained strong diplomatic ties for over six decades, beginning with the establishment of India's Diplomatic House in Lagos in **1958, before Nigeria's independence in 1960**.
- The relationship was elevated to a **"Strategic Partnership" during former Prime Minister Manmohan Singh's visit in 2007**. This partnership focuses on various developmental and economic collaborations.
- Both nations are large, **developing democracies with multicultural, multi-religious, and multi-ethnic societies**. This similarity has fostered a natural affinity and positioned them as important

players in South-South Cooperation, actively voicing the concerns of the developing world in international forums like the **United Nations, G77, and the Non-Aligned Movement.**

- The **Indian expatriate community in Nigeria**, numbering around **60,000**, is the largest in **West Africa**. This community plays a significant role in strengthening the cultural and economic ties between the two countries. India's role as a development partner is highlighted by its substantial investments in Nigeria's key sectors, alongside providing valuable developmental assistance through concessional loans and capacity-building training programs.

AREAS OF COOPERATION:

Economic Engagements

○ **Trade Dynamics:**

- In 2022, India figured amongst the **top 5 trading partners of Nigeria**. The Bilateral trade volume between Nigeria and India has fallen from **US\$ 14.95 billion in 2021-22 to US\$ 11.8 billion in 2022-23**. This is mainly because of decrease in the volume of oil purchased from Nigeria.
- Nigeria is one of the leading suppliers of crude oil to India, contributing approximately **12% to India's total oil imports**.
- Indian exports to Nigeria have continued to grow, reflecting a diversification in trade items.

○ **Investments:**

- **Indian firms** are significant players in the Nigerian economy, with investments primarily in the manufacturing sector totaling around **\$27 billion**, making them the **second-largest employers in Nigeria after the federal government**. Prominent among these companies are **Bharti Airtel, Tata, Bajaj Auto, Birla Group, Kirloskar, Mahindra, and Ashok Leyland**.

○ **Developmental Assistance:**

- India has provided Nigeria with **concessional loans totaling \$100 million** for various projects, strengthening Nigeria's infrastructure and energy sectors.

Defense and Security Cooperation

○ **Military Collaboration:**

- India has played a significant role in establishing military institutions in Nigeria, including the **National Defence Academy in Kaduna and the Naval War College in Port Harcourt**.
- This military collaboration extends to extensive training of Nigerian military personnel in Indian institutions and has been further reinforced by a **Memorandum of Understanding signed in 2007**, which cements the defense relationship between the two countries.

○ **Joint Military Exercises:**

- India and Nigeria have participated in joint military exercises, enhancing their security cooperation and addressing challenges like terrorism and piracy. This collaboration includes **shared military training, exchange programs, and contributions to UN Peace Keeping Operations**.

Cultural and Educational Ties

○ **Cultural Exchanges:**

- Initiatives like "**Namaste Nigeria**" and the participation of Nigerian cultural troupes in events in India promote mutual understanding and appreciation of cultural diversity.

○ **Educational Cooperation:**

- India is a preferred destination for Nigerian students, with scholarships provided by ICCR and other educational programs under schemes like **Study in India (SII)**, facilitating access to quality higher education for thousands of Nigerian students annually.

Science, Technology, and Health Cooperation

○ **Space Cooperation:**

- The 2020 MoU on space cooperation aims to leverage satellite technology for developmental purposes, enhancing capabilities in sectors like agriculture and mining.

- **Health Sector Initiatives:**

- During the **COVID-19 pandemic, India supplied Nigeria with significant quantities of Covishield vaccines and other medical supplies**, underscoring its role as a responsive and responsible global health partner.

CHALLENGES:

- **Reduced Bilateral Trade:**

- There's been a notable decrease in trade volume from \$14.95 billion in 2021-22 to \$11.8 billion in 2022-23, primarily due to a **reduction in oil imports from Nigeria**. This decline impacts the economic interactions between the two nations.

- **Limited Energy Sector Investment:**

- India has not made significant upstream investments in Nigeria's energy sector, **unlike China, which has established substantial energy assets**. This positions India mainly as a buyer rather than a strategic partner in Nigeria's energy landscape.

- **Economic Instability:**

- Nigeria's recent economic reforms, **including subsidy cuts and currency devaluation**, have introduced elements of uncertainty, affecting the stability and predictability needed for sustained economic engagement and investment from India.

- **Security Issues:**

- Nigeria faces ongoing security challenges such as the **Boko Haram insurgency, oil bunkering, and piracy in the Gulf of Guinea**. These issues not only destabilize Nigeria but also pose risks to foreign investments and nationals, including those from India.

- **Infrequent High-Level Engagements:**

- The infrequent high-level diplomatic engagements, such as state visits and strategic dialogues between India and Nigeria, have limited the potential dynamism in their bilateral relationship.
- A notable example is **Prime Minister Narendra Modi's recent visit to Nigeria, the first by an Indian Prime Minister in 17 years**, illustrating the significant gap in top-level interactions between the two nations.

- **Competing Foreign Influence:**

- The growing influence of China in Nigeria, particularly **through the Belt and Road Initiative**, challenges India's strategic interests and its historical and cultural leverage in Nigeria.

- **Infrastructure Gaps:**

- Significant infrastructural deficiencies in Nigeria, including **inadequate transportation networks and educational and health facilities**, pose barriers to sustainable development and efficient economic activities. These gaps require substantial foreign investment and expertise, for which India could be a crucial partner.

- **Underutilization of the Indian Diaspora:**

- Despite the significant presence of the Indian community in Nigeria, there's a need for more strategic engagement of this diaspora to enhance cultural and economic ties between the two countries.

- **Absence of Robust Economic Frameworks:**

- The lack of comprehensive economic partnership agreements limits the scope for broader trade and investment cooperation, unlike the structured economic collaborations that other countries, like China, have established with Nigeria.

WAY FORWARD:

- **Trade and Investment:** There is potential to expand bilateral trade, which has seen fluctuations but remains significant. Both countries are interested in diversifying their trade beyond traditional items, exploring sectors like pharmaceuticals, agriculture, and technology.

- Strengthening economic ties through a local currency settlement system could further enhance trade efficiency and economic relations.
- **Defense and Security:** Ongoing cooperation in the defense sector, including military hardware procurement and joint exercises, is expected to grow. These initiatives not only strengthen bilateral military ties but also enhance maritime security in critical regions like the Gulf of Guinea.
 - **Technology and Innovation:** India's expertise in IT and digital transformation presents an opportunity for Nigeria, especially in areas like fintech and cybersecurity. Collaborative efforts in these sectors could help Nigeria accelerate its digital transformation and benefit from India's experience in technology-driven economic growth.
 - **Energy and Infrastructure:** As Nigeria seeks to diversify its energy sources, India's experience in renewable energy could be vital. Collaborative projects in solar energy and other renewable resources could support Nigeria's energy diversification goals.
 - **Healthcare and Pharmaceuticals:** India's strong pharmaceutical sector continues to play a crucial role in Nigeria, with opportunities for further collaboration in local production and distribution of pharmaceuticals. Initiatives like joint ventures in vaccine production and distribution of generic medicines could significantly impact public health in Nigeria.
 - **Agricultural Development:** With agriculture being a cornerstone of Nigeria's economy, collaboration in agricultural technology, irrigation, and food processing could help improve productivity and sustainability. This includes sharing best practices and technologies that can enhance agricultural output and food security.

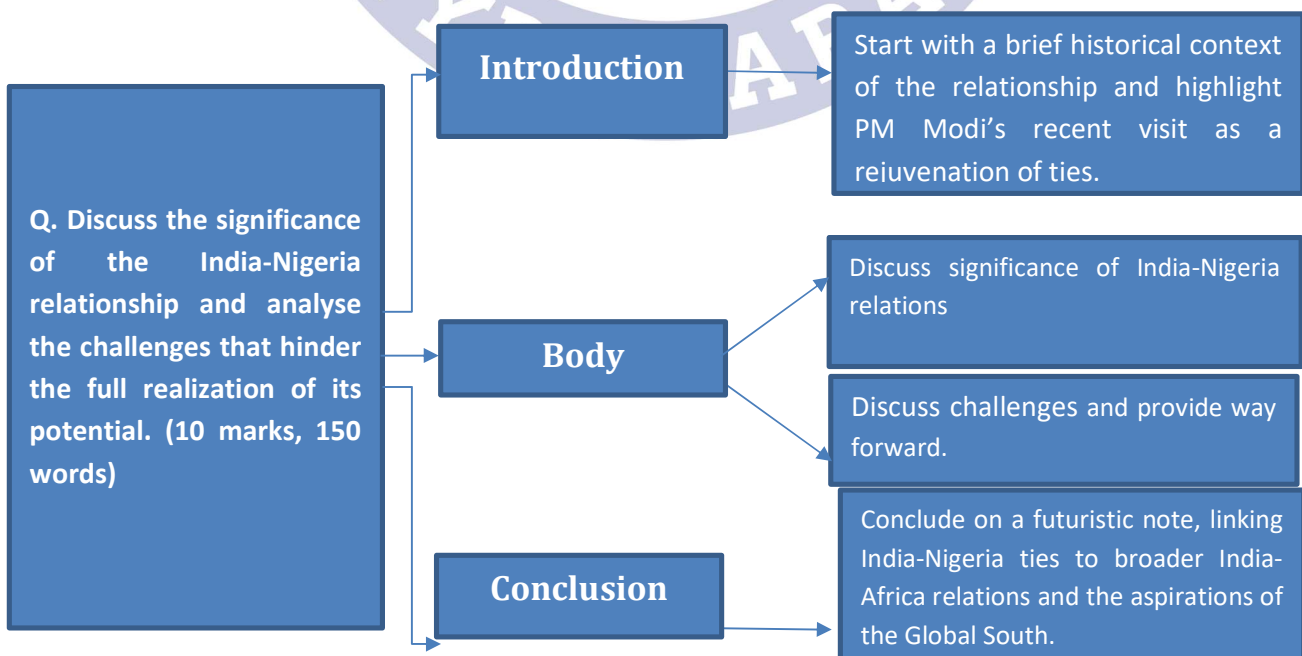
CONCLUSION:

- India and Nigeria's evolving partnership is crucial within the broader context of India's engagement with Africa, enhancing both bilateral and regional stability. This relationship not only fosters economic diversification and strengthens diplomatic ties but also amplifies India's strategic presence across Africa, supporting shared aspirations of development and cooperation within the Global South.

PRACTICE QUESTION

Q. Discuss the significance of the India-Nigeria relationship and analyse the challenges that hinder the full realization of its potential. (10 marks, 150 words)

APPROACH



MODEL ANSWER

India and Nigeria share a historically robust partnership, elevated to a "**Strategic Partnership**" in 2007. Prime Minister Narendra Modi's 2024 visit to Nigeria, the **first by an Indian Prime Minister in 17 years**, has rejuvenated ties, emphasizing cooperation in defense, trade, energy, and counter-terrorism. The conferring of Nigeria's second-highest honor on PM Modi underscores the importance of this bilateral relationship in fostering regional stability and global development.

Significance of India-Nigeria Relations:

1. Economic Cooperation

Nigeria is a critical economic partner for India:

- **Trade Relations:** Nigeria is one of India's top five trading partners in Africa, supplying **approximately 12% of India's crude oil**. Indian exports to Nigeria continue to grow, diversifying trade portfolios despite the recent drop in overall trade volume.
- **Investments:** Indian companies have invested \$27 billion in Nigeria, primarily in manufacturing, making them the **second-largest employers after the Nigerian government**.

2. Defense and Security:

India supports Nigeria's military infrastructure development, including the establishment of the **National Defence Academy in Kaduna**. Joint military training, exercises, and maritime cooperation, such as **combating piracy in the Gulf of Guinea**, **strengthen regional stability**.

3. Cultural and Educational Ties:

Programs like "**Namaste Nigeria**" foster cultural understanding, while initiatives under Study in India (SII) offer scholarships to thousands of Nigerian students annually, building long-term goodwill.

4. Developmental and Humanitarian Assistance:

India has provided **\$100 million in concessional loans** to support Nigerian infrastructure projects. Recent relief supplies for flood-affected Nigerians highlight **India's role as a humanitarian partner**.

5. Energy and Renewable Collaboration:

Nigeria's role as a **major oil supplier is vital to India's energy security**. Simultaneously, India's expertise in renewable energy offers opportunities for collaboration in solar energy and other sustainable technologies.

6. South-South Cooperation:

Both nations are champions of South-South Cooperation. Nigeria supports India's initiatives in platforms like the **Voice of the Global South**, reflecting shared aspirations for the Global South's developmental agenda.

Challenges in India-Nigeria Relations:

1. Declining Bilateral Trade:

Trade volume fell from \$14.95 billion in 2021-22 to \$11.8 billion in 2022-23 due to reduced oil imports, underscoring the **need for diversification** in economic relations.

2. Competing Foreign Influence:

China's expanding presence in Nigeria through its **Belt and Road Initiative** challenges India's strategic interests and diminishes its economic and cultural leverage.

3. Infrastructure Deficiencies:

Nigeria's underdeveloped infrastructure, particularly in transportation and energy, limits the full potential of bilateral economic and developmental cooperation.

4. Infrequent High-Level Engagements:

Diplomatic interactions have been sporadic, with **PM Modi's 2024 visit being the first in 17 years**. Regular high-level dialogues are needed to maintain strategic momentum.

5. Security Challenges:

Issues like the **Boko Haram insurgency, oil bunkering, and piracy** pose risks to foreign investments, including those by Indian firms, and undermine regional stability.

6. Economic Uncertainty:

Recent economic reforms in Nigeria, such as subsidy cuts and currency devaluation, create an **unpredictable investment environment**, impacting India's economic engagements.

7.

Way Forward:

- **Economic Diversification:** Focus on expanding trade beyond oil, including pharmaceuticals, renewable energy, and IT services. Implementing local currency settlements can enhance trade efficiency.
- **Strengthen Defense Cooperation:** Expand joint military exercises and procurement programs, focusing on maritime security in the Gulf of Guinea.
- **Digital Transformation:** Leverage India's IT expertise to boost Nigeria's digital infrastructure and fintech ecosystem.
- **Renewable Energy Projects:** Collaborate on solar and other sustainable energy projects to support Nigeria's energy diversification goals.
- **Enhance Educational Ties:** Increase scholarships for Nigerian students and strengthen cultural exchanges to build stronger people-to-people ties.
- **Frequent Diplomatic Engagements:** Regular high-level meetings and Joint Commission dialogues to ensure strategic alignment and address emerging challenges.

India-Nigeria relations serve as a pillar of India's **broader engagement with Africa**, fostering bilateral and regional stability. Their collaboration reflects shared aspirations for the **Global South**, emphasizing development, sustainability, and equity. By addressing challenges and leveraging opportunities, this partnership can significantly contribute to a more **inclusive and prosperous global order**.



15. UNDERTRIAL PRISONERS

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Polity > Criminal justice system

REFERENCE NEWS:

- Recently, Union Home Minister Amit Shah, in a significant announcement, directed the release of **undertrial prisoners** who have **served more than a third of the maximum prescribed sentence** for the crime they are accused of, before Constitution Day (November 26, 2024). Highlighting the need for justice, he emphasized that no prisoner should remain incarcerated beyond this period without receiving a fair trial.

MORE ON NEWS:

- The Union Home Minister emphasised the **need for justice for undertrial prisoners**, particularly **first-time offenders**, under the **Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS)**.
- This directive is rooted in the provisions of **Section 479 of the BNSS**, which provides **special consideration for bail to first-time offenders**, thereby addressing prison overcrowding and ensuring timely justice.

SECTION 479 OF THE BHARATIYA NAGARIK SURAKSHA SANHITA, 2023

Key Features of Section 479:

- Section 479 of the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023, specifies the **maximum detention period for undertrial prisoners**:
 - Prisoners accused of crimes not punishable by death or life imprisonment **must be released on bail** after serving detention equivalent to **half the maximum sentence prescribed**.
 - **For first-time offenders**, the law has relaxed the standard further, mandating release after serving **one-third of the maximum possible sentence**.

Additional Provisions:

- A **first-time offender** is defined as an individual with no prior convictions.
- This relaxation is conditional:
 - **Excludes cases where multiple charges or investigations are pending** against the accused.
 - The accused cannot be released if they are **involved in other offenses**.

Comparison to Section 436A of CrPC:

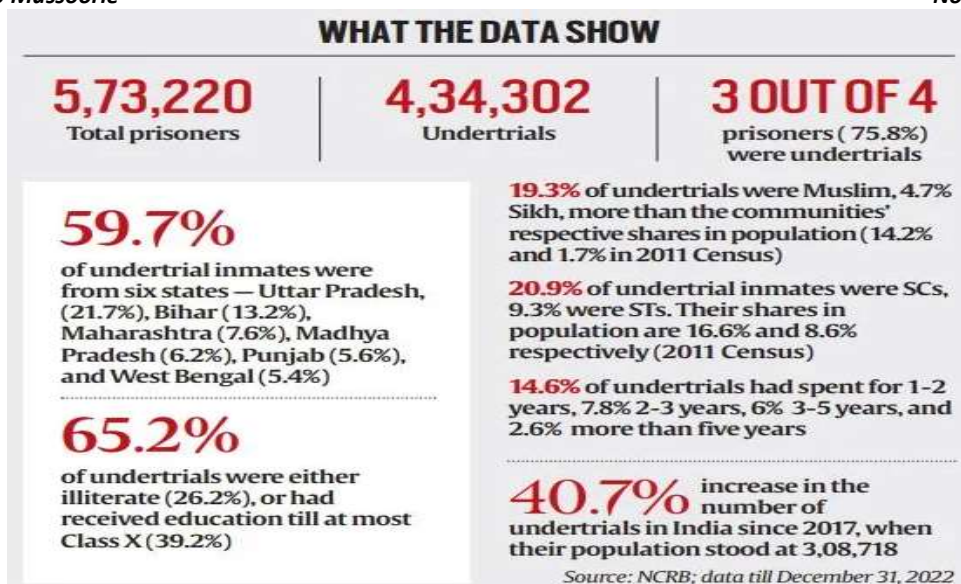
- Section 479 builds upon Section 436A of the Code of Criminal Procedure (CrPC), 1973, which permitted **release on bail after half the maximum prescribed sentence but did not include specific provisions for first-time offenders**.

STATE OF UNDERTRIALS IN INDIA:

The **National Crime Records Bureau (NCRB) Prison Statistics India 2022** (published in December 2023) underscores the grim reality of India's undertrial population.

Key Data:

- **Total Prisoners:** 5,73,220.
- **Undertrials:** 4,34,302, constituting **75.8%** of the total prison population.
- **Women Undertrials:** Of 23,772 female prisoners, **18,146 (76.33%)** are undertrials.
- **Long-Term Detention:** **8.6%** of undertrials have been incarcerated for over three years.



SUPREME COURT'S INTERPRETATION AND IMPLEMENTATION EFFORTS

The Supreme Court has actively directed the implementation of Section 479 to address **overcrowding in prisons**. In **August 2024**, during hearings of the PIL **In re: Inhuman conditions in 1382 prisons**, the Court underscored the urgency of applying the new provision.

Supreme Court Observations:

- **Beneficial Nature of Section 479:** Senior Advocate Gaurav Agrawal, serving as amicus curiae, argued that Section 479's early implementation would reduce the prison population significantly.
- **Retrospective Application:** On **August 23**, the Court ruled that Section 479 would apply to first-time offenders retrospectively, including cases filed before the BNSS's enforcement on **July 1, 2024**, with the Centre supporting this decision.
- **Compliance Measures:**
 - The Court directed **all states and UTs** to:
 - Identify eligible undertrial prisoners.
 - File affidavits detailing the number of eligible undertrials, release applications, and actual releases.
 - Jail superintendents were instructed to ensure reports on eligible prisoners are filed promptly for court consideration.

Challenges in Compliance:

- As of **October 22, 2024**, only **19 out of 36 states and UTs** had submitted responses. The Court reiterated its directive on **November 19**, emphasizing the identification and release of eligible undertrials, particularly women.

REASONS FOR THE HIGH NUMBER OF UNDERTRIALS IN INDIA:

- **Judicial Vacancies and Backlogs:**
 - **Vacancies in the Judiciary:**
 - As of **May 2024**, the Supreme Court has **two vacancies out of 34 sanctioned positions**, and High Courts face **345 vacancies out of 1,114 sanctioned posts** (31% vacancy rate). These vacancies significantly contribute to delays in trials (Source: Ministry of Law and Justice).
 - **Pending Cases:**
 - Over **4.7 crore cases** are pending across various levels of the judiciary, overwhelming the system.
 - **Judge-to-Population Ratio:**
 - India has only **21.03 judges per million people (2020)**, far below the global average of **50-70 judges per million** (Source: Ministry of Law and Justice).

- **Bail Practices:**
 - Despite legal provisions favoring bail, **stringent bail conditions and the inability of undertrials to furnish sureties** result in extended incarceration.
 - The Supreme Court has emphasized that "**bail is the rule and jail is the exception,**" yet the reality often deviates from this principle.
- **Delay in Investigations:**
 - Delays in filing charge sheets and inefficiencies in law enforcement prolong trials.
 - According to the National Crime Records Bureau's (NCRB) "**Crime in India 2020**" report, the police filed charge sheets in **75.8% of cases within the stipulated 90-day period**, indicate that approximately **24.2% of cases experienced delays in charge sheet submission**. These delays can lead to prolonged detention of undertrial prisoners, contributing to the high number of undertrials in India.
- **Lengthy Legal Processes:**
 - Cases often involve **numerous hearings and frequent adjournments**. Also, the judicial system permits several layers of appeals, which leads to increased backlogs, particularly in higher courts
 - For instance, former President **Ram Nath Kovind** pointed to the widespread practice of adjournments as a major impediment to swift justice.
- **Socio-Economic Barriers:**
 - Many undertrials belong to **economically disadvantaged groups, lacking the financial resources to secure bail** and access competent legal aid.
 - This socio-economic vulnerability is particularly acute among **marginalized communities**, who face systemic barriers in navigating the legal process, often resulting in prolonged incarceration.
 - For instance, **as per the NCRB data 2022, 20.9% of undertrials were Scheduled Castes (SCs), and 9.3% were Scheduled Tribes (STs)**, higher than their population shares of 16.6% and 8.6% as per the Census 2011.
- **Impact of COVID-19:**
 - The pandemic suspended regular court proceedings, increasing undertrial populations.
 - Measures like video conferencing helped, but backlogs worsened.
- **Poor Infrastructure and Limited Resources:**
 - **Court Infrastructure:** Former **CJI Dipak Mishra** highlighted inadequate infrastructure for judges, litigants, and staff as a significant reason for delays.
 - **Judiciary Budget Allocation:** With only **0.1% to 0.4% of the total budget**, resources are insufficient to establish new courts or modernize existing ones.
 - **Limited Adoption of Technology:** Although digitalization improved during COVID-19, advanced technologies like **AI, big data, machine learning, and blockchain** remain underutilized.
- **Pendency in Tribunals and Special Courts:**
 - Tribunals and special courts, meant to expedite justice, are themselves overburdened:
 - For As of May 31, 2021, over **9.2 lakh cases were pending across 956 Fast Track Courts** in 24 states and Union Territories (Source: PRS India)
- **Preventive Detention Laws:**
 - The use of preventive detention laws allows for the detention of individuals without formal charges or trial, contributing to the undertrial population. These laws are intended for exceptional circumstances but are sometimes applied broadly.

CHALLENGES ASSOCIATED WITH THE HIGH NUMBER OF UNDERTRIALS

- **Overcrowding in Prisons**
 - Undertrials constitute **75.8% of the total prison population** (NCRB 2022), leading to overcrowding and the lack of adequate space to house prisoners in safe and healthy

conditions. This overcrowding compromises prison infrastructure, increases the risk of disease outbreaks, and hampers the effective administration of correctional programs.

○ **Violation of Fundamental Rights**

- **Right to Speedy Trial:** Recognized by the Supreme Court in **Hussainara Khatoon vs. Home Secretary, State of Bihar (1979)**, prolonged incarceration without trial or bail is a clear violation of this right. Many undertrials languish in prison due to systemic delays in the judicial process.
- **Right to Bail:** Despite being guaranteed under law, this right is often denied due to exorbitantly high bail amounts, even for bailable offenses. As a result, many economically disadvantaged prisoners remain incarcerated.

○ **Mental Health Issues**

- Prolonged incarceration without conviction, particularly in cases where undertrials are eventually acquitted, leads to severe mental health challenges. Prisons in India often lack adequate facilities to address mental health concerns, leaving many undertrials without access to counseling or psychiatric support. The lack of such resources exacerbates the psychological burden faced by prisoners.

○ **Delays in Justice Delivery**

- The large number of undertrials adds to the overall pendency of cases, delaying justice not only for undertrials but also for other litigants. Prolonged delays in trials undermine public confidence in the judicial system and deny timely resolution for victims and accused alike.

○ **Increased Costs**

- Maintaining a high number of undertrials places a heavy financial burden on the state, with resources being diverted to manage overcrowded prisons.
- Extended detention without resolution significantly escalates operational costs for prison administration.

○ **Socio-Economic Impact**

- Families of undertrials often face economic hardships, particularly when the detained individual is the primary earner. Illiteracy and lack of awareness about legal rights and aid mechanisms further exacerbate the challenges for undertrials and their dependents, perpetuating cycles of poverty and marginalization.

WAY FORWARD

○ **Judicial Reforms:**

- **Filling Vacancies:** Promptly appointing judges to fill existing vacancies in the Supreme Court and High Courts can alleviate case backlogs and expedite trials.
- **Enhancing Judge-to-Population Ratio:** Increasing the number of judges per million people to align with global standards can improve judicial efficiency.

○ **Bail Reforms:**

- **Implementing Section 479 of BNSS:** Ensuring the effective application of Section 479, which mandates the release of first-time offenders after serving one-third of the maximum sentence, can reduce undertrial populations.
- **Simplifying Bail Procedures:** Streamlining bail processes and reducing stringent conditions can facilitate the timely release of eligible undertrials.

○ **Strengthening Legal Aid:**

- **Expanding Access:** Providing competent legal representation to economically disadvantaged and marginalized communities can prevent prolonged incarceration due to lack of legal support.
- **Raising Awareness:** Educating undertrials about their legal rights and available aid services can empower them to seek timely justice.

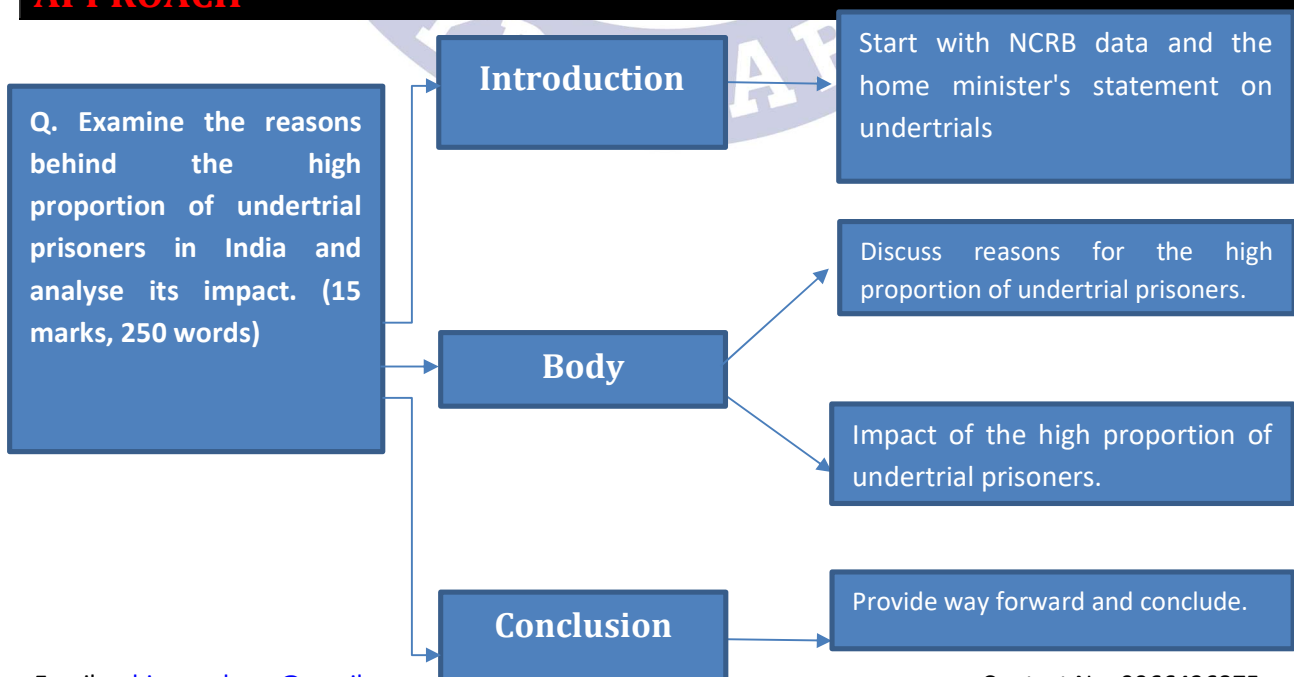
- **Improving Investigation Processes:**
 - **Timely Filing of Charge Sheets:** Ensuring that law enforcement agencies adhere to stipulated timelines for filing charge sheets can prevent unnecessary delays in trials.
 - **Enhancing Police Training:** Providing specialized training to police personnel can improve the quality and speed of investigations.
- **Leveraging Technology:**
 - **Digital Case Management:** Implementing electronic case management systems can streamline court processes and reduce delays.
 - **Virtual Hearings:** Utilizing video conferencing for hearings can expedite proceedings, especially in remote areas.
- **Infrastructure Development:**
 - **Upgrading Court Facilities:** Investing in modern court infrastructure can create a conducive environment for efficient judicial functioning.
 - **Allocating Adequate Funds:** Ensuring sufficient budgetary allocation to the judiciary can support necessary reforms and expansions.
- **Alternative Dispute Resolution (ADR):**
 - **Promoting ADR Mechanisms:** Encouraging the use of mediation, arbitration, and Lok Adalats can reduce the burden on courts and provide quicker resolutions.
 - **Implementing Plea Bargaining:** Adopting plea bargaining in appropriate cases can expedite the judicial process and reduce undertrial numbers.

CONCLUSION: The overrepresentation of undertrial prisoners in India's jails highlights systemic inefficiencies within the criminal justice system. Implementing comprehensive reforms encompassing judicial appointments, bail procedures, legal aid, investigative processes, technological integration, infrastructure development, and alternative dispute resolution mechanisms is essential to uphold the principles of justice and human rights. A concerted effort from all stakeholders is imperative to ensure that undertrial prisoners receive timely and fair trials, thereby reducing unnecessary incarceration and alleviating prison overcrowding.

PRACTICE QUESTION

Q. Examine the reasons behind the high proportion of undertrial prisoners in India and analyse its impact. (15 marks, 250 words)

APPROACH



MODEL ANSWER

As per the NCRB *Prison Statistics India 2022* (published December 2023), undertrial prisoners account for **75.8% of the total prison population** in India, amounting to 4,34,302 out of 5,73,220 prisoners. The disproportionate presence of undertrial prisoners highlights inefficiencies in judicial processes and socio-economic inequalities. Recently, Union Home Minister Amit Shah, under **Section 479 of the BNSS, 2023**, directed the **release of first-time offenders who have served more than one-third of their sentence**, excluding those with multiple charges, to ensure timely justice.

Reasons for the High Proportion of Undertrial Prisoners:

1. Judicial Vacancies and Backlogs

- As of May 2024, **31% of High Court judge positions remain vacant**, with **345 out of 1,114 posts unfilled** (Source: Ministry of Law and Justice).
- Over **4.7 crore cases** are pending across various levels of the judiciary, overwhelming the system.

2. Delays in Investigations

- According to NCRB's *Crime in India 2020* report, **24.2% of cases faced delays** in filing charge sheets, directly impacting detention periods.
- Inefficient investigations prolong trials, leading to extended incarceration of undertrials.

3. Stringent Bail Practices

- Despite legal provisions emphasizing "bail as the rule," many undertrials remain incarcerated due to **exorbitant bail amounts** or the inability to furnish sureties.
- The implementation of **Section 479 of the BNSS, 2023**, which simplifies bail for first-time offenders, is still in its early stages.

4. Socio-Economic Inequalities

- As per NCRB data 2022, **20.9% of undertrials are Scheduled Castes (SCs)** and **9.3% are Scheduled Tribes (STs)**, disproportionately higher than their population shares of **16.6% and 8.6%** (Census 2011).
- **65.2% of undertrials** are either illiterate or have not completed school education, limiting their access to legal resources.

5. Overcrowded Prisons

- The high percentage of undertrials exacerbates overcrowding, which compromises prison safety, health conditions, and correctional programs.

6. Lengthy Legal Processes

- Frequent adjournments and a lack of judicial infrastructure contribute to delays.
- Former President Ram Nath Kovind highlighted the "**culture of adjournments**" as a major hurdle to timely justice.

7. Mental Health Issues

- Prolonged detention without conviction leads to severe mental health challenges.
- Indian prisons often lack counseling and psychiatric support, further worsening the plight of undertrials.

Impact of the High Proportion of Undertrial Prisoners:

1. Violation of Human Rights

- Prolonged detention without trial undermines the **Right to Speedy Trial**, as recognized in *Hussainara Khatoon vs. State of Bihar (1979)*.
- Many undertrials face overcrowded and inhumane prison conditions, violating their dignity and fundamental rights.

2. Overburdened Prisons

- Undertrials, constituting **75.8% of the prison population**, contribute to overcrowding, which compromises prison safety, health, and administrative efficiency.
- Overcrowding limits the ability of prisons to provide rehabilitation and correctional programs.

3. Deterioration of Mental Health

- Prolonged incarceration without conviction leads to increased stress, depression, and other mental health issues among undertrials.
- The lack of adequate mental health support in prisons further worsens the situation.

4. Financial Burden on the State

- Housing and maintaining undertrial prisoners place a significant financial strain on the state, diverting funds from welfare and development initiatives.
- Extended detention without conviction escalates operational costs for prison administration.

5. Delayed Justice for Victims and Accused

- Overcrowded prisons and backlogged courts delay the resolution of cases, affecting not just undertrials but also victims and other litigants awaiting justice.
- This erodes public confidence in the legal and judicial system.

6. Marginalization and Social Stigma

- Prolonged separation from families leads to economic hardship for dependents, especially in marginalized communities.
- Upon release, undertrials often face social stigma, reducing their opportunities for employment and reintegration into society.

Measures to Address the Issue

- **Judicial Reforms:** Expedite judicial appointments, align the judge-to-population ratio with global standards (currently 21.03 judges per million).
- **Strengthening Bail Reforms:** Implement Section 479 of BNSS effectively and simplify bail procedures to reduce financial and procedural barriers.
- **Improving Investigative Processes:** Ensure timely filing of charge sheets through better police training and resource allocation.
- **Expanding Legal Aid:** Provide free legal representation to economically weaker sections and create awareness about legal rights.
- **Leveraging Technology:** Streamline case tracking with digital systems and expedite trials through virtual hearings.
- **Promoting ADR:** Expand mechanisms like Lok Adalats, mediation, and plea bargaining to reduce the burden on courts.

The high proportion of undertrial prisoners reflects systemic challenges that require urgent and comprehensive reforms. Steps such as judicial appointments, bail simplifications, technological advancements, and improved legal aid can significantly reduce this proportion. By addressing these issues, India can build a future where timely and equitable justice is not a privilege but a right for all, fostering a fair and humane legal system.

16. ELECTRONIC VOTING MACHINES

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Polity > Election

REFERENCE NEWS:

- The Supreme Court of India recently dismissed a Public Interest Litigation (PIL) advocating for the **return of ballot papers in place of Electronic Voting Machines (EVMs)**. The verdict reaffirmed the Court's confidence in the EVM system and highlighted the importance of **modern electoral reforms**.

MORE ON NEWS:

- The petition, filed by evangelist K.A. Paul, argued that **the paper ballot system is more trustworthy**.
- Paul cited examples of paper ballot use in other democracies and his experience from visits to numerous countries. He argued that corruption in elections violated fundamental rights to equality, due process of law, and free speech and expression.
- **Key Observations by the Supreme Court**
 - **Hypocrisy in Criticism of EVMs:**
 - Justice Vikram Nath remarked that allegations of tampering with EVMs often arise when political outcomes are unfavorable, stating, **"EVMs are tampered when you lose and fine if you win."**
 - The oral observation highlights the politicization of EVM-related concerns.
 - **Rejection of Distrust:**
 - The Court emphasized that **blind skepticism** towards EVMs and electoral institutions breeds **unwarranted doubt and impedes democratic progress**.
 - **Merits of EVMs:**
 - In its **April 2024 judgment**, the Court had **upheld the EVM system**, listing several advantages:
 - Eliminating malpractices like booth capturing.
 - Expediting the counting process and minimizing invalid votes.
 - Addressing logistical challenges posed by India's vast electorate of nearly 97 crore voters.

ADVANTAGES OF EVMs WITH VVPAT OVER BALLOT PAPERS:

- **Accommodating a Vast Electorate:**
 - EVMs efficiently manage India's 97 crore registered voters, reducing logistical challenges.
 - For example, in the 2024 General Elections, **over 10 lakh EVMs** were deployed across polling stations nationwide, effectively managing the vast electorate.
- **Faster Vote Counting:**
 - Results are declared within hours, unlike the lengthy process with ballot papers.
 - For example, in the 2019 General Elections, over 600 million votes were counted in just a few hours, which would have taken days with ballots.
- **Streamlined Logistics:**
 - EVMs are compact, lightweight, and easier to handle compared to ballot papers.
 - For instance, a **single EVM can record up to 2,000 votes**, reducing the need for vast amounts of paper.
- **Elimination of Invalid Votes:**
 - Ballot papers often lead to invalid votes **due to errors in marking or folding**; EVMs ensure accurate vote recording.
- **Reduced Bogus Voting:**

- EVMs, combined with voter identification measures, reduce proxy voting.
- For instance, in the Bihar Elections 2020, **EVMs and minimized complaints bogus votes.**
- **Audit Trail for Verification:**
 - VVPATs allow voters to choice immediately after their vote.
 - For example, in the 2024 Elections, **VVPAT slips EVM results in randomly booths with 100%**
- **Reduction in Paper Usage:**
 - EVMs drastically reduce dependency on paper, environmental impact.
 - For example, **EVMs save 10,000 tonnes of paper election cycle,** as by the Election Commission.
- **Cost-Effective in the Long Run:**
 - While EVMs have a high their durability (**lifespan of** offsets repeated expenses paper printing.
- **Technical Safeguards:**
 - **EVMs are standalone machines,** disconnected from any network, making them immune to hacking.
 - For instance, the **Election Commission of India (ECI),** in a detailed 450-page **affidavit submitted to the Supreme Court** in September 2023, assured that EVMs are tamper-proof. The affidavit emphasized that:
 - EVMs are "stand-alone machines" with **no network connectivity,** ensuring they cannot be accessed remotely.
 - The **one-time programmable chips** used in EVMs make hacking or external interference impossible.
- **Rigorous Testing:**
 - EVMs are tested and certified by independent experts before every election.
 - For instance, machines undergo mock polls and stringent checks to ensure functionality.
- **Handling Multi-Candidate Elections:**
 - EVMs can accommodate up to **64 candidates per machine.**
 - For instance, Tamil Nadu, with constituencies often having multiple candidates, uses EVMs to streamline voting.
- **End of Ballot Stuffing:**
 - Ballot papers are prone to mass manipulation through **ballot box stuffing,** which EVMs prevent by limiting vote casting speed.
- **Enhanced Monitoring:**
 - **EVMs generate real-time data,** enabling the Election Commission to detect and address anomalies immediately.

Q WHAT IS VVPAT?
A. Voter Verifiable Paper Audit Trail (VVPAT) helps voters to physically confirm the choice they have made. It consists of:
■ A printer that gives a record of voters' selection
■ A display unit that shows any error

Q WHAT THE VVPAT SLIP CONTAINS?
A.
■ A candidate serial number
■ Name of the candidate
■ Corresponding symbol.
VVPAT paper roll is designed for printing **1,500** ballot slips for each election

Q HOW IT WORKS?
A. The printed VVPAT slip is displayed for 7 seconds before it is automatically cut and delivered to a sealed ballot compartment

Assembly **VVPATs** about verify their casting General **matched selected accuracy.** minimizing **over per estimated** initial cost, **15+ years** on ballot

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- **Supreme Court Rulings:**
 - The Court has consistently upheld EVMs as integral to electoral reforms.
 - For example, in April 2024, the **Supreme Court emphasized that reverting to ballot papers would undo decades of progress.**
- **Continuous Improvements:**
 - The introduction of **VVPATs and audit mechanisms** has addressed concerns about transparency and accuracy.
- **Adoption of Electronic Voting:**
 - Many democracies have adopted electronic voting for efficiency and transparency.
 - For example, countries like Brazil and Estonia have transitioned entirely to electronic voting.

CRITICISMS OF EVMS AND VVPATS

- **Allegations of Tampering and Hacking:**
 - Critics argue that EVMs can be tampered with to manipulate election results, although the Election Commission and Supreme Court have repeatedly rejected such claims.
 - For example, political leaders like Chandrababu Naidu (2018) and Jagan Mohan Reddy (2024) alleged EVM tampering after losing elections.
- **Limited VVPAT Usage in Verification:**
 - The current system verifies **only 5% of EVM results with VVPAT slips**, leading to questions about whether this **sample size** is adequate to detect discrepancies.
 - For example, in the 2019 General Elections, several opposition parties demanded 100% verification of VVPAT slips, which the Supreme Court declined, citing logistical challenges.
- **Potential for Technical Failures:**
 - EVMs are susceptible to technical glitches, such as non-functioning buttons or freezing during polling.
 - **For example**, reports of EVM malfunctions surfaced in Uttar Pradesh during the 2022 Assembly Elections, delaying the voting process in some areas.
 - Regular maintenance, software updates, and secure storage of EVMs require specialized skills and infrastructure, which can be challenging in remote regions.
- **Lack of Transparency in Design and Source Code:**
 - Critics demand greater transparency regarding the **manufacturing and programming of EVMs.**
 - For instance, activists and opposition leaders have questioned why the ECI refuses to disclose EVM source codes, citing security concerns.
 - But, the **Supreme Court has upheld the ECI's stance**, stating that disclosing source codes could lead to **misuse and compromise the integrity of the system.**
- **Voter Awareness and Trust Issues:**
 - Many voters are unaware of how EVMs and VVPATs function, leading to mistrust.
 - For example, misinformation campaigns on social media often amplify doubts about EVM reliability.
- **Impact on Electoral Confidence:**
 - In closely contested elections, **losing candidates often allege EVM tampering**, casting doubt on the democratic process.
 - These **repeated claims, even when unsubstantiated, can weaken public trust in elections.** While the ECI conducts public awareness campaigns to mitigate these concerns, their effectiveness and reach need significant improvement.

- **Logistical and Financial Challenges:**
 - EVMs require secure storage in large warehouses, incurring significant costs for maintenance and monitoring. Also, the production and deployment of EVMs are expensive, especially when combined with VVPATs.
 - For example, the 2019 General Elections saw a massive investment in new EVMs and VVPAT machines to ensure smooth polling.
- **Risk of Disenfranchisement:**
 - Technical glitches or errors in EVMs during polling can disenfranchise voters if the machines are not replaced promptly.
 - For instance, during the 2014 General Elections, voters in Maharashtra reported incidents where EVMs failed to record votes correctly.
- **Global Perspective and Comparisons:**
 - Critics point out that many advanced democracies, **including Germany and the Netherlands, have reverted to paper ballots** after concerns about the security of electronic voting systems.
 - For instance, in 2009, Germany's Federal Constitutional Court ruled against EVMs, citing the lack of public verifiability as a key issue.

WAY FORWARD:

- **Public Awareness Campaigns:** The Election Commission of India (ECI) should intensify efforts to educate voters about the functionality and security features of EVMs and VVPATs. This includes demonstrations, informative materials, and leveraging media platforms to disseminate accurate information.
- **Community Engagement:** Organizing workshops and interactive sessions at the grassroots level can demystify the technology and address voter apprehensions.
- **Independent Audits:** Regular audits by independent agencies can validate the integrity of EVMs and VVPATs, with findings made accessible to the public to foster transparency.
- **Open Source Software:** Transitioning to open-source software for EVMs can allow experts to scrutinize and improve the code, enhancing security and public trust.
- **Regular Maintenance and Upgrades:** Implementing a systematic schedule for the maintenance and timely upgrading of EVMs ensures optimal performance and reduces technical glitches.
- **Robust Storage Protocols:** Adhering to stringent storage and transportation protocols, as outlined in the ECI's "Manual on Electronic Voting Machine and VVPAT" (August 2023), safeguards EVMs against tampering and environmental damage.
- **Periodic Review of Verification Protocols:** Reassessing the percentage of VVPAT slip verification can address evolving concerns. While the Supreme Court has maintained a 5% random verification standard, ongoing evaluations can determine if adjustments are warranted.
- **Addressing Allegations Promptly:** Establishing a swift and transparent mechanism to investigate and resolve allegations of EVM tampering can prevent misinformation and uphold electoral integrity.
- **Learning from Global Experiences:** Analyzing the experiences of countries like Germany and the Netherlands, which reverted to paper ballots due to security concerns, can provide valuable insights. Adopting best practices and avoiding known pitfalls can enhance the robustness of India's EVM system.
- **Supreme Court Directives:** Implementing the Supreme Court's directives, such as sealing and storing the Symbol Loading Unit for 45 days and checking burnt memory semi-controllers in EVMs, as mentioned in the April 2024 verdict, ensures adherence to legal standards and enhances system credibility.

CONCLUSION:

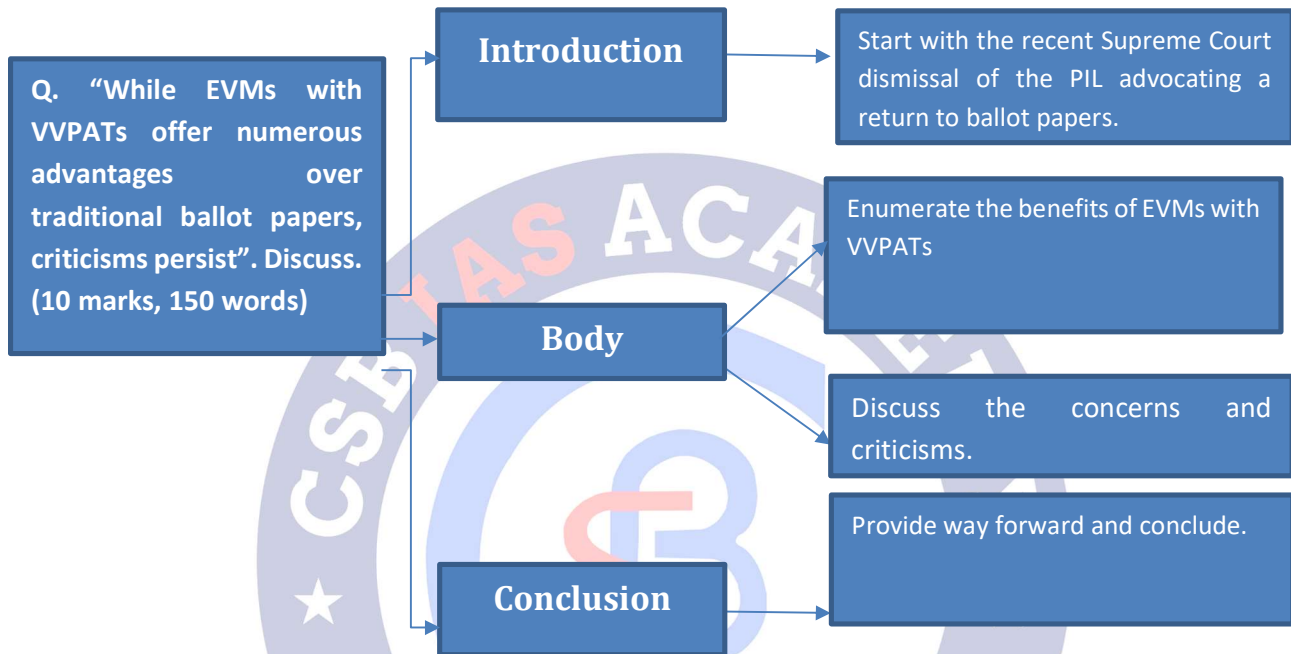
- In conclusion, EVMs with VVPATs have modernized India's electoral process by ensuring efficiency and transparency, as reaffirmed by the Supreme Court's recent dismissal of a PIL

advocating for a return to ballot papers. Addressing persistent criticisms through education, technological upgrades, and global best practices will further enhance trust and solidify India's position as the world's largest democracy.

PRACTICE QUESTION

Q. "While EVMs with VVPATs offer numerous advantages over traditional ballot papers, criticisms persist". Discuss. (10 marks, 150 words)

APPROACH



MODEL ANSWER

The Supreme Court of India recently dismissed a **Public Interest Litigation (PIL)** advocating for the reintroduction of ballot papers, reaffirming its confidence in **Electronic Voting Machines (EVMs)** with Voter Verifiable Paper Audit Trails (VVPATs). This judgment highlighted the pivotal role of EVMs in modern electoral reforms but also reignited debates around their reliability, security, and public trust.

Advantages of EVMs with VVPATs:

1. Efficiency in Election Management:

- Faster vote counting enables results within hours, unlike the lengthy process of ballot papers.
- *For example:* Over 10 lakh EVMs efficiently managed 97 crore registered voters in the 2024 General Elections.

2. Transparency and Accountability:

- VVPATs allow voters to verify their choice, ensuring confidence in the voting process.
- *For instance:* In the 2024 General Elections, VVPAT slips matched EVM results in randomly selected booths with 100% accuracy.

3. Reduction in Malpractices:

- EVMs eliminate issues like booth capturing and invalid votes.
- Proxy voting and ballot stuffing have significantly declined.

4. **Environmental and Cost Benefits:**

- Reduction in paper usage saves over 10,000 tonnes of paper per election cycle, minimizing deforestation.
- EVMs' durability offsets their high initial cost.

5. **Technical Safeguards:**

- EVMs are standalone devices with no network connectivity, preventing hacking or external interference.

Criticisms:

1. **Allegations of Tampering:**

- Political leaders have frequently alleged tampering without substantive proof, undermining public trust.
- *For instance:* Allegations by Jagan Mohan Reddy (2024) and Chandrababu Naidu (2018) post-election losses.

2. **Limited VVPAT Verification:**

- Verifying only 5% of VVPAT slips raises concerns about sample adequacy in detecting discrepancies.

3. **Technical Glitches:**

- Malfunctions, such as freezing or non-functional buttons, disrupt polling.
- *For example:* Incidents reported during the 2022 Uttar Pradesh Assembly Elections.

4. **Lack of Transparency:**

- Demands for open-source software and greater transparency in EVM manufacturing remain unaddressed.

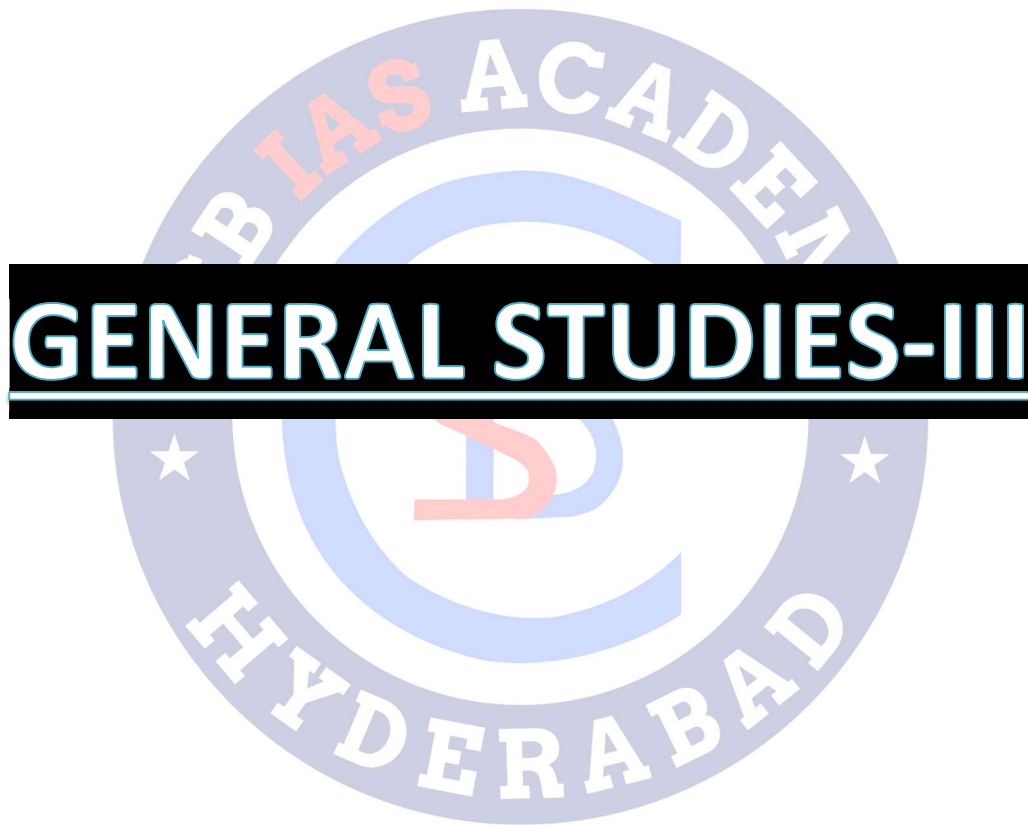
5. **Global Comparisons:**

- Advanced democracies like Germany and the Netherlands reverted to paper ballots citing security and public verifiability concerns.

Way Forward:

- **Enhancing Voter Awareness:** Conduct widespread campaigns and grassroots workshops to educate voters on EVMs and VVPATs.
- **Periodic Review of Verification Protocols:** Reassess the 5% VVPAT slip verification standard to address evolving concerns about transparency.
- **Independent Audits:** Regular audits by external agencies with publicly accessible reports to build confidence.
- **Adopting Best Practices:** Learn from global experiences while addressing concerns unique to India's scale and diversity.
- **Judicial Oversight:** Implement Supreme Court directives, such as sealing EVM components and maintaining robust storage protocols.

With over 97 crore registered voters (as of 2024) and a population exceeding 1.4 billion, India exemplifies the **world's largest democracy**. By addressing criticisms of EVMs with VVPATs through transparency and robust safeguards, India can further strengthen electoral integrity and set a global benchmark for democratic processes.



17. UNFCCC COP29

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Environment & Ecology > Climate treaties and protocols

REFERENCE NEWS:

- The 29th United Nations Climate Change Conference (COP29), held in Baku, Azerbaijan, concluded with significant agreements aimed at addressing global climate challenges. Approximately 200 countries participated in negotiations that led to the establishment of new climate finance goals and the operationalization of international carbon markets.

OUTCOMES OF COP29

- **New Collective Quantified Goal on Climate Finance (NCQG):**
 - Developed countries committed to providing **\$300 billion per year by 2035** to developing nations, replacing the earlier goal of \$100 billion annually.
 - A broader target was set to scale up **\$1.3 trillion annually by 2035** from public and private sources to support mitigation and adaptation efforts in developing countries.
- **Carbon Markets Agreement (Article 6 of the Paris Agreement):**
 - Finalized mechanisms for carbon markets:
 - **Article 6.2:** Allows country-to-country trading of carbon credits through bilateral agreements.
 - **Article 6.4:** Establishes the **Paris Agreement Crediting Mechanism**, a centralized UN-managed system for carbon emissions trading and offsets, with strong safeguards for human rights and environmental integrity.
- **Baku Adaptation Roadmap:**
 - Launched to expedite **National Adaptation Plans (NAPs)**, particularly for least developed countries and Small Island Developing States (SIDS).
- **Baku Workplan:**
 - Emphasizes the role of **Indigenous Peoples and local communities** in climate change mitigation and adaptation.
 - Encourages bridging indigenous knowledge with modern science and embedding indigenous values in climate policies.
 - Renewed the mandate of the **Facilitative Working Group (FWG)** under the Local Communities and Indigenous Peoples Platform (LCIPP), with a progress review scheduled for 2027.
- **Gender and Climate Change:**
 - Extended the **Lima Work Programme on Gender (LWPG)** for another 10 years.
 - A new **Gender Action Plan** will be adopted at COP30 to further integrate gender considerations into climate action.
- **Enhanced Transparency in Climate Reporting:**
 - Progress made under the **Enhanced Transparency Framework (ETF):**
 - 13 countries submitted **Biennial Transparency Reports (BTRs)**, showcasing commitments to strengthening evidence-based policies.
 - Enhanced capacity-building support for developing nations to prepare reports.
- **Declaration on Reducing Methane:**
 - Over 30 countries endorsed a declaration to reduce methane emissions from organic waste, focusing on five key areas: NDCs, regulation, data, finance, and partnerships.
 - India did not sign this declaration or the **Global Methane Pledge**, which targets a **30% reduction in global methane emissions by 2030**.

- **Baku Harmoniya Climate Initiative for Farmers:**
 - Launched in partnership with FAO, the initiative integrates existing climate support platforms for the food and agriculture sector, facilitating easier **access to finance and support for farmer**

Conference of Parties (COP):

- The COP is the **supreme decision-making body of the UNFCCC**, with representation from all Parties to the Convention.
- Reviews national communications and emission inventories, oversees implementation of the Convention, and adopts decisions to ensure effective execution.
- Meets annually since **COP1 in Berlin, 1995**; typically held in Bonn unless hosted by a Party.
- Presidency **rotates among five UN regions**: Africa, Asia, Latin America & the Caribbean, Central & Eastern Europe, and Western Europe & Others.

United Nations Framework Convention on Climate Change (UNFCCC):

- An international treaty recognizing **human-induced climate change** and providing a framework for negotiations.
- Aims to **stabilize greenhouse gas concentrations** to prevent dangerous human interference, as stated in **Article 2**.
- Adopted as one of the **Rio Conventions at the 1992 Earth Summit**, alongside the Convention on Biological Diversity and the Convention to Combat Desertification.
- Parties are classified into:
 - **Annex I**: Industrialized countries and economies in transition.
 - **Annex II**: Developed countries financing developing nations.
 - **Non-Annex I**: Developing countries, including India.

SIGNIFICANCE OF COP29:

- **Establishment of the New Collective Quantified Goal (NCQG):**
 - A central outcome of COP29 was the agreement to set a new climate finance target, aiming for developed countries to **mobilize at least \$300 billion annually by 2035** to support developing nations in their climate mitigation and adaptation efforts.
 - This goal **replaces the previous \$100 billion annual commitment** and reflects an acknowledgment of the escalating financial needs to address climate change impacts.
- **Advancement of Carbon Market Mechanisms:**
 - Delegates finalized mechanisms under Article 6 of the Paris Agreement, facilitating international carbon credit trading.
 - This includes provisions for country-to-country trading of carbon credits and the establishment of a **centralized UN-managed system for carbon emissions trading and offsets**, aimed at enhancing transparency and environmental integrity.
- **Focus on Adaptation and Resilience:**
 - The conference launched the **Baku Adaptation Roadmap**, emphasizing the acceleration of National Adaptation Plans, particularly for **Least Developed Countries and Small Island Developing States**. This initiative underscores the importance of building **resilience against climate impacts** in vulnerable regions.
- **Inclusion of Indigenous Knowledge:**
 - The Baku Workplan was introduced to **integrate Indigenous Peoples and local communities** into climate change mitigation and adaptation strategies. This plan encourages the **blending of indigenous knowledge with modern science** and aims to

embed indigenous values in climate policies, recognizing the vital role of traditional practices in environmental stewardship.

○ **Gender and Climate Change Initiatives:**

- COP29 extended the Lima Work Programme on Gender for another decade and announced the adoption of a new Gender Action Plan at COP30. These steps aim to **further integrate gender considerations into climate action**, acknowledging the disproportionate effects of climate change on women and the importance of their involvement in climate solutions.

INDIA'S STANCE AT COP29

- **Rejection of the NCQG Decision**
 - India rejected the \$300 billion annual climate finance target by 2035, calling it **inadequate compared to the \$1.3 trillion demanded** by developing nations.
 - Criticized the "stage-managed" adoption process and lack of procedural transparency.
- **Advocacy for the Global South**
 - Advocated for equitable climate finance and highlighted the disproportionate impacts of climate change on developing nations.
 - Opposed reliance on private financing and voluntary contributions from developing countries, emphasizing the principle of **Common But Differentiated Responsibilities (CBDR)**.

The Global South refers to developing and low-income nations, primarily in Africa, Asia, Latin America, and Oceania, characterized by economic disparities and historical marginalization compared to the industrialized Global North.

- **Focus on Industrial Decarbonization**
 - Co-hosted the **Leadership Group for Industry Transition (LeadIT)** Summit, addressing low-carbon transitions in heavy industries, focusing on hydrogen-based solutions and carbon capture.
- **Gender-Inclusive Climate Action**
 - Highlighted women-led clean energy initiatives, emphasizing their role in community resilience and socio-economic benefits.
- **Promoting Resilient Infrastructure**
 - Showcased **Coalition for Disaster Resilient Infrastructure (CDRI)** initiatives like **Infrastructure for Resilient Island States (IRIS)** to enhance resilience in **Small Island Developing States (SIDS)** and integrate disaster risk reduction into adaptation strategies.
- **Leadership in Renewable Energy**
 - Promoted global solar energy adoption through the **International Solar Alliance (ISA)**, targeting a 20-fold increase by 2050 to meet 75% of grid energy needs.
- **Advocacy for Equity and Transparency**
 - Called for fair processes and stronger commitments from developed nations to align with the **priorities of the Global South**.

CRITICISM AND SHORTCOMINGS OF COP29

- **Inadequate Climate Finance Commitment:**
 - The **New Collective Quantified Goal (NCQG)** set a target of \$300 billion annually by 2035, far below the \$1.3 trillion demanded by developing nations.
 - Critics, including India and several Global South nations, labeled the amount **insufficient to address the scale of climate challenges** faced by vulnerable communities. Civil society organizations argued that the funding falls short of supporting the necessary energy transitions or adaptation measures in developing nations.

- **Lack of Procedural Transparency:**
 - The decision-making process for the NCQG was heavily criticized for being **opaque and exclusionary**:
 - India accused the COP29 Presidency of "stage-managing" the adoption process, ignoring requests for intervention.
 - Such practices were seen as undermining trust and collaboration, essential for effective multilateral negotiations.
- **Ambiguity in Fossil Fuel Commitments:**
 - Although COP29 highlighted the need for transitioning away from fossil fuels, **no binding commitments or timelines were established**.
 - This lack of clarity was seen as a missed opportunity to accelerate global decarbonization efforts, particularly given the urgency of meeting the 1.5°C warming limit outlined in the Paris Agreement.
- **Influence of Fossil Fuel Interests:**
 - The **presence of fossil fuel lobbyists at COP29** raised concerns about potential conflicts of interest and undue influence on the negotiations.
 - Critics argued that such participation dilutes the focus on ambitious climate action and perpetuates reliance on fossil fuel-based energy systems.
- **Insufficient Progress on Loss and Damage:**
 - Despite the operationalization of the **Loss and Damage Fund**, its funding mechanisms and contributions remained unclear. Many developing nations felt that the fund's potential impact was limited by the lack of robust financial commitments from developed countries.
- **Host Country's Controversial Role:**
 - Azerbaijan's selection as the host country faced criticism due to its **questionable human rights record and restrictions on free expression**.
 - Activists and environmental groups argued that the venue choice distracted from the focus on climate action and highlighted inconsistencies in UNFCCC's values.

WAY FORWARD:

- **Enhancing Climate Finance Commitments:** Increase climate finance to match the \$1.3 trillion demand by 2035 and ensure funds are accessible and predictable.
- **Establishing Binding Agreements:** Set clear timelines and legally binding commitments for phasing out fossil fuels with monitoring mechanisms.
- **Prioritizing Loss and Damage Funding:** Operationalize transparent mechanisms for the Loss and Damage Fund to provide timely support to vulnerable nations.
- **Reducing Influence of Fossil Fuel Interests:** Limit fossil fuel lobbyist participation and strengthen the role of civil society and scientific experts in negotiations.
- **Strengthening Procedural Transparency:** Ensure equitable opportunities for all nations, particularly the Global South, in decision-making processes.
- **Fostering Global South Leadership:** Support South-led initiatives like the CDRI and ISA to build climate resilience and renewable energy capacity.
- **Integrating Indigenous Knowledge:** Embed Indigenous knowledge into climate strategies with resources and platforms for active participation.
- **Gender-Responsive Climate Policies:** Finalize the Gender Action Plan at COP30 to mainstream gender considerations in climate action.
- **Advancing Renewable Energy Transition:** Scale up international cooperation to triple renewable energy capacity by 2030.
- **Improving Adaptation Efforts:** Implement the Baku Adaptation Roadmap to strengthen resilience in LDCs and SIDS.

- **Promoting Accountability in Host Nation Selection:** Use stricter criteria for host nation selection to align with UNFCCC values and human rights standards.

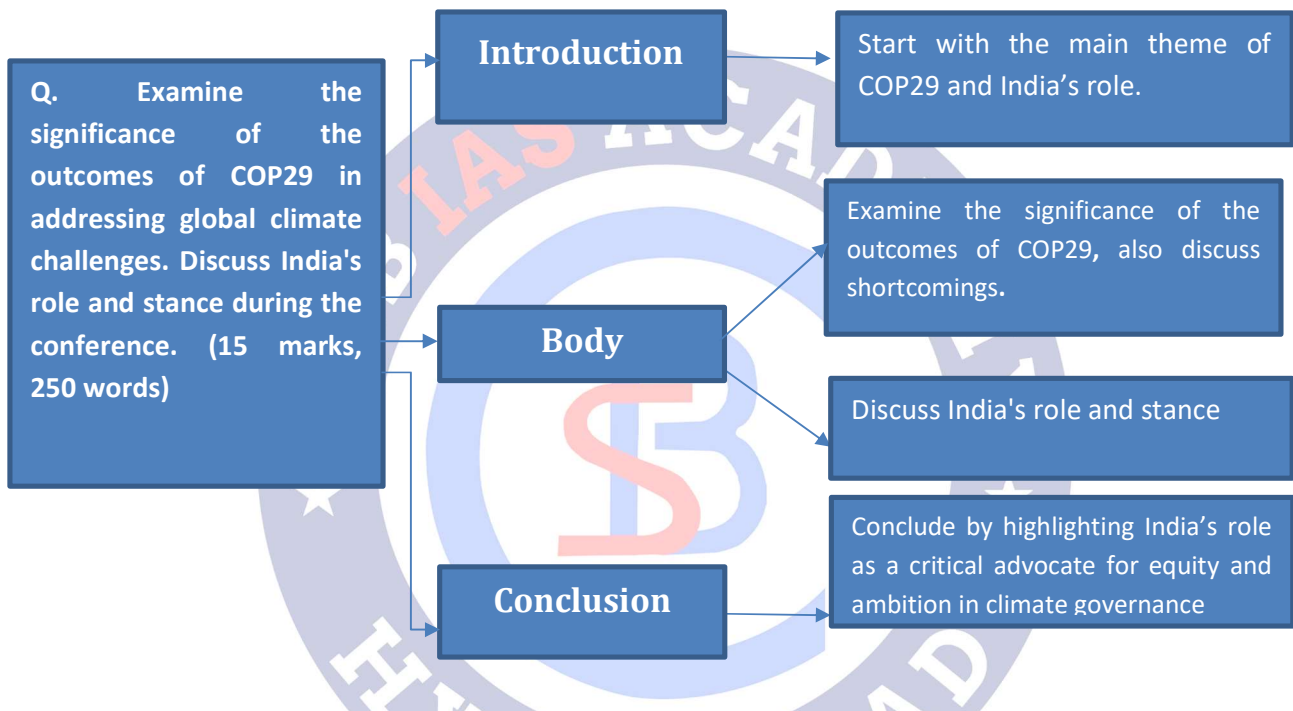
CONCLUSION:

- COP29 made progress in climate finance and adaptation but faced criticism for inadequate commitments and procedural flaws. Stronger global cooperation, binding agreements, and support for vulnerable nations are essential for a sustainable, climate-resilient future.

PRACTICE QUESTION

Q. Examine the significance of the outcomes of COP29 in addressing global climate challenges. Discuss India's role and stance during the conference. (15 marks, 250 words)

APPROACH



MODEL ANSWER

The 29th Conference of Parties (COP29), held in Baku, Azerbaijan, concluded with important **agreements on climate finance, carbon markets, and adaptation mechanisms**. However, the conference also faced criticism for its perceived shortcomings, particularly in **addressing the concerns of developing nations**. India played a key role in highlighting these issues while advocating for equitable climate action.

Significance of COP29

1. **New Climate Finance Targets:** The establishment of the New Collective Quantified Goal (NCQG) committed developed nations to mobilize \$300 billion annually by 2035, replacing the previous \$100 billion target, while aiming to scale up \$1.3 trillion from all sources.
2. **Operationalization of Carbon Markets:** Mechanisms under Article 6 of the Paris Agreement, such as bilateral trading (Article 6.2) and a centralized UN-managed crediting system (Article 6.4), enhance global cooperation and cost-effective emissions reductions.
3. **Focus on Adaptation:** The Baku Adaptation Roadmap prioritized National Adaptation Plans (NAPs), especially for Least Developed Countries (LDCs) and Small Island Developing States (SIDS), highlighting the urgency of resilience-building.

4. **Inclusion of Indigenous Knowledge:** The Baku Workplan recognized the role of Indigenous Peoples and local communities in climate action, integrating traditional knowledge with modern science to inform policies.
5. **Gender-Responsive Climate Policies:** The extension of the Lima Work Programme on Gender and the development of a Gender Action Plan for COP30 emphasized the importance of integrating gender considerations into climate action.

Challenges and Shortcomings of COP29

1. **Inadequate Climate Finance Commitment:** The \$300 billion annual target falls significantly short of the \$1.3 trillion demanded by developing nations, limiting the scope for effective climate action.
2. **Lack of Procedural Transparency:** The adoption of the NCQG was criticized for being "stage-managed," with developing countries, including India, excluded from meaningful participation in the decision-making process.
3. **Ambiguity in Fossil Fuel Commitments:** COP29 failed to establish binding timelines for phasing out fossil fuels, weakening global efforts to meet the 1.5°C warming limit.
4. **Insufficient Progress on Loss and Damage:** Although the Loss and Damage Fund was operationalized, its funding mechanisms and contributions remain unclear, leaving vulnerable nations uncertain about financial support.
5. **Influence of Fossil Fuel Interests:** The strong presence of fossil fuel lobbyists at COP29 raised concerns about conflicts of interest and diluted focus on ambitious climate action.

India's Role and Stance

1. **Rejection of NCQG Decision:** India rejected the \$300 billion annual climate finance target, calling it inadequate and highlighting procedural flaws in its adoption.
2. **Advocacy for the Global South:** India emphasized Common But Differentiated Responsibilities (CBDR) and opposed reliance on private financing, advocating for equitable climate finance.
3. **Leadership in Renewable Energy:** India championed solar energy adoption through the International Solar Alliance (ISA), targeting a 20-fold increase by 2050 to meet 75% of global grid energy needs.
4. **Focus on Industrial Decarbonization:** India co-hosted the LeadIT Summit, addressing technological solutions for industrial decarbonization, including hydrogen-based technologies and carbon capture.
5. **Promoting Resilient Infrastructure:** India showcased the CDRI and IRIS initiatives, which support SIDS in integrating disaster risk reduction into adaptation strategies.
6. **Gender-Inclusive Action:** India highlighted women-led clean energy initiatives, emphasizing their role in building resilient and adaptive communities.

While COP29 marked progress in areas such as climate finance, adaptation, and carbon markets, its shortcomings in finance commitments, procedural transparency, and fossil fuel commitments highlight the challenges of global climate governance. India played a pivotal role in **advocating for the Global South, emphasizing equity and ambition in climate action**. Moving forward, addressing these shortcomings through stronger cooperation and binding commitments is essential for achieving meaningful progress on climate goals.

18. LIVESTOCK CENSUS

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Economic Development >> Agriculture

REFERENCE NEWS:

Rajiv Ranjan Singh, the Union Minister of Fisheries, Animal Husbandry and Dairying, launched the 21st Livestock Census in New Delhi.

LIVESTOCK CENSUS:

- Conducted **every five years**, the census carries out a headcount of the number of domesticated animals, poultry, and stray animals in the country.
- The census takes into account information about the species, breed, age, sex, and ownership status of the animals in question.
- **Since 1919**, a total of 20 livestock censuses have been carried out so far, with the last being conducted in 2019.
- According to the Department of Animal Husbandry and Dairying, information on **sixteen animal species** will be collected in the 21st census. These include: cattle, buffalo, mithun, yak, sheep, goat, pig, camel, horse, ponies, mule, donkey, dog, rabbit, and elephant.
- In total, the census will capture information on **219 indigenous breeds** of these sixteen species recognised by ICAR-National Bureau of Animal Genetic Resources (NBAGR).
- Besides these, the census will also carry out a headcount of poultry birds such as fowl, chicken, duck, turkey, geese, quail, ostrich, and emu.
- The census this time will be **fully digitised**, like the last one in 2019 which include online data collection through a mobile application, monitoring at various levels through a digital dashboard, capturing the latitude and longitude of data collection location, and generation of livestock census report through software.
- The 21st census will capture several **new data points**. These include:
 - Data on pastoral animals, pastoralists: The census will, for the first time, collect data on the contribution of pastoralists to the livestock sector, their socio-economic status, and livestock holding.
 - More details, granular information: The census will find out the proportion of households whose major income comes from the livestock sector. It will also contain data on the gender of stray cattle.

The data from the census will also be crucial to track progress of **achieving Sustainable Development Goals (SDGs)** of the United Nations. The Livestock Census will provide data pertaining to **Goal 2 (Zero Hunger), and Target 2.5 (to maintain genetic diversity in food and nutrition), specifically Indicator 2.5.2 (The percentage of local livestock breeds that are at risk of extinction) of the SDGs.**

LIVESTOCK SECTOR OF INDIA:

- The livestock sector accounts for approximately **30% of India's agricultural GDP** and **4.1% of the overall GDP** as of 2021-22, making it a major contributor to rural economies.
 - In states like **Punjab, Haryana, and Rajasthan**, livestock contributes significantly to agricultural output, especially through dairy farming.
- The livestock sector has grown at a rate of **8.2%** annually, outperforming other agricultural subsectors. This growth is largely driven by increased demand for **milk, meat, and eggs** due to rising incomes and population.
- The livestock sector provides employment to **8.8%** of the country's workforce, particularly benefiting **marginal and small farmers** who depend on livestock for supplementary income.
- Nearly **70 million rural households** engage in dairy activities, generating a stable income even during non-cropping seasons.

- Women constitute over **69%** of the workforce in livestock rearing, particularly in dairy, poultry, and small ruminant farming.
 - Women's involvement is especially high in **states like Rajasthan and Uttar Pradesh**, where livestock rearing is often the primary income source for many households.
- India is the largest milk producer globally, with an output of **221 million tonnes** in 2022-23, accounting for **23%** of world milk production.
 - The **National Dairy Development Board (NDDB)**, through initiatives like **Operation Flood**, has helped India achieve self-sufficiency in milk production, ensuring affordable milk supply.
- Meat and egg production have increased, contributing to affordable protein sources in Indian diets.
 - Poultry production, growing at an annual rate of **6-8%**, provides over **100 billion eggs** annually, supporting dietary needs and contributing to the poultry industry's growth.
- Livestock offers a reliable source of income for farmers, helping mitigate the impact of **crop failures due to climate variability**.
 - In drought-prone areas like **Rajasthan and Maharashtra**, livestock rearing provides a steady income during low rainfall periods, reducing vulnerability for rural households.
- **Dairy cooperatives** like **Amul** have enabled stable pricing and a secure market for milk, benefiting millions of small farmers.
 - Over **1.7 crore** dairy farmers are part of India's cooperative network, which ensures income stability and market access.
- India is a leading exporter of **buffalo meat** and **animal by-products** like leather, adding to foreign exchange earnings.
 - In 2021-22, India's livestock product exports, primarily buffalo meat, were valued at approximately **\$3.6 billion**. The **leather industry**, centered in states like **Tamil Nadu** and **Uttar Pradesh**, heavily relies on livestock for raw materials, contributing to India's manufacturing and export sector.
- The dairy sector supports allied industries like **processing, packaging, and logistics**, which generate additional employment and income.
 - The **milk processing industry** in India is worth about **₹10 lakh crore**, supporting various small-scale and large-scale dairy processors and creating significant job opportunities.
- Poultry production drives demand for **animal feed and veterinary services**, supporting sectors like feed manufacturing and pharmaceuticals.
 - The Indian animal feed market, projected to grow at **5-6% annually**, serves the expanding livestock sector by providing nutritionally balanced feed.
- Animal manure is a valuable resource for **organic farming**, improving soil fertility and reducing dependence on chemical fertilizers.
 - In states like **Karnataka** and **Madhya Pradesh**, livestock manure is increasingly used to support sustainable farming practices.
- Dung from livestock is used to produce **biogas**, an environmentally friendly energy source in rural areas.
 - The **National Biogas and Manure Management Programme (NBMMP)** promotes biogas production from cattle dung, providing cooking fuel and reducing dependency on firewood.

CHALLENGES OF LIVESTOCK SECTOR IN INDIA:

- **Low Productivity of Indigenous Breeds:** Indigenous cattle breeds have lower milk yields compared to crossbreeds and exotic varieties.

- The average milk yield for indigenous cattle is only **3-4 litres per day**, while crossbreeds can yield **10-12 litres per day**. India's average milk yield is **1,774 kg per animal per year**, lower than the global average of 2,310 kg per animal per year.
- **Inadequate Veterinary Healthcare and Infrastructure:** India has a limited number of veterinary professionals and facilities, particularly in rural areas where livestock density is high.
 - India has only **one veterinary doctor for every 5,000 animals**, leading to poor access to timely healthcare.
- **High Disease Incidence:** Diseases like **foot-and-mouth disease (FMD)** and **brucellosis** affect livestock productivity and increase mortality.
 - FMD causes **annual economic losses of around ₹20,000 crore**, primarily in terms of reduced milk yield.
- **Poor Quality of Feed and Fodder:** India faces a shortage of quality feed and fodder, affecting livestock health and productivity.
 - India has a deficit of **36% green fodder** and **11% dry fodder**, which affects milk production and reproductive efficiency.
- **Dependence on Crop Residue:** In rural areas, livestock rely heavily on **crop residue** rather than balanced feed, which lacks essential nutrients.
 - In states like **Uttar Pradesh and Bihar**, cattle diets are often based on paddy or wheat straw, leading to lower productivity and poor health.
- **Lack of Access to Organized Markets:** Farmers often sell livestock products in unorganized markets, where they receive low prices due to middlemen.
 - Small dairy farmers in states like **Rajasthan and Uttar Pradesh** often struggle to secure fair prices for milk due to the absence of cooperative networks.
- **Limited Processing Facilities:** Due to inadequate cold chain and processing infrastructure, a significant quantity of milk and meat is wasted.
 - Only **20-25% of India's milk production** is processed, much lower than developed countries, impacting rural incomes.
- **Climate Change and Environmental Stress:** Rising temperatures and erratic weather patterns affect the productivity and health of livestock, particularly dairy cattle.
 - Heat stress in states like **Rajasthan and Gujarat** has led to decreased milk yields and higher mortality rates during summer.
- **Degradation of Grazing Lands:** Overgrazing, deforestation, and urbanization have led to the degradation of grazing lands, affecting the availability of natural fodder.
 - India's grazing land has declined from **10 million hectares in 2000** to **8 million hectares in 2022**, increasing dependency on cultivated fodder.
- **Financial Constraints and Limited Credit Access:** Rising feed, healthcare, and maintenance costs make livestock rearing costly for small and marginal farmers.
 - Small-scale dairy farmers in **Andhra Pradesh** often face difficulties accessing affordable feed and veterinary services.
- **Limited Access to Credit and Insurance:** Many livestock farmers lack access to formal credit and insurance facilities, making it difficult to invest in improved breeds, quality feed, and healthcare.
 - Only **7% of cattle in India** are insured, leaving farmers vulnerable to economic losses from livestock deaths or disease outbreaks.
- **Low Adoption of Modern Technology:** Although Artificial insemination can improve breed quality and productivity, its adoption remains low, especially in remote rural areas.
 - The AI coverage in India is around **30%**, compared to over 60% in developed countries.
- **Inadequate Cold Chain for Milk and Meat Products:** Due to the lack of a robust cold chain infrastructure, milk and meat spoilage rates are high, reducing profits for livestock farmers.

- Rural dairy farmers in **Bihar** and **West Bengal** report high milk spoilage during the summer due to inadequate cooling facilities.
- **Disease Surveillance and Biosecurity Challenges:** Weak disease surveillance systems increase the risk of outbreaks, impacting livestock health and export potential.
 - The lack of adequate biosecurity measures was evident in the spread of avian influenza in poultry farms in **Maharashtra** and **Haryana**.

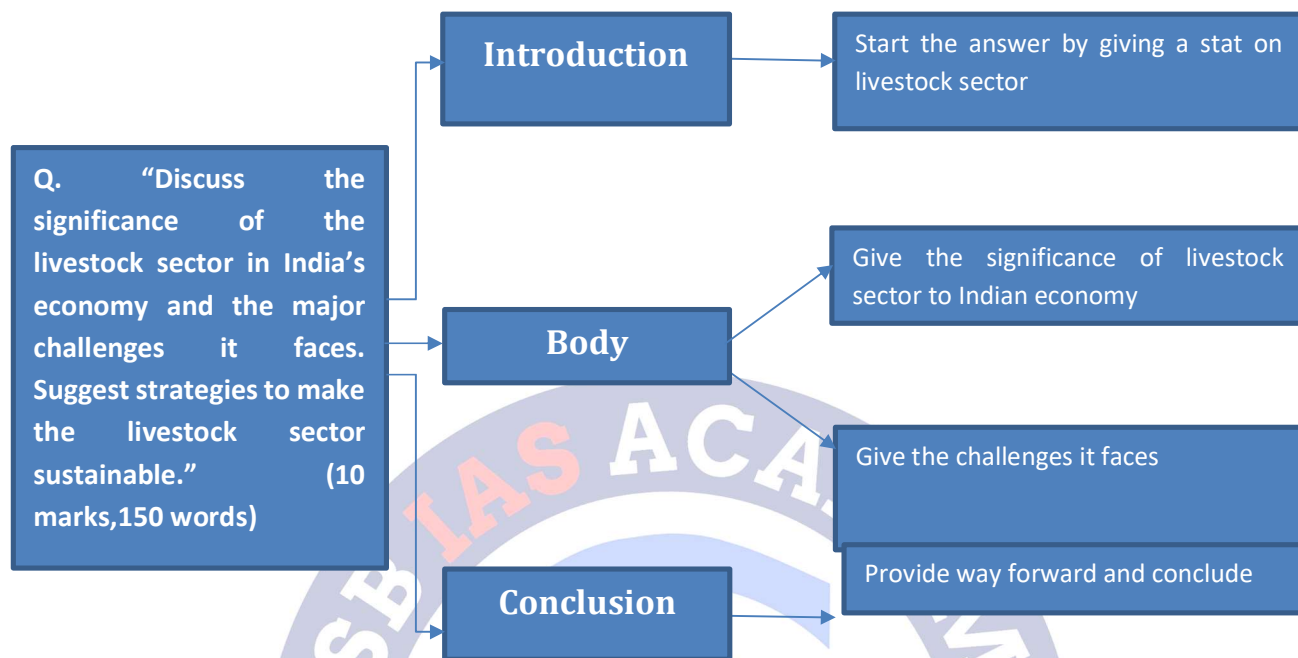
WAY FORWARD:

- **Improving Productivity through Breeding and Genetic Resources: Brazil's Genetic Improvement Program** has achieved remarkable success in beef production through genetic improvement programs focusing on traits like disease resistance and growth rate.
- **Expanding Access to Quality Veterinary Services: New Zealand's Integrated Veterinary Services** has an extensive veterinary network, with a focus on preventive care and disease management, reducing livestock mortality rates and improving health outcomes.
- **Enhancing Feed and Fodder Availability: Denmark's Efficient Feed Management** has optimized feed efficiency by using balanced diets and nutrient management, reducing reliance on grazing lands and lowering feed costs.
- **Leveraging Technology for Enhanced Productivity and Efficiency: Canada's Precision Livestock Farming** uses technologies like sensors and data analytics to monitor livestock health, feeding, and reproduction, optimizing resource use and productivity.
- **Sustainable Livestock and Environmental Management: Netherlands' Low-Emission Livestock Systems** implements low-emission livestock practices by promoting manure management, precision feeding, and biogas production from livestock waste.
- **Expanding Market Access and Processing Facilities: Ireland's Cooperative Dairy Model** relies on farmer cooperatives that provide market access, processing facilities, and fair pricing, ensuring farmers receive higher returns.
- **Financial and Insurance Support for Risk Mitigation: Kenya's Index-Based Livestock Insurance (IBLI)** has developed an **index-based insurance** system for livestock, protecting farmers from losses due to drought and disease.
- **Promoting Research and Development (R&D): Australia's Research-Driven Livestock Sector** has a strong focus on livestock R&D, investing in genetic improvement, climate-resilient breeds, and disease control, which has enhanced productivity and sustainability.

PRACTICE QUESTION

Q. "Discuss the significance of the livestock sector in India's economy and the major challenges it faces. Suggest strategies to make the livestock sector sustainable." (10 marks,150 words)

APPROACH



MODEL ANSWER

The livestock sector is a significant part of India's agrarian economy, contributing approximately **4.7% to the overall GDP** and **30% of agricultural GDP**. It is crucial for **rural employment, food security, and foreign exchange earnings**, as India is a global leader in milk and meat production. However, the sector faces multiple challenges that impact its sustainability and growth.

SIGNIFICANCE OF THE LIVESTOCK SECTOR

- Economic Contribution and Employment:** The sector supports **8.8% of India's workforce**, benefiting marginal farmers and providing income stability.
 - Example:** Dairy cooperatives like **Amul** provide market stability and higher income for **1.7 crore dairy farmers**.
- Food Security and Nutritional Needs:** India is the world's largest milk producer, with **221 million tonnes** in 2022-23, ensuring affordable access to protein and nutrition.
- Export Earnings and Allied Industries:** The sector drives exports of **buffalo meat** and leather, earning **\$3.6 billion in 2021-22** and supporting industries like **food processing and pharmaceuticals**.

CHALLENGES IN THE LIVESTOCK SECTOR

- Low Productivity of Indigenous Breeds:** Indigenous breeds have lower milk yields; average yield is **1,774 kg/animal/year**, below the global average of 2,310 kg.
- Inadequate Veterinary Healthcare and Infrastructure:** India has only **one veterinary doctor per 5,000 animals**, leading to poor healthcare access.
- Climate Change and Feed Shortages:** Heat stress and erratic rainfall lower productivity, while **36% green fodder** and **11% dry fodder deficits** limit feed quality.
- Limited Market Access and Processing Infrastructure:** Only **20-25% of milk** production is processed due to inadequate cold storage, impacting rural incomes.

WAY FORWARD: SUSTAINABLE LIVESTOCK STRATEGIES

1. **Productivity Enhancement through Breeding (Brazil's Model):** Use **genetic improvement** and crossbreeding programs to boost milk yield and disease resistance.
2. **Expanding Veterinary Services (New Zealand's Model):** Introduce **mobile veterinary clinics** and train paraveterinary staff for rural healthcare coverage.
3. **Feed and Fodder Availability (Denmark's Model):** Promote **balanced diets and silage** to mitigate fodder shortages, reducing reliance on crop residues.
4. **Climate Resilience and Environmental Sustainability (Netherlands' Model):** Encourage **biogas production** from animal waste to reduce emissions and produce renewable energy.
5. **Cooperative Models and Market Access (Ireland's Model):** Strengthen **dairy cooperatives** to ensure fair pricing and market access for small farmers.

Adopting a sustainable approach to livestock development is essential for long-term productivity, economic growth, and environmental sustainability. By incorporating **policy reforms, technological advancements, and global best practices**, India can build a resilient livestock sector that supports rural livelihoods, enhances food security, and contributes to sustainable economic growth.



19. FOOD INFLATION IN INDIA

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Indian Economy >> Inflation and its impacts

REFERENCE NEWS:

Over the past few days, several observers of the Indian economy have made the point that urban India, especially the larger mega cities, are the new areas of concern when it comes to economic activity while rural India is witnessing an uptick. In simpler terms, all this means is that people in urban India are not buying (consuming) as much stuff (be it cars or cereals) as companies expected them to buy while people in India's rural areas seem to be doing much better than earlier.

A big reason why urban India seems to be doing worse is high food inflation.

FOOD INFLATION IN URBAN AND RURAL INDIA:

Inflation refers to the overall increase in the prices of goods and services, coupled with a decrease in people's purchasing power. Food products, especially, form a significant part of this inflation, often contributing more than 50% to the overall inflation rate.

Food inflation contributed **73.1 per cent to the headline rural inflation**. In contrast, food inflation contributed only **56.1 per cent of the headline urban inflation**. This stark disparity is because of the disproportionately higher weight food holds in the rural consumption basket, states a research note by CMIE's (Centre for Monitoring Indian Economy) Economic Outlook.

TABLE 1: How food inflation hits rural India more than urban areas

Month	Rural		Urban	
	Weight	Inflation	Weight	Inflation
General Index	100.00	5.87	100.00	5.05
Food and beverages	54.18	8.25	36.29	8.55
Food	47.25	9.08	29.62	9.56
Non-alcoholic beverages	1.37	2.33	1.13	3.03
Prepared meals, snacks, sweets, etc.	5.56	2.95	5.54	4.29
Pan, tobacco and intoxicants	3.26	2.32	1.36	2.94
Clothing and footwear	7.36	2.54	5.57	2.92
Housing	0.00		21.67	2.78
Fuel & light	7.94	-0.33	5.58	-3.25
Miscellaneous	27.26	4.07	29.53	4.09
Household goods and services	3.75	2.15	3.87	3.09
Health	6.83	3.94	4.81	4.38
Transport and communication	7.60	2.92	9.73	2.54
Recreation and amusement	1.37	2.22	2.04	2.45
Education	3.46	3.62	5.62	3.94
Personal care and effects	4.25	8.81	3.47	9.30

Source: CMIE's Economic Outlook

Vegetable inflation contributed the most to overall headline inflation. Vegetables have a weight of 7.5 per cent in rural CPI and 4.4 per cent in urban CPI. Due to the relatively larger importance of vegetables in rural consumption, it contributed to **45.8 per cent of the headline rural inflation**. In contrast, vegetable inflation only contributed **31.3 per cent to headline urban inflation**.

CAUSES OF FOOD INFLATION IN INDIA:

Supply Chain Disruptions and Logistical Issues

- **Transportation Costs:** India's food supply chain depends heavily on road transport, making food prices sensitive to fuel costs. When diesel prices surged in 2021-2022, transportation costs increased significantly, which led to higher food prices across the country.
- **Storage and Warehousing Limitations:** According to NITI Aayog, **up to 16% of India's fruits and vegetables are wasted due to poor storage which are post-harvest loss**. This inefficiency drives up the prices of these items during periods of high demand.

Seasonal and Climatic Factors

- **Monsoon Dependence:** Agriculture in India is largely rain-fed, with approximately 60% of cropland dependent on the monsoon. Poor monsoon rains reduce crop yields, which inflates prices for key staples. In 2023, erratic rainfall due to climate variability led to reduced production of crops like rice and pulses, pushing up their prices.

- **Extreme Weather Events:** Increasingly frequent extreme weather events like droughts, floods, and unseasonal rain impact crop yields. In early 2023, unseasonal rainfall damaged wheat crops in major producing states like Punjab and Haryana, leading to a supply shortfall and subsequently higher prices.

Global Market Fluctuations and Import Dependency

- **Dependence on Imports:** India relies on imports for several essential items, including edible oils and pulses. India imports over 60% of its edible oil. In 2022, global disruptions in palm oil supply from Indonesia and soybean oil from Argentina led to a sharp increase in edible oil prices in India.
- **Currency Depreciation:** The depreciation of the Indian Rupee makes imports costlier, adding to inflation. Rupee's depreciation in 2022 raised the cost of imported pulses and edible oils, directly impacting domestic food inflation.

Rising Input Costs for Farmers

- **Fertilizers and Pesticides:** The cost of agricultural inputs, such as fertilizers, pesticides, and seeds, has been rising due to supply chain issues and international price hikes. The global shortage and subsequent price hike of fertilizers in 2021–2022 increased input costs for Indian farmers, raising the production cost of crops like wheat and rice.
- **Labour Costs:** The pandemic-driven labour shortages and higher wages in the agricultural sector increased production costs. In states like Maharashtra and Uttar Pradesh, where labour-intensive crops like sugarcane are grown, these higher costs contributed to increased prices.

Demand-Supply Mismatch

- **Growing Middle-Class Demand:** Rising incomes and urbanization have shifted dietary preferences toward protein-rich and processed foods. This trend increased demand for eggs, dairy, and pulses, leading to price spikes in these categories when supply could not keep up.
- **Export Demand:** Exports also affect domestic food prices. In 2022, India saw high export demand for wheat following global shortages, leading to domestic price rises. To control prices, the government imposed a wheat export ban in May 2022, highlighting the impact of export demand on domestic food prices.

Policy and Regulatory Factors

- **Minimum Support Prices (MSPs):** Government-fixed MSPs for certain crops can push up food prices if MSPs rise faster than the general inflation rate. For instance, the recent increase in MSPs for paddy and pulses to support farmers has contributed to higher rice and dal prices.
- **Supply Control Measures:** When prices increase, the government sometimes imposes trade restrictions, such as bans or tariffs on exports of essential goods. While these measures intend to stabilize domestic prices, they may also discourage production in the long term, affecting supply stability. The government's export ban on onions in late 2023, for example, led to temporary supply disruptions and price volatility in onion-producing regions.

Inflationary Pressures from Global Events

- **Russia-Ukraine War:** The war between Russia and Ukraine, two major global exporters of wheat and sunflower oil, disrupted the supply chains for these commodities in 2022. This shortage affected the price of edible oils and grains, raising costs in import-dependent countries like India.
- **COVID-19 Pandemic:** The pandemic caused a series of logistical disruptions and labour shortages, raising food prices. Supply chain interruptions, especially during lockdowns, led to price increases in essential goods. For example, in 2020-21, the prices of items like pulses, dairy, and meat rose sharply due to restricted movement and labour shortages.

CONSEQUENCES OF FOOD INFLATION:

Reduced Purchasing Power and Standard of Living

- **Rural India:** Rural households typically spend a larger portion of their income on food, making them more vulnerable to inflation. For instance, in 2022, food inflation impacted staples like rice and pulses, which form a large part of rural diets. High food costs reduce their overall quality of life.

- **Urban India:** In urban areas, food inflation squeezes household budgets, particularly for the low- and middle-income groups. In 2023, the rise in cooking oil prices due to import costs meant urban households had to pay more or switch to cheaper substitutes, which often affects nutrition.

Worsening Nutritional Standards

- **Rural India:** High food prices lead to a reduction in the consumption of nutritious foods like vegetables, fruits, and protein-rich foods, impacting rural nutrition. Studies show that food inflation in 2023 contributed to a rise in malnutrition, especially in lower-income rural households, as families cut back on protein sources and greens to afford staples like rice and wheat.
- **Urban India:** As egg and dairy prices rose in 2023, some urban households reported reducing their intake of these items, potentially impacting child nutrition and health. Rising food prices are linked to increased reliance on processed foods, which can lead to health issues like obesity, especially among urban children and adults.

Increased Rural Migration to Urban Areas

- **Rural India:** Food inflation exacerbates economic insecurity in rural areas, contributing to **rural-to-urban migration** as people seek better employment opportunities to cope with rising living costs. For instance, during the high inflation period of 2021–2022, reports showed a noticeable increase in migration from states like Bihar and Uttar Pradesh to cities in search of better income prospects, as local agricultural incomes could not keep up with food inflation.
- **Urban India:** Urban centres, already grappling with issues like congestion and resource scarcity, struggle to accommodate new migrants. This can strain urban infrastructure and contribute to a rise in informal settlements, placing added pressure on urban resources like housing, healthcare, and sanitation.

Rise in Rural Debt and Financial Stress

- **Rural India:** In states like Maharashtra and Tamil Nadu, where rural populations are already prone to agricultural debt, high food prices compound the financial burden, pushing more households into distress. According to a 2023 report by NABARD, rural households facing high food inflation saw an increase in short-term loans taken for food and other daily expenses.
- **Urban India:** While urban households may have more access to formal credit, food inflation still leads to increased reliance on personal loans or credit cards, raising the risk of debt. Higher credit card usage in urban areas has been linked to essential spending in times of inflation, leading to rising debt levels, especially among urban lower-middle-class families.

Increased Burden on Government Welfare Programs

- **Rural India:** Food inflation puts pressure on government welfare programs like the Public Distribution System (PDS), which supplies subsidized grains to low-income households. In 2022, the government expanded PDS subsidies under the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) to combat rising food costs, but sustaining these expansions is financially challenging.
- **Urban India:** Urban welfare programs, like midday meal schemes and subsidies for urban poor, also come under strain. Rising food prices have been a challenge for the school midday meal programs, as noted in 2022, where meal quality was sometimes compromised due to budget constraints.

Risk of Social and Political Unrest

- **Rural India:** Rising food prices can lead to social unrest, especially among the agricultural workforce and low-income families. High inflation has been linked to protests among farming communities, especially when input costs increase without adequate support prices. In states like Maharashtra and Haryana, food inflation has often led to demonstrations demanding higher MSPs and subsidies.
- **Urban India:** Urban populations, particularly those in low-income brackets, can also experience frustration due to unaffordable food costs, which sometimes translates into protests or strikes.

For instance, high onion prices in 2023 triggered public outcry and government action in urban centres, as onions are a staple in Indian cooking.

WAY FORWARD:

Improving Agricultural Productivity and Resilience

- The National Commission on Farmers, chaired by M.S. Swaminathan, emphasized improving productivity and income for farmers through measures like enhanced irrigation, use of high-yield seeds, and better soil health management. It recommended linking crop prices to the cost of production (Cost + 50% MSP) to ensure a fair return for farmers which is the C2 method.

Strengthening Storage and Cold Chain Infrastructure

- The **Shanta Kumar Committee** on Restructuring the Food Corporation of India (FCI) recommended decentralizing food storage and encouraging private sector investment in storage infrastructure. The Committee suggested reducing government stockholding and creating **decentralized warehouses** to reduce post-harvest losses.

Rationalizing and Expanding Market Access

- The **Ashok Dalwai Committee** on Doubling Farmers' Income emphasized the need for reforms in the Agricultural Produce Market Committee (APMC) system and recommended creating more transparent, farmer-friendly markets. This would involve removing restrictive APMC practices and enabling farmers to sell directly to consumers or agro-processors.
- Digital marketplaces, similar to Alibaba's rural e-commerce model in China, could also provide Indian farmers access to wider markets and help stabilize prices through increased market competition.

Increasing Crop Diversification and Reducing Monoculture Dependence

- The NITI Aayog recommended promoting crop diversification as a buffer against inflation by reducing over-reliance on specific staple crops. The Commission on Agricultural Costs and Prices (CACP) also advised encouraging farmers to diversify into pulses, oilseeds, and horticultural crops to increase resilience against food price shocks.
- Countries like Brazil have diversified crop production to reduce dependency on any single commodity, thus stabilizing food prices.

Strengthening the Public Distribution System (PDS) and Welfare Schemes

- The Shanta Kumar Committee recommended targeting PDS more effectively to reach vulnerable populations and suggested gradually shifting towards direct cash transfers to reduce inefficiencies and leakages.
- India could look at Mexico's *Prospera* program, which has shown success in providing direct cash transfers to low-income households for essential purchases. A targeted cash transfer system, similar to Mexico's, could reduce the burden on the government to maintain large buffer stocks and help control inflation.

Enhancing Price Stabilization Mechanisms and Monitoring

- The CACP and NITI Aayog have both recommended establishing a Price Stabilization Fund to manage inflation for essential commodities. This involves strategic procurement, maintaining buffer stocks, and releasing them when prices spike. The committee also suggested improved price forecasting and early warning systems to enable better planning.

Promoting Sustainable Agriculture Practices

- The M.S. Swaminathan-led National Commission on Farmers highlighted the need for sustainable practices like organic farming, crop rotation, and reduced use of chemical inputs to enhance soil health and reduce input costs.
- Countries like Denmark and Sweden are leaders in sustainable agriculture, utilizing organic and regenerative farming methods to reduce dependency on costly inputs.

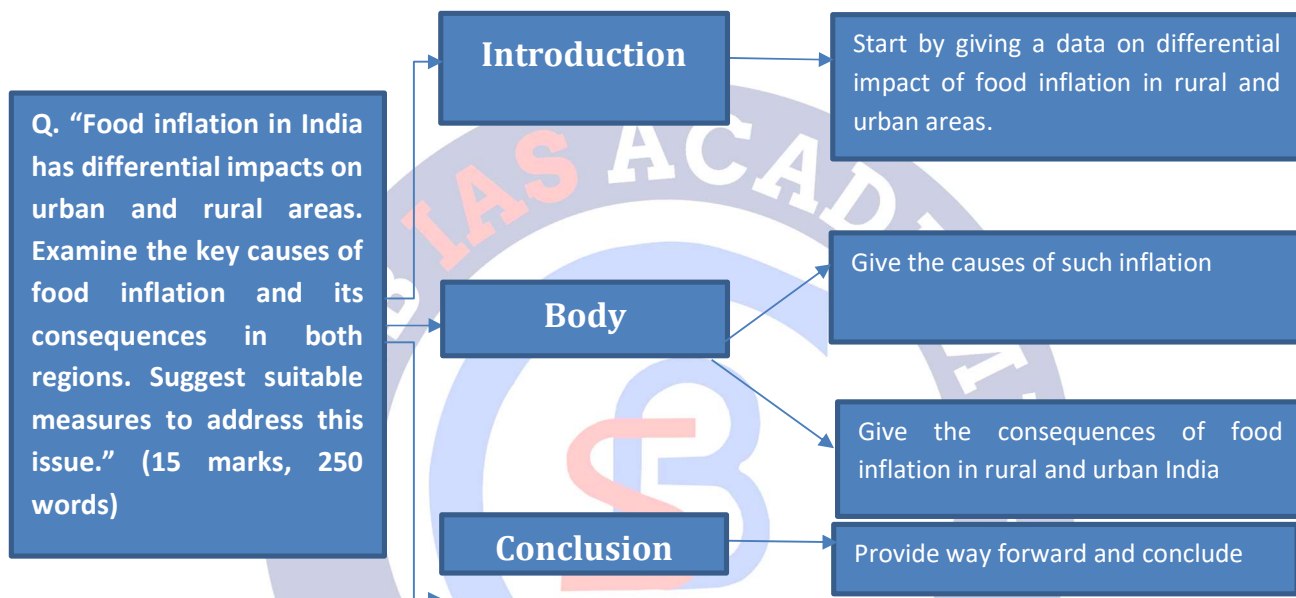
Boosting the Edible Oil Sector to Reduce Import Dependency

- The National Mission on Edible Oils has recommended boosting domestic oilseed production to reduce dependence on imports. This includes incentivizing farmers to grow oilseeds and improving domestic processing infrastructure.

PRACTICE QUESTION

Q. "Food inflation in India has differential impacts on urban and rural areas. Examine the key causes of food inflation and its consequences in both regions. Suggest suitable measures to address this issue." (15 marks, 250 words)

APPROACH



MODEL ANSWER

Food inflation in India has been a persistent concern due to its far-reaching effects on the economy and household budgets. Food inflation contributed **73.1 per cent to the headline rural inflation**. In contrast, food inflation contributed only **56.1 per cent of the headline urban inflation** as per data by CMIE.

CAUSES OF FOOD INFLATION IN INDIA

1. **Supply Chain Disruptions:** India's reliance on road transport for food distribution means that fuel price hikes directly increase food costs. For instance, diesel price surges in 2021-2022 raised transportation costs, inflating food prices nationwide.
2. **Seasonal and Climatic Factors:** The dependence on monsoon rains for over 60% of India's agricultural land makes crop yields vulnerable to rainfall variability. In 2023, erratic rainfall patterns lowered rice and pulse outputs, pushing up their prices
3. **Global Market Fluctuations and Import Dependency:** India imports over 60% of its edible oil needs. Disruptions in the global palm oil supply from Indonesia in 2022 led to a spike in edible oil prices domestically. Additionally, currency depreciation raises import costs, impacting food inflation.
4. **Rising Input Costs for Farmers:** Increasing costs of fertilizers and pesticides due to global shortages raised production costs for farmers in India, inflating food prices for staples like wheat and rice.
5. **Policy and Regulatory Measures:** Policies such as Minimum Support Prices (MSP) increase the prices of crops like paddy and pulses, while export restrictions, like the 2023 onion export ban, create price volatility.

CONSEQUENCES OF FOOD INFLATION

Reduced Purchasing Power and Standard of Living

- **Rural India:** Rural households typically spend a larger portion of their income on food, making them more vulnerable to inflation. In 2022, food inflation impacted staples like rice and pulses, which form a large part of rural diets. High food costs reduce their overall quality of life.
- **Urban India:** In 2023, the rise in cooking oil prices due to import costs meant urban households had to pay more or switch to cheaper substitutes, which often affects nutrition.

Worsening Nutritional Standards

- **Rural India:** High food prices lead to a reduction in the consumption of nutritious foods like vegetables, fruits, and protein-rich foods, impacting rural nutrition. Studies show that food inflation in 2023 contributed to a rise in malnutrition, especially in lower-income rural households, as families cut back on protein sources and greens to afford staples like rice and wheat.
- **Urban India:** As egg and dairy prices rose in 2023, some urban households reported reducing their intake of these items, potentially impacting child nutrition and health. Rising food prices are linked to increased reliance on processed foods, which can lead to health issues like obesity, especially among urban children and adults.

Increased Burden on Government Welfare Programs

- **Rural India:** Food inflation puts pressure on government welfare programs like the Public Distribution System (PDS), which supplies subsidized grains to low-income households. In 2022, the government expanded PDS subsidies under the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) to combat rising food costs, but sustaining these expansions is financially challenging.
- **Urban India:** Urban welfare programs, like midday meal schemes and subsidies for urban poor, also come under strain. Rising food prices have been a challenge for the school midday meal programs, as noted in 2022, where meal quality was sometimes compromised due to budget constraints.

Risk of Social and Political Unrest

- **Rural India:** Rising food prices can lead to social unrest, especially among the agricultural workforce and low-income families. High inflation has been linked to protests among farming communities, especially when input costs increase without adequate support prices. In states like Maharashtra and Haryana, food inflation has often led to demonstrations demanding higher MSPs and subsidies.
- **Urban India:** Urban populations, particularly those in low-income brackets, can also experience frustration due to unaffordable food costs, which sometimes translates into protests or strikes. For instance, high onion prices in 2023 triggered public outcry and government action in urban centres, as onions are a staple in Indian cooking.

WAY FORWARD

To mitigate food inflation, a multi-faceted approach is necessary:

1. **Boosting Agricultural Productivity:** The National Commission on Farmers (Swaminathan Commission) recommended increased irrigation, improved seed quality, and fair pricing (Cost + 50% MSP) to support farmers.
2. **Strengthening Cold Chain and Storage Infrastructure:** The Shanta Kumar Committee on FCI reform suggested decentralizing storage and incentivizing private sector involvement in warehousing to reduce post-harvest losses. India could emulate China's decentralized storage system to manage food supply better.
3. **Reforming Market Access:** The Dalwai Committee on Doubling Farmers' Income advised creating transparent markets by reforming APMC laws and enabling direct sales to consumers. Digital marketplaces, like China's rural e-commerce model, can offer wider access and price stability.

4. **Diversifying Crops and Reducing Dependency on Imports:** NITI Aayog's recommendations on crop diversification aim to reduce monoculture risks. India can follow Brazil's diversified agricultural approach, promoting oilseeds and pulses to stabilize prices.
5. **Enhanced Welfare Mechanisms:** The Shanta Kumar Committee suggested targeted PDS benefits and gradual adoption of cash transfers, similar to Mexico's Prospera program. A direct cash transfer system can help manage inflation impacts more effectively.
6. **Sustainable Agriculture Practices:** Promoting organic farming and crop rotation, as advocated by the Swaminathan Commission, aligns with Denmark's sustainable agriculture model and reduces dependency on costly inputs, enhancing long-term food security.

Addressing food inflation in India requires long-term policy reforms, improved supply chain management, and sustainable agricultural practices. A focus on building resilient, diverse agricultural systems and decentralized market access will reduce inflationary pressures, supporting economic stability and household food security across both rural and urban regions.



20. UNCBD COP-16

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Environment and Ecology >> Biodiversity

REFERENCE NEWS:

The Sixteenth meeting of the Conference of the Parties to the Convention on Biological Diversity (COP 16) was held in Cali, Colombia from 21 October - 1 November 2024. Under the theme **Peace With Nature**, this will be the first Biodiversity COP since the adoption of the **Kunming-Montreal Global Biodiversity Framework** at COP 15 in December 2022 in Montreal, Canada.

COP 16 will develop the **monitoring framework and advance resource mobilization** for the **Global Biodiversity Framework** as well as finalize and operationalize the multilateral mechanism on the **fair and equitable sharing of benefits from the use of digital sequence information on genetic resources**.

UNITED NATIONS CONVENTION ON BIOLOGICAL DIVERSITY:

The United Nations Convention on Biological Diversity (UNCBD), also known as the Convention on Biological Diversity (CBD), is a comprehensive international established at the Earth Summit in Rio de Janeiro in 1992 and entering into force in 1993, the UNCBD remains one of the most significant global agreements addressing biodiversity loss. The UNCBD has three primary objectives:

- **Conservation of Biological Diversity:** To safeguard ecosystems, species, and genetic diversity.
- **Sustainable Use of Its Components:** To ensure that biodiversity resources are used in a way that meets current needs without compromising future generations.
- **Fair and Equitable Sharing of Benefits:** To ensure that benefits arising from genetic resources, particularly in areas like pharmaceuticals and biotechnology, are shared fairly, especially with communities and countries providing these resources.

Key Frameworks and Protocols under the UNCBD

- **Nagoya Protocol (2010):** Focuses on the **access and benefit-sharing (ABS)** of genetic resources. It emphasizes that users must obtain **consent** from countries or communities when using genetic resources and provide fair compensation or benefits in return.
- **Cartagena Protocol on Biosafety (2000):** Addresses the safe handling, transport, and use of **living modified organisms (LMOs)** resulting from biotechnology, which may have adverse effects on biodiversity and human health. It emphasizes a **precautionary approach** to prevent risks associated with genetic engineering.
- **Kunming-Montreal Global Biodiversity Framework (2022):** These include the so-called **30 x 30 targets** — a commitment to put at least 30% of the world's lands and oceans, especially biodiversity rich areas, under conservation by 2030, and to initiate restoration work in at least 30% of degraded land or marine ecosystems by 2030.

India, as a signatory, has undertaken numerous initiatives under the CBD framework:

- **Biological Diversity Act (2002):** Establishes mechanisms to regulate access to biological resources and protect traditional knowledge.
- **National Biodiversity Action Plan:** Aligns with CBD targets to ensure the conservation of India's biodiversity.
- **Biodiversity Management Committees (BMCs):** Set up at the local level to conserve biological resources and empower local communities in biodiversity management.

COP-16:

COP16 can be seen as the '**first implementation COP**'. This means it will be the COP where various actors - from governments to non-state actors like indigenous communities, youth groups, businesses, financial institutions and civil society - will come together to share progress to date and explore plans for the future to contribute to the implementation of the **Global Biodiversity Framework**.

Countries are expected to submit updated National Biodiversity Strategies and Action Plans this year.

- One of the main objectives of COP16 is to **expedite progress on the 30 x 30 targets** which are the most immediate. Under the Kunming-Montreal Framework, each country is supposed to prepare and submit action plans to halt and reverse biodiversity loss within their jurisdiction.
- These National Biodiversity Strategies and Action Plans, or NBSAPs, are similar to the Nationally Determined Contributions, or NDCs, that countries have to submit under the 2015 Paris Agreement on climate change, mentioning their time-bound goals and actions being taken.
- Many governments are taking steps to update and assess, commit, transform and disclose their actions on nature, including at the sectoral level, and by developing a nature strategy. **Achieving the goals of the Global Biodiversity Framework, and halting and reversing nature loss by 2030 will require collective action.**
- COP16 will be the first Biodiversity COP since the adoption of the Global Biodiversity Framework. During COP 16, governments will review the progress made to implement the Global Biodiversity Framework, as well as the level of alignment of National Biodiversity Strategies and Action Plans (NBSAPs) with the Plan.
- At COP16, governments plan to further negotiate the monitoring framework, advance resource mobilization (in particular how the implementation will be financed), and finalize the multilateral mechanism on fair and equitable Access and Benefit Sharing (ABS) from the use of digital sequence information on genetic resources.
- COP16 is expected to deliver some decisions on how these digital sequences can be used, who can use them, and what a fair and equitable mechanism for sharing of profits would be, particularly for the indigenous populations who might have been the original owners of the bioresource.
- One of the 23 goals of the **Kunming-Montreal Framework is to mobilise at least \$200 billion per year by the year 2030**, from all sources, for spending on biodiversity conservation. Out of this, developed countries must provide at least \$20 billion every year to developing countries to support their biodiversity-related work. This money has to increase to at least \$30 billion every year by 2030. Ways and means to mobilise these financial resources is one of the main items on the agenda at COP16.
- Countries at COP16 are also expected to discuss the possibility of setting up a biodiversity fund, new finance mechanisms, and biodiversity credits on the lines of carbon credits.

Attended by participants from over 190 countries, COP16 will bring together governments, observer organizations, indigenous communities, businesses, youth groups, civil society, academia, and the general public.

CHALLENGES OF UNCBD COPs IN ACHIEVING SAID TARGETS:

- **Limited Implementation and Compliance:** Countries face difficulties in translating COP commitments into concrete action due to limited financial resources, lack of institutional capacity, and inconsistent policy enforcement.
 - At COP10 in 2010, parties agreed on the Aichi Biodiversity Targets, setting 20 targets for global biodiversity conservation to be achieved by 2020. However, a UN report in 2020 revealed that none of these targets were fully met, with only six partially achieved.
- **Insufficient Financial Resources:** Adequate funding is critical for achieving biodiversity goals, yet many developing countries, where biodiversity is most at risk, lack the financial resources needed.
 - At COP15 in 2022, the Kunming-Montreal Global Biodiversity Framework set a target for mobilizing \$200 billion per year for biodiversity from various sources, yet actual financial commitments are still lagging.
- **Lack of Binding Enforcement Mechanisms:** The CBD operates through voluntary commitments, meaning there are no legally binding enforcement mechanisms or penalties for non-compliance. This voluntary nature often results in slow or minimal progress, as countries are not held accountable for failing to meet targets.

- Unlike the Paris Agreement for climate change, which includes legally binding emission reduction targets, the CBD lacks similar binding commitments. This difference has contributed to relatively slower progress in biodiversity conservation, as evidenced by the failure to achieve the Aichi Targets by 2020.
- **Balancing Conservation and Development Needs:** COPs face challenges in striking a balance between conservation priorities and economic development needs, particularly for countries reliant on natural resources.
 - Brazil, home to the Amazon rainforest, has faced criticism for policies that promote deforestation for agriculture and industry, conflicting with global conservation goals.
- **Equitable Benefit Sharing and Indigenous Rights:** Indigenous and local communities who steward biodiversity are often marginalized in benefit-sharing discussions, despite their critical role in conservation.
 - Although the Nagoya Protocol on Access and Benefit Sharing was adopted in 2010 at COP10, implementation has been uneven, with indigenous communities frequently reporting a lack of access to fair compensation for their genetic resources. Cases such as the Rosy Periwinkle plant from Madagascar, used in cancer treatment drugs without compensation, underscore the difficulty in ensuring fair benefit sharing.
- **Monitoring, Data Collection, and Reporting Challenges:** Accurate data is essential for tracking progress toward biodiversity targets, but many countries lack the capacity for consistent monitoring and reporting.
 - During the Aichi Target review, one major obstacle was the lack of comprehensive data on species populations, habitat loss, and biodiversity pressures. Only 20% of countries reported data that met the criteria for rigorous assessment, leaving significant gaps in understanding global biodiversity trends.
- **Impact of Global Events and Geopolitical Tensions:** Global events like economic crises, pandemics, and geopolitical tensions often divert attention and resources away from biodiversity goals. Additionally, international cooperation becomes difficult when countries prioritize national issues over global biodiversity concerns.
 - The COVID-19 pandemic in 2020 delayed COP15 by over a year and redirected national resources and political focus to health and economic recovery. Similarly, the ongoing geopolitical tension between major players like the US, China, and Russia can affect funding commitments and collaborative efforts at COPs.
- **Coordination with Other Environmental Agreements:** There are several multilateral environmental agreements, such as the UNFCCC (climate change) and UNCCD (desertification), which often overlap with the goals of the CBD.
 - Deforestation contributes to both biodiversity loss and greenhouse gas emissions. Despite the interconnection, COP15 of the CBD and COP27 of the UNFCCC held parallel discussions on similar issues without integrated policy solutions, illustrating a missed opportunity for unified environmental action

WAY FORWARD:

- **Establishing Legally Binding Targets and Enforcement Mechanisms:** Countries could report on national biodiversity action plans and submit progress reports, with potential sanctions or penalties for significant non-compliance. This would create a sense of urgency and improve accountability.
- **Increasing Financial Resources for Biodiversity:** The funding gap for biodiversity can be addressed through increased contributions from developed countries, innovative financing mechanisms, and incentives for private-sector investments.
 - Costa Rica's Debt-for-Nature swap agreements help alleviate national debt in exchange for conservation efforts. A similar model could be adopted under the UNCBD to help biodiversity-rich developing nations.

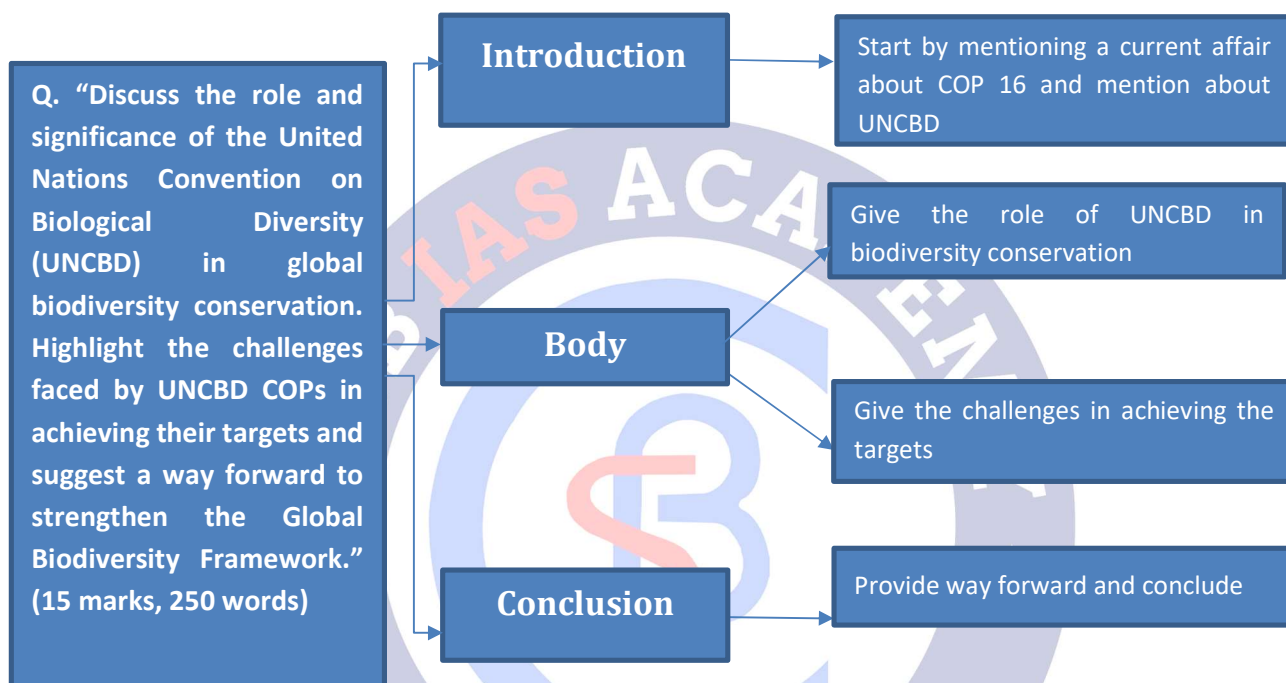
- **Strengthening Data Collection and Monitoring:** Utilizing satellite imagery and AI-powered data analytics could help track deforestation rates, species populations, and habitat health. Developing a biodiversity equivalent of the Global Carbon Atlas would allow easy access to reliable data.
 - The UN Biodiversity Lab provides data and geospatial analysis tools for countries to monitor biodiversity indicators, which could be expanded and made mandatory for all signatories.
- **Integrating Biodiversity into National Policy and Development Plans:** Countries could establish “No Net Loss” policies, ensuring any development project offsets its biodiversity impact by investing in conservation or restoration elsewhere.
 - In the European Union, the Green Infrastructure Strategy requires that biodiversity considerations are integrated into regional development, transport, and energy policies, creating a framework for balancing growth and conservation.
- **Promoting Indigenous and Local Community Participation:** Expanding the scope of the Nagoya Protocol on Access and Benefit Sharing to include indigenous rights protection can encourage communities to participate in conservation efforts and ensure fair compensation for their knowledge and resources.
 - In Canada, the Indigenous Guardians Program allows indigenous communities to oversee conservation areas, blending traditional knowledge with modern science for effective biodiversity management.
- **Strengthening Coordination Across Environmental Agreements:** Coordination between the UNCBD, UNFCCC (climate), and UNCCD (desertification) can maximize collective impact. For example, biodiversity protection, climate adaptation, and land restoration are interconnected goals, so aligning these agreements can enhance efficiency and outcomes.
 - The Great Green Wall Initiative in Africa, aimed at combating desertification, is a cross-agency project that addresses climate resilience, biodiversity, and land restoration goals simultaneously.
- **Promoting Sustainable Agriculture and Reducing Harmful Subsidies:** Reforms to agricultural subsidies and incentives for sustainable practices can reduce habitat degradation. Subsidies that encourage overuse of fertilizers or unsustainable land use should be reallocated to support practices like organic farming and agroforestry.
 - The EU’s Common Agricultural Policy (CAP) is transitioning to link farm subsidies with sustainable practices, an approach that could serve as a model for biodiversity-sensitive agricultural policies globally.
- **Adopting a Rights-Based Approach to Conservation:** A rights-based approach ensures that biodiversity conservation respects the rights of indigenous and local communities. This includes recognizing land rights and providing legal support to prevent encroachments on conservation lands.
 - In Ecuador, the Constitution grants rights to nature, recognizing ecosystems as subjects of rights. Such approaches can reinforce biodiversity protection while protecting communities dependent on these ecosystems.
- **Developing Biodiversity Education and Public Awareness:** Annual biodiversity education programs in schools and community-based initiatives can enhance awareness and community involvement in biodiversity-friendly practices.
 - Japan’s Satoyama Initiative integrates local communities in ecosystem conservation through education and community management, building local stewardship for biodiversity.
- **Building a Resilient, Inclusive Global Biodiversity Framework:** The UNCBD could form a collaborative platform for public-private partnerships, offering incentives for businesses that contribute to biodiversity-positive outcomes.

- The Business for Nature Coalition partners with companies to integrate biodiversity into corporate sustainability practices, demonstrating the role of private sectors in biodiversity goals.

PRACTICE QUESTION

Q. "Discuss the role and significance of the United Nations Convention on Biological Diversity (UNCBD) in global biodiversity conservation. Highlight the challenges faced by UNCBD COPs in achieving their targets and suggest a way forward to strengthen the Global Biodiversity Framework." (15 marks, 250 words)

APPROACH



MODEL ANSWER

The United Nations Convention on Biological Diversity (UNCBD), COP 16 held in Cali, Columbia works to fulfil the Global Biodiversity Framework. The UNCBD's Conferences of the Parties (COPs) set targets and strategies for global biodiversity conservation, yet challenges in implementation and resource mobilization persist.

SIGNIFICANCE OF THE UNCBD

1. **Global Biodiversity Conservation:** UNCBD serves as the primary international framework for biodiversity conservation, aiming to halt species extinction, habitat degradation, and ecosystem loss through protocols like the Kunming-Montreal Global Biodiversity Framework.
2. **Sustainable Development:** The UNCBD promotes sustainable use of biodiversity resources, supporting economic development without compromising ecological health.
3. **Fair Benefit Sharing:** Through the Nagoya Protocol, UNCBD ensures that communities contributing genetic resources are compensated fairly, encouraging biodiversity-rich countries to conserve genetic resources.

CHALLENGES FACED BY UNCBD COPs

1. **Insufficient Financial Resources:** Developing countries, where biodiversity loss is most acute, face funding shortfalls. For instance, COP15 set a target to mobilize \$200 billion per year, yet actual commitments fall short, impeding conservation efforts

2. **Lack of Binding Enforcement Mechanisms:** Unlike the Paris Agreement, UNCBD commitments are voluntary, leading to slower progress as countries are not held legally accountable for non-compliance.
3. **Balancing Conservation and Development Needs:** Countries rich in biodiversity, like Brazil, face pressures between conservation and economic activities such as agriculture, often compromising biodiversity goals.
4. **Indigenous Rights and Benefit Sharing:** Indigenous communities, critical to conservation, often lack fair access to benefits. The uneven implementation of the Nagoya Protocol highlights challenges in equitable benefit-sharing, especially for genetic resources used in biotechnology
5. **Monitoring and Data Collection Challenges:** Limited capacity for accurate data collection hampers tracking of biodiversity targets, with only 20% of countries meeting data standards for assessment.
6. **Geopolitical Tensions:** Global crises, such as the COVID-19 pandemic, delayed COP15 and diverted resources from biodiversity conservation to economic recovery efforts.

WAY FORWARD FOR STRENGTHENING THE GLOBAL BIODIVERSITY FRAMEWORK

1. **Establish Legally Binding Targets:** Similar to the Paris Agreement, introducing binding biodiversity targets with sanctions for non-compliance would improve accountability.
2. **Increase Financial Resources:** Developed countries should boost funding for biodiversity. Innovative solutions like biodiversity credits, akin to carbon credits, could attract private investment.
3. **Enhance Data Monitoring:** Utilizing satellite imagery and AI for real-time monitoring can aid accurate tracking of biodiversity changes, as seen in the UN Biodiversity Lab
4. **Integrate Biodiversity in National Policy:** Countries should adopt “No Net Loss” policies to balance development with biodiversity conservation. The EU’s Green Infrastructure Strategy serves as a model by integrating biodiversity into regional policies.
5. **Strengthen Coordination with Climate Agreements:** Aligning the UNCBD with the UNFCCC and UNCCD could address interconnected issues like deforestation and climate resilience, enhancing collective environmental outcomes.
6. **Develop Public Awareness Programs:** Community-led initiatives, such as Japan’s Satoyama Initiative, can boost local engagement and stewardship of biodiversity

The UNCBD plays an essential role in global biodiversity conservation, but its effectiveness depends on enhanced compliance, innovative financing, and stronger data systems. By adopting these strategies, the UNCBD can build a resilient, inclusive framework for biodiversity protection, addressing both ecological and community needs while paving the way for a sustainable future.

21. MILLETS IN INDIA

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Indian Agriculture

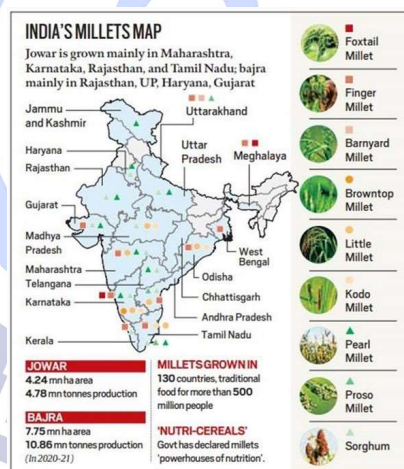
REFERENCE NEWS:

Removing the bran from millets results in decreasing the protein, dietary fibre, fat, mineral and phytate content in them, while increasing the carbohydrates and amylose content, a recent paper in the peer-reviewed journal Nature Springer has shown. This removal could squander away the benefits of eating millets. Removing the bran from millets -- **dehusking** -- could squander away the benefits of eating them, say the authors who studied five small Indian millets: foxtail, little, kodo, barnyard, and proso.

SIGNIFICANCE OF MILLETS IN INDIA:

India is a leading producer of millets, accounting for about **20% of the global production** and **80% of Asia's production**.

- Millets are resilient, drought-resistant, and thrive in semi-arid regions, making them ideal for Indian climates. They require warm temperatures for germination and development and are sensitive to frost.
- Millets are high in minerals such as calcium, iron, phosphorus, and potassium, and they are an excellent source of phyto-chemicals such as phenolic compounds when compared to other major cereals (rice, wheat, maize), conferring a range of health benefits such as antiaging, anticarcinogenic, anti-atherosclerogenic, antibacterial, and antioxidant effects and have low glycemic index.



- According to the 2021-2022 estimates, millet production was around 17.96 million tonnes.
- Millets have historically been part of the Indian diet, especially in rural areas and semi-arid regions. However, with the Green Revolution and a shift to rice and wheat consumption, millets saw a decline in popularity and were rendered as orphan crops.
- Urban consumers are increasingly adopting millets as they are seen as “superfoods” due to their high nutrient content. Food brands are also introducing millet-based snacks, breakfast cereals, and health products.
 - Karnataka launched the "**Siridhanya**" (millets) program to promote millet-based diets in schools, helping children consume more nutritious meals by integrating them into midday meal schemes.
- Millets are often cultivated by small-scale and marginal farmers, who benefit from their resilience and low input costs. In drought-prone areas, millets provide stable income as they require less water and can withstand challenging conditions.

- The “**Millet Mission**” in Odisha has improved farmer awareness, leading to increased millet cultivation and production. The state’s program has directly benefited thousands of small-scale farmers and improved dietary diversity.
- The Government of India declared 2023 as the International Year of Millets and launched several initiatives to boost millet production and consumption. Under the National Food Security Mission (NFSM) – Coarse Cereals, farmers receive subsidies for seeds, machinery, and pest management.
- Millet exports have shown promising growth. In 2022, India exported millets worth USD 64 million, with major export destinations including Nepal, Saudi Arabia, and the United Arab Emirates. The government has set ambitious targets to increase millet exports to USD 100 million by 2025.
 - The **One District, One Product (ODOP) initiative** by the Ministry of Agriculture has identified specific districts to promote millet cultivation and processing, which helps small-scale farmers access markets and increase their incomes.
- Millets require 70% less water than rice and have a shorter growing season, reducing the environmental impact of water-intensive crops. They are well-suited to dry regions and can grow on low-fertility soils.
 - Rajasthan produces about 6 million tonnes of pearl millet annually, representing approximately 40% of India’s total millet production. This state’s arid climate is particularly suited to pearl millet, which requires minimal water.
- Millets require minimal fertilizers and pesticides, promoting soil health and reducing environmental degradation. Their deep root systems improve soil structure and prevent erosion.
- As global temperatures rise and rainfall patterns become unpredictable, millets are ideal for adaptation, offering food security under adverse climatic conditions.
 - In Andhra Pradesh’s Anantapur district, millet cultivation has helped combat drought and has reduced dependence on water-intensive crops, ensuring food security in a region with frequent droughts.

FINDINGS OF DEBRANNING OF MILLETS:

- **Advantages of Whole-Grain Millets:** Researchers emphasize consuming millets as whole grains to maximize nutritional benefits. Debranned millets, although easier to cook, are nutritionally inferior and can raise the glycemic load of Indian diets.
- **High Mineral Content and Health Benefits:** Compared to other cereals like rice, wheat, and maize, millets are rich in minerals such as calcium, iron, phosphorus, and potassium. They also provide essential phytochemicals, including phenolic compounds, which offer health benefits like anti-aging, anti-carcinogenic, anti-atherosclerogenic, antibacterial, and antioxidant effects.
- **Increased Focus on Millets in 2023:** The Food and Agriculture Organization designated 2023 as the International Year of Millets, with strong promotional support from the Indian government.
- **Market Trends and Concerns:** A 2018 market survey revealed millets, polished like white rice, are commonly available in stores, making it difficult to distinguish between polished and whole-grain millets in packaged products.
- **Reasons for Polishing Millets:** Polishing extends shelf life, as millet bran is high in fats that can become rancid. Debranning also reduces cooking time and makes the grain softer and less chewy.
- **Health Implications for Diabetics:** According to experts, while millets provide phytonutrients and proteins beneficial to health, polished millets lead to a high glycemic index, which can be detrimental for diabetics. Efforts are needed to make unpolished, whole-grain millets more accessible for those managing diabetes.

CHALLENGES OF MILLET PRODUCTION IN INDIA:

- **Low Yields Compared to Other Staple Crops:** Millets generally have lower yields than mainstream staples like rice and wheat, making them less economically attractive to farmers.
 - The average yield of rice in India is around **2,500 kg per hectare**, whereas millets such as pearl millet average only around **1,200 kg per hectare**.

- **Lack of Adequate Market Infrastructure and Support:** Millets lack the established procurement and distribution infrastructure that exists for rice and wheat through agencies like the Food Corporation of India (FCI). This results in low market access and price realization for farmers.
 - In states like Rajasthan, farmers often sell millets in local mandis at low prices due to the absence of Minimum Support Price (MSP) or organized procurement support.
- **Inadequate Processing and Storage Facilities:** Millets are more challenging to process than rice or wheat due to their small grain size and hard outer husk, requiring specialized machinery and techniques. Additionally, millet grains have a shorter shelf life if not processed correctly, leading to storage issues.
 - Karnataka, a major millet-producing state, has struggled with processing capacity, resulting in post-harvest losses and reduced income for farmers.
- **Low Consumer Awareness and Demand:** Despite their nutritional benefits, consumer awareness of millets remains low in urban areas, and they are often seen as "inferior" grains compared to rice or wheat. The lack of recipes and culinary knowledge around millets also limits consumer interest.
 - In 2018, the **National Nutrition Survey** indicated that urban Indians consume an average of only **3 kg of millets per year** compared to **over 70 kg of rice**. This low demand affects production incentives for farmers.
- **Climate and Water Dependency in Certain Regions:** Although millets are drought-resistant, climate variability and erratic rainfall can affect yields, especially in regions that do not have irrigation facilities.
 - In Maharashtra and Karnataka, inconsistent rainfall has led to reduced yields in recent years, impacting the production of pearl millet and finger millet, which are predominantly rainfed crops.
- **Lack of Research and Development Support:** Compared to major crops, millets receive limited funding and attention in agricultural research, which hinders the development of high-yielding, pest-resistant varieties.
 - As of 2020, only a small fraction of India's agricultural research budget was allocated to millets, with most funds directed to rice, wheat, and cash crops.
- **Inadequate Policy Support and Limited MSP:** Unlike rice and wheat, which are backed by strong MSP policies and procurement systems, millets lack sufficient MSP support across many states. This leaves farmers without assured income security.
 - In most states, millet MSPs are set, but procurement by government agencies is inconsistent or non-existent. As a result, in states like Rajasthan and Haryana, millet farmers rely on private buyers who may offer lower prices.
- **Competition from More Profitable Crops:** Millets face stiff competition from crops like rice, wheat, and cash crops that are often more profitable and have better-established support systems.
 - In Punjab and Haryana, farmers receive heavy subsidies for growing rice and wheat due to government-backed procurement schemes. This has led to a decline in millet cultivation, as farmers opt for crops with more lucrative returns.
- **Post-Harvest Losses and Pest Issues:** Millets are prone to post-harvest losses due to pests, fungi, and inadequate storage, which impact grain quality and reduce farmer income.
 - Studies from the **Indian Council of Agricultural Research (ICAR)** have shown that post-harvest losses in millets can range from 10-15% due to lack of proper storage facilities and pest control measures.
- **Limited Integration into Public Distribution System (PDS):** While a few states have included millets in the PDS, rice and wheat still dominate. This limits millet consumption among lower-income groups who rely heavily on PDS for food security.

- Karnataka has included millets in its PDS on a trial basis, but other states have been slow to adopt similar policies due to logistical challenges and limited procurement.

WAY FORWARD:

Awareness Campaigns and Public Education

- **National Nutrition Strategy (2017):** The NITI Aayog emphasized awareness campaigns that highlight the health benefits of millets, promoting them as “nutri-cereals” and encouraging their integration into diets.
- **MS Swaminathan Committee:** Recommended conducting awareness programs in schools and public institutions to educate people about the nutritional and environmental benefits of millets.
- **FAO’s “Smart Food” Initiative:** FAO suggests promoting millets as “smart foods” due to their nutritional and environmental advantages. Educational campaigns on media platforms (TV, radio, and digital) are recommended to highlight the role of millets in sustainable diets and climate resilience.
- **China’s Millet Promotion in Schools:** China has integrated millet-based meals into its school lunch programs, familiarizing young students with millet consumption from an early age.

Incorporating Millets into Public Distribution Systems (PDS) and Welfare Programs

- **Millet Mission Recommendations:** Suggested including millets in the PDS to make them accessible to low-income groups, addressing both food security and nutritional needs. States like Karnataka and Odisha have taken steps in this direction.
- **Ashok Dalwai Committee on Doubling Farmers’ Income:** Proposed subsidies and incentives for millet inclusion in government food schemes like PDS, Integrated Child Development Services (ICDS), and midday meals.
- **Subsidizing Millet Production and Procurement:** FAO recommends subsidies for millet farmers to promote production, alongside procurement mechanisms for distribution through public food programs.
- **Japan’s Food Education Policy:** Japan’s “Shokuiku” (food education) initiative includes traditional grains in national nutrition programs, familiarizing people with native grains through public meal plans and school curricula.

Encouraging Millet Farming through Incentives and Subsidies

- **National Food Security Mission (NFSM):** Recommended incentives for millet cultivation, such as seed subsidies, machinery support, and irrigation facilities in millet-producing regions.
- **Incentivizing Climate-Smart Agriculture:** FAO advocates for policies that provide financial and technical support for climate-resilient crops like millets. This includes drought-resistant seed varieties, organic fertilizers, and low-cost pest management practices.
- **Ethiopia’s Drought-Resistant Crops Initiative:** Ethiopia promotes the cultivation of drought-tolerant crops, including sorghum and millets, by offering subsidies and technical support. This has increased millet cultivation in arid regions.

Developing Millet-Based Food Processing and Value-Added Products

- **Ministry of Food Processing Industries (MoFPI) Recommendations:** Encourages investments in millet-based food processing units to create ready-to-eat millet products, which can increase millet’s appeal among urban consumers.
- **National Millet Mission:** Suggested that millet-based products like biscuits, noodles, and breakfast cereals be promoted in retail markets to cater to health-conscious consumers and the growing demand for convenient foods.
- **Nigeria’s Millet Value Chain Development:** Nigeria has developed a millet value chain program that helps farmers create products like millet flour, pasta, and snacks, which has increased demand for millets domestically.
- **Australia’s Native Grains Initiative:** Australia promotes native grains, including millets, through grants for small-scale food processing and branding, targeting the growing health-conscious market.

Incentivizing Farmers to Shift from Water-Intensive Crops

- **National Mission for Sustainable Agriculture (NMSA):** Promotes crop diversification, encouraging farmers to shift from water-intensive crops like rice and sugarcane to drought-resistant millets through incentives and technical support.
- **Report of the Commission for Agricultural Costs and Prices (CACP):** Suggested MSP for millets to provide competitive pricing, making them financially attractive alternatives to water-intensive crops.
- **Water-Saving Incentives:** FAO recommends policies that reward farmers for water conservation practices, such as switching to millets, which have a smaller water footprint.
- **Israel's Water-Efficient Agriculture:** Israel has incentivized farmers to adopt water-efficient crops by subsidizing irrigation technology and promoting drought-resistant grains, which India could adapt to reduce water usage.

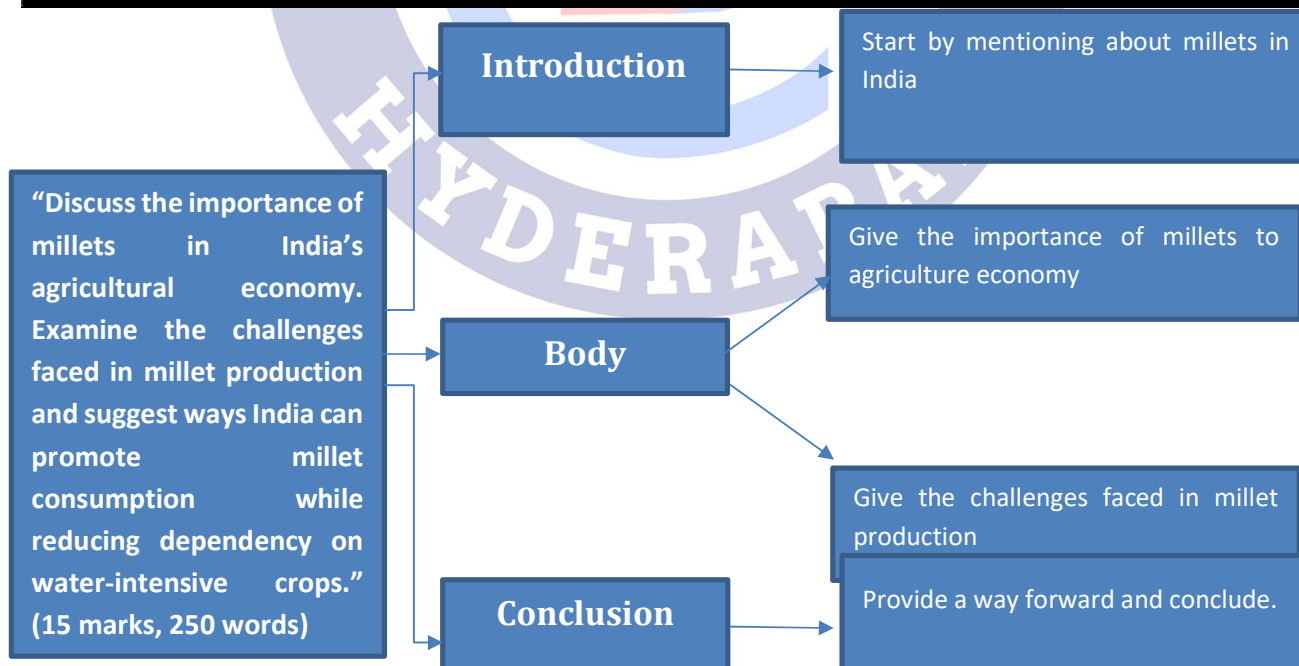
Improving Research and Development for Millet Cultivation

- **Indian Council of Agricultural Research (ICAR):** Recommended boosting millet research to develop high-yield, pest-resistant varieties, focusing on soil health and crop resilience.
- **Swaminathan Research Foundation:** Suggested investing in biofortification of millets and development of millet-specific fertilizers to increase yields and appeal to health-conscious consumers.
- **USA's Sorghum and Millet Breeding Program:** The U.S. has extensive research programs for sorghum and millet, developing varieties that thrive in diverse climates. India could adopt similar initiatives through public-private research collaborations.

PRACTICE QUESTION

Q. "Discuss the importance of millets in India's agricultural economy. Examine the challenges faced in millet production and suggest ways India can promote millet consumption while reducing dependency on water-intensive crops." (15 marks, 250 words)

APPROACH



MODEL ANSWER

Millets, once a staple crop in India, are resilient, drought-resistant grains suitable for India's semi-arid regions. Despite their nutritional benefits and environmental sustainability, millet production has declined in favor of water-intensive crops like rice and wheat. Recently, the government's focus on millets has increased, with 2023 designated as the International Year of Millets.

IMPORTANCE OF MILLETS IN INDIA'S AGRICULTURAL ECONOMY

1. **Environmental Sustainability:** Millets require 70% less water than rice and thrive on low-fertility soils, making them ideal for India's dry regions.
 - Example: **Rajasthan**, India's largest pearl millet producer, utilizes its arid climate to produce around 6 million tonnes of millet annually, reducing dependency on irrigation
2. **Nutritional Benefits:** Millets are rich in calcium, iron, and other essential nutrients, providing a low-glycemic food source. Their high fiber content makes them ideal for diabetes management and combating malnutrition.
 - Finding: According to a study in *Nature Springer*, whole-grain millets have greater nutritional benefits than processed ones, as debranning removes vital proteins and minerals
3. **Economic and Employment Opportunities:** Millet cultivation supports small-scale farmers, especially in drought-prone regions, by offering a low-cost, resilient crop option.
 - Programs like **Odisha's Millet Mission** have increased millet production, benefiting thousands of small-scale farmers and improving dietary diversity

CHALLENGES IN MILLET PRODUCTION

1. **Low Yields Compared to Other Crops:** The average yield of millet is about half that of rice, discouraging farmers from cultivating it.
 - Example: Rice averages **2,500 kg/ha** in yield compared to **1,200 kg/ha** for pearl millet, making rice more attractive financially
2. **Inadequate Market Infrastructure:** Millets lack procurement and distribution systems like rice and wheat. This reduces farmer income and market accessibility.
 - Example: Farmers in **Rajasthan** often sell millets at low prices due to limited Minimum Support Price (MSP) support
3. **Consumer Awareness and Demand:** Millets are often perceived as "inferior grains" and are less popular in urban areas.
 - Statistic: Urban Indians consume around **3 kg** of millets per year compared to **70 kg** of rice, limiting demand and production incentives
4. **Lack of Research and Development:** Millet crops receive limited R&D funding, which hinders the development of high-yield, pest-resistant varieties.
 - Example: As of 2020, millets received a minimal portion of India's agricultural research budget compared to rice and wheat

WAYS FORWARD TO PROMOTE MILLET CONSUMPTION AND REDUCE WATER-INTENSIVE AGRICULTURE

1. **Awareness Campaigns and Public Education:**
 - **National Nutrition Strategy (NITI Aayog):** Emphasizes the need for campaigns highlighting millets as "nutri-cereals." School programs, media campaigns, and public awareness can shift consumer attitudes
 - **FAO's "Smart Food" Initiative:** Promotes millet as a "smart food" due to its climate resilience and nutritional benefits. Campaigns on TV, radio, and digital platforms can increase awareness.

2. **Incorporation into Public Distribution Systems (PDS):**
 - **Ashok Dalwai Committee:** Recommends including millets in PDS, Integrated Child Development Services (ICDS), and midday meals. Karnataka and Odisha have already taken steps to distribute millets in PDS, improving accessibility
3. **Incentivizing Millet Farming through Financial Support:**
 - **National Food Security Mission (NFSM):** Proposes financial incentives like seed subsidies, machinery support, and irrigation facilities to make millet farming attractive.
4. **Developing Millet-Based Food Processing and Value-Added Products:**
 - **Nigeria's Millet Value Chain:** Nigeria's initiative to produce millet-based products like pasta and snacks can be a model for India to add value to millet products and boost domestic demand.
5. **Transition from Water-Intensive Crops with Financial Incentives:**
 - **National Mission for Sustainable Agriculture (NMSA):** Advocates crop diversification, encouraging farmers to switch from water-intensive crops to drought-resistant millets.
6. **Strengthening Research and Development (R&D):**
 - **Swaminathan Research Foundation:** Suggests investing in biofortified millet varieties to make millets more nutritious and appealing to health-conscious consumers.

Millets offer a sustainable solution to India's agricultural challenges by supporting water conservation, rural livelihoods, and food security. Increasing consumer awareness, improving infrastructure, and providing financial incentives can promote millet adoption while reducing dependence on water-intensive crops.



22. CARBON CREDIT MECHANISM

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Environment and Ecology >> Environment Conservation >>> Climate Change

REFERENCE NEWS:

The **Conference of Parties-29**, from November 11 to 22, 2024, in **Baku, Azerbaijan**, is about to shift focus to the heated discussion on the aspect of **climate finance** again. An essential component of this discussion will be the **carbon credits framework** and disagreements over it between developed and developing countries. India updated its **Nationally Determined Contributions (NDCs)** in 2023 to underline, among other things, the establishment of a **domestic carbon market** as a part of its climate strategy.

CARBON CREDIT MECHANISM:

- The Carbon Credit Mechanism is a **market-based approach** designed to reduce greenhouse gas (GHG) emissions by assigning economic value to carbon reductions.
- Under this system, organizations or countries earn "**carbon credits**" when they reduce or avoid emissions, and these credits can be traded or sold to others that need to offset their own emissions. Each carbon credit typically represents a reduction of one metric ton of CO₂ or its equivalent in other greenhouse gases.
- **Article 6 of the Paris Agreement** sets out how countries can pursue voluntary cooperation to reach their climate targets. It enables international cooperation to tackle climate change and unlock financial support for developing countries.
- Under Article 6, countries are able to **transfer** carbon credits earned from the reduction of greenhouse gas emissions to help one or more countries meet their climate targets. There are three tools which countries can draw upon under Article 6, one of which is the **Paris Agreement Crediting Mechanism (PACM) - the UN's new high-integrity carbon crediting mechanism**.
- Carbon credits are generated by projects that either reduce or prevent carbon emissions, such as renewable energy projects, afforestation, or methane capture. These credits become **tradeable assets** in carbon markets.
- **Compliance vs. Voluntary Markets:** Carbon credits are traded in two main types of markets:
 - **Compliance Markets:** This is a regulated market where entities are mandated to meet specific emission targets. India is moving toward establishing a compliance market, mainly driven by the **Perform, Achieve, and Trade (PAT)** scheme initiated by the Bureau of Energy Efficiency (BEE).
 - **Voluntary Markets:** The voluntary carbon market allows companies or individuals to buy carbon credits to offset their emissions on a voluntary basis. Companies and organizations, especially those with CSR mandates or sustainability goals, participate in this market to demonstrate climate leadership.
- **Carbon Offsetting and Net Zero:** Carbon offsetting is a method used by individuals, companies, and governments to compensate for their greenhouse gas emissions by funding an equivalent amount of carbon savings elsewhere. This often involves investing in projects that reduce emissions, such as renewable energy, forest conservation, or reforestation initiatives. Entities can achieve "net zero" by balancing emissions with equivalent reductions or removals, often achieved by purchasing carbon credits to offset unavoidable emissions.

INDIA'S CARBON CREDIT MECHANISM:

- **The Clean Development Mechanism (CDM):** The CDM, established under the Kyoto Protocol, allowed developed countries to invest in emission-reducing projects in developing nations to earn carbon credits (Certified Emission Reductions or CERs).

- India has been one of the largest beneficiaries of CDM, with over 1,600 registered projects (approximately 30% of global CDM projects) as of 2022, contributing to around 246 million CERs generated.
- **Perform, Achieve, and Trade (PAT) Scheme:** The PAT scheme **targets energy-intensive industries**. The scheme sets energy efficiency improvement targets, and companies that surpass their targets receive **Energy Saving Certificates (ESCs)**, which they can sell to other entities within the same sector that fail to meet their targets.
 - In the cement industry, ACC Limited, one of India's largest cement companies, met its energy savings targets, enabling it to generate ESCs. These certificates are then tradable on platforms like the Indian Energy Exchange (IEX).
- **Renewable Energy Certificates (RECs):** The REC mechanism was introduced to help entities meet their **Renewable Purchase Obligations (RPOs)** without setting up their own renewable energy sources. RECs represent one megawatt-hour (MWh) of electricity generated from renewable sources.
 - The REC market in India has grown significantly, with over 88 million RECs traded as of 2023. By purchasing RECs, entities support renewable energy projects while meeting compliance.
- **Carbon Credit Trading Platform:** In 2023, India introduced the **Carbon Market Bill** as part of its strategy to establish a national carbon credit trading platform. This platform is expected to consolidate mechanisms like PAT and RECs and broaden carbon trading across more sectors. Building on the Electricity Conservation Act, 2001, and the Environment (Protection) Act, 1986, India launched the CCTS to reduce GHG emissions by trading carbon credit certificates. The compliance segment of CCTS will commence in 2025-26, allowing non-obligated entities to participate and trade carbon credit certificates (CCCs).
- **Net Zero Pledge:** India aims to reach net zero emissions by 2070. The carbon credit mechanism is a key tool for achieving this target, providing incentives for low-carbon projects across sectors.
- India has been among the top three countries supplying CERs worldwide, alongside China and Brazil.
- **Carbon Credit Generating Projects in India**
 - The ReNew Power Wind Project in Gujarat is registered under international carbon standards, generating carbon credits that are sold globally.
 - **Methane Capture Projects:** The Sardar Patel Renewable Energy Research Institute's (SPRERI) biogas plant captures methane emissions from organic waste and converts them into energy, reducing both CO₂ and methane emissions.
 - **Industrial Emission Reduction Projects:** Tata Steel has implemented a CDM project that reduces nitrous oxide emissions from its manufacturing processes.

BENEFITS OF CARBON CREDIT MECHANISM:

- **Promotes Clean Energy and Reduces Fossil Fuel Dependence:** Carbon trading mechanisms encourage companies to invest in renewable energy, as credits earned from renewable projects can be traded for profit. This reduces reliance on fossil fuels and supports India's renewable energy targets.
 - As of 2023, India's renewable energy capacity exceeded 170 GW (mainly from wind and solar), significantly supported by carbon credit revenue streams that make renewable projects more economically viable.
- **Encourages Energy Efficiency in Industries:** Under the Perform, Achieve, and Trade (PAT) scheme, industrial units receive Energy Savings Certificates (ESCs) for surpassing their energy efficiency targets. These certificates can be traded, incentivizing other companies to meet their efficiency targets.

- By the end of the PAT scheme's first cycle, it had saved around 14 million tons of CO₂ equivalent emissions, demonstrating the scheme's effectiveness in improving industrial energy efficiency across sectors like steel, aluminum, and textiles.
- **Generates Revenue and Attracts Foreign Investment:** Carbon credits provide an additional revenue stream for projects that reduce emissions, particularly in sectors like renewable energy, forestry, and waste management and also attracts foreign investment.
 - Indian renewable energy projects, such as those by companies like Greenko and Suzlon, have generated millions of carbon credits, attracting international buyers. India has been one of the largest suppliers of carbon credits globally, contributing over 246 million CERs through Clean Development Mechanism (CDM) projects by 2022, and attracting investment from entities seeking affordable offsets.
- **Supports Climate Goals:** Carbon trading helps India achieve its commitments under the Paris Agreement, including reducing the carbon intensity of its GDP by 45% by 2030. The revenue from carbon credits supports projects that directly contribute to these goals.
 - Waste-to-energy projects in India, such as the Okhla Waste-to-Energy Plant in Delhi, capture methane (a potent GHG) from waste and convert it into electricity. This project not only reduces landfill emissions but also generates carbon credits, which can be sold to help fund operations.
- **Drives Rural Development and Job Creation:** Carbon credit projects often focus on rural or underdeveloped areas, creating employment and fostering economic development. Projects like afforestation, renewable energy, and bio-digester plants provide local jobs, improve infrastructure, and encourage sustainable practices.
 - The Bagepalli CDM Reforestation Project in Karnataka involved reforesting degraded lands, sequestering CO₂, and earning carbon credits. The project created local jobs in planting, monitoring, and maintaining forests while also providing an additional revenue stream to the local communities through the sale of carbon credits.
- **Incentivizes Sustainable Waste Management:** Carbon trading encourages sustainable waste management practices by enabling projects that capture methane emissions or convert waste to energy to earn carbon credits, which can then be sold.
 - The Pune Waste-to-Energy Project converts organic waste into electricity and generates carbon credits, reducing both methane emissions and the city's dependence on fossil fuels. According to studies, proper waste management could reduce 15-20% of methane emissions in India, which is a highly potent GHG.
- **Prepares India for Participation in Global Carbon Markets:** By developing a structured carbon trading system, India can position itself as a key player in international carbon markets. This could lead to future linkages with other national and regional carbon markets, creating further opportunities for economic growth and sustainability.
 - India's new Carbon Market Bill 2023 lays the foundation for a national compliance carbon market that can potentially link with international markets, allowing for greater market liquidity and trading opportunities.

CHALLENGES OF CARBON CREDIT MECHANISM:

- **Volatile Carbon Credit Prices:** Carbon credit prices can fluctuate significantly based on market demand, supply, and regulatory changes. This volatility makes it difficult for project developers to predict revenues, which may discourage long-term investments.
 - Under the Clean Development Mechanism (CDM), the prices of Certified Emission Reductions (CERs) dropped sharply in the 2010s, from over \$20 per ton to as low as \$0.40 in some cases. This decline reduced the profitability of Indian projects registered under CDM, leaving many projects underfunded or abandoned.
- **Regulatory Uncertainty and Fragmented Market Framework:** India's carbon market is fragmented, with several overlapping mechanisms like the Perform, Achieve, and Trade (PAT)

scheme and Renewable Energy Certificates (RECs). Additionally, India's proposed national carbon market under the Carbon Market Bill 2023 is still under development, leading to uncertainty about how existing systems will integrate.

- As of 2024, India is developing a unified carbon market platform, but uncertainties around implementation and integration remain. This disjointed structure limits private-sector participation and complicates the regulatory landscape.
- **Lack of Demand for Indian Carbon Credits in International Markets:** The demand for Indian carbon credits, especially under the CDM, has decreased due to regulatory shifts and the availability of cheaper credits from other countries. India has faced challenges in ensuring international acceptance of its credits under the Paris Agreement's Article 6.
 - By 2022, over 200 million unsold CERs from Indian projects remained unused due to lack of demand and low prices, which greatly impacted Indian CDM projects and led to project delays or terminations.
- **Verification and Monitoring Challenges:** Carbon credit projects require rigorous monitoring, reporting, and verification (MRV) to ensure that emissions reductions are real, measurable, and additional.
 - According to India's Ministry of Environment, Forest, and Climate Change, small-scale projects in rural areas, such as biogas and micro-hydro, struggle with MRV due to limited access to skilled personnel and monitoring technology, raising concerns over the credibility of carbon reductions claimed.
- **High Project Development and Transaction Costs:** Developing a carbon credit project can be costly, especially in terms of setting up, certification, monitoring, and reporting. These costs reduce the net profit for project developers, especially for small-scale projects or those in remote regions.
 - The World Bank estimated that MRV costs could amount to over 30% of the carbon credit revenue for small projects, deterring small and medium enterprises (SMEs) from entering the carbon credit market due to reduced profitability.
- **Limited Awareness and Capacity in Domestic Sectors:** Many industries and organizations in India, especially smaller ones, lack awareness of carbon credit mechanisms and how they could benefit from participating. This limits the pool of projects and sectors that could contribute to emissions reductions.
 - According to the Bureau of Energy Efficiency, only about 10% of eligible industries in sectors like textiles and leather actively participate in carbon trading programs due to limited understanding of the process and benefits.

WAY FORWARD:

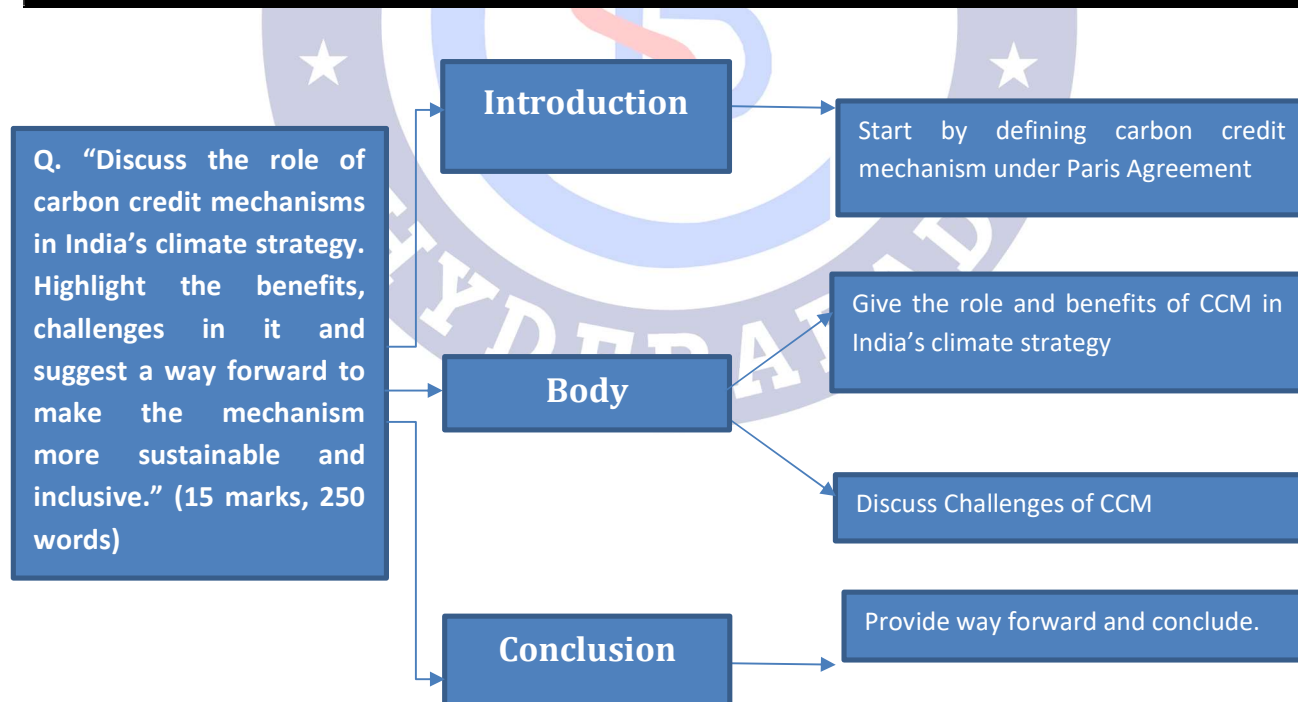
- **Develop a Unified and Transparent Regulatory Framework:** The EU's Emissions Trading System (ETS) offers clear guidelines, predictable rules, and strong oversight, which enhance market stability and investor confidence. India could create similar regulatory structures for consistency and trust.
- **Introduce a Price Floor for Carbon Credits to Stabilize Revenue:** The UK Carbon Price Support mechanism prevents the carbon price from falling below a certain level, which has encouraged steady investment in emission reduction projects.
- **Enhance Monitoring, Reporting, and Verification (MRV) Systems:** Japan's Joint Crediting Mechanism (JCM) uses blockchain technology to provide accurate, verifiable records, increasing the reliability and credibility of emission reduction claims.
- **Promote Inclusion of Diverse Sectors, Including Agriculture and Small-Scale Projects:** Colombia's Amazon Forest Conservation Project earns carbon credits by engaging rural communities and indigenous groups in forest protection, creating income opportunities while reducing deforestation.

- **Set Up a Carbon Credit Clearing House to Reduce Transaction Costs:** California’s cap-and-trade program includes a clearinghouse, making it easier for local businesses to trade credits efficiently and reducing transaction costs for small and medium-sized entities.
- **Encourage International Participation through Article 6 of the Paris Agreement:** Switzerland and Peru signed a bilateral agreement under Article 6 to exchange carbon credits, creating a framework for countries to benefit mutually from carbon reduction efforts.
- **Introduce Mechanisms to Avoid Double Counting:** The EU ETS requires clear reporting protocols to avoid double counting, which has been effective in ensuring transparency and compliance with international standards.
- **Educate and Raise Awareness Among Stakeholders:** Canada’s federal government funds training and educational programs on carbon markets to ensure small businesses and local industries are equipped to participate.
- **Create Incentives for Sustainable Development Co-Benefits:** Costa Rica’s carbon credits prioritize projects that also protect biodiversity and improve local livelihoods, which increases their appeal to both national and international buyers.
- **Build Market Confidence with Robust Third-Party Verification:** Projects certified by the Gold Standard are more valuable on the market due to rigorous verification, attracting higher prices and providing assurance to buyers.

PRACTICE QUESTION

Q. “Discuss the role of carbon credit mechanisms in India’s climate strategy. Highlight the benefits, challenges in it and suggest a way forward to make the mechanism more sustainable and inclusive.” (15 marks, 250 words)

APPROACH



MODEL ANSWER

The carbon credit mechanism is a market-driven approach to reduce greenhouse gas (GHG) emissions by assigning economic value to carbon reductions. India, as a significant emitter and a developing economy, has adopted carbon credit mechanisms as part of its climate strategy to meet its Nationally Determined Contributions (NDCs) and to achieve net-zero emissions by 2070. This system not only helps in reducing emissions but also contributes to sustainable development and international cooperation under the Paris Agreement's Article 6 framework.

ROLE AND BENEFITS OF THE CARBON CREDIT MECHANISM IN INDIA:

- **Promotes Clean Energy and Reduces Fossil Fuel Dependence:** Carbon credits incentivize renewable energy projects, such as solar and wind. For instance, the ReNew Power wind project in Gujarat generates carbon credits that are traded internationally, supporting India's renewable capacity of over 170 GW as of 2023
- **Encourages Industrial Energy Efficiency:** Under the Perform, Achieve, and Trade (PAT) scheme, industries receive Energy Savings Certificates (ESCs) for exceeding energy efficiency targets. By 2020, this scheme had saved approximately 14 million tons of CO₂, showcasing its effectiveness in sectors like steel and cement
- **Generates Revenue and Attracts Foreign Investment:** India is a major supplier of carbon credits through the Clean Development Mechanism (CDM), generating over 246 million Certified Emission Reductions (CERs) as of 2022. This has attracted international investments, with companies like Suzlon and Greenko selling millions of credits globally
- **Supports Sustainable Waste Management:** Carbon credits encourage waste-to-energy projects, such as the Okhla plant in Delhi, which captures methane from waste and reduces fossil fuel use. Methane capture could potentially reduce 15-20% of methane emissions in India, a highly potent GHG

CHALLENGES FACING INDIA'S CARBON CREDIT MECHANISM:

- **Volatile Prices:** Carbon credit prices fluctuate, making revenue prediction difficult and discouraging investment. For example, CER prices fell from over \$20 to below \$0.40 per ton during the 2010s, impacting Indian CDM projects
- **Regulatory Uncertainty and Fragmented Framework:** India's market is fragmented, with multiple overlapping schemes (PAT, REC), creating confusion for investors. Uncertainty about integrating these into a cohesive national system further complicates participation
- **Verification and Monitoring Issues:** Ensuring transparency and accuracy in emissions reporting is challenging, especially for small-scale rural projects that lack advanced monitoring resources
- **High Transaction Costs:** The costs of project certification, monitoring, and reporting are high, especially for small projects, reducing profitability and discouraging smaller enterprises from participating
- **Limited International Demand:** Regulatory shifts and cheaper credits from other countries have reduced demand for Indian credits, with over 200 million CERs from Indian projects remaining unsold

WAY FORWARD:

- **Develop a Unified Regulatory Framework:** A centralized authority for carbon trading can streamline the existing mechanisms under a single platform, similar to the EU's Emissions Trading System (ETS). This would simplify compliance and enhance investor confidence
- **Introduce a Price Floor:** Setting a minimum price for carbon credits, as seen in the UK, could stabilize revenue and make projects more financially viable for long-term investment
- **Enhance MRV Systems:** Implement digital tools like blockchain for real-time monitoring, which would increase transparency, particularly for rural projects. Japan's use of blockchain in carbon monitoring serves as a strong model

- **Promote Inclusion Across Sectors:** Expanding carbon credit opportunities to agriculture and waste management can increase participation. For example, Colombia's Amazon Forest Conservation Project involves local communities, creating income while reducing deforestation
- **Encourage International Participation and Avoid Double Counting:** Partnering under Article 6 and implementing strict double-counting safeguards would make Indian credits more attractive internationally

The carbon credit mechanism offers India a powerful tool to combat climate change while promoting sustainable economic development. However, achieving an inclusive, stable, and effective carbon market requires policy integration, price stability, and international alignment. By addressing these challenges, India can position itself as a global leader in carbon credit trading, balancing growth with environmental responsibility.



23. NATURAL FARMING

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Economic Development >> Agriculture

REFERENCE NEWS:

Natural farming, with its emphasis on biodiversity, soil health, and reduced chemical inputs, is gaining traction across India's agricultural landscape. **Andhra Pradesh, Gujarat and Himachal Pradesh** have emerged as testing grounds for this promising method, showcasing unique models that focus on sustainable agriculture. The 2024-25 Union Budget, with its allocation of substantial resources to natural farming, marks a pivotal moment.

NATURAL FARMING IN INDIA:

- Natural Farming is a **chemical-free** farming system rooted in Indian tradition enriched with modern understanding of ecology, resource recycling and on-farm resource optimization.
- It is considered as **agroecology based diversified farming system** which integrates crops, trees and livestock with functional biodiversity.
- It is largely based on on-farm biomass recycling with major stress on biomass mulching, use of on-farm cow dung-urine formulations; maintaining soil aeration and exclusion of all synthetic chemical inputs.
- Natural farming is expected to reduce dependency on purchased inputs. It is considered as a **cost- effective farming** practice with scope for increasing employment and rural development.
- Many states are already following natural farming and have developed successful models. State of Andhra Pradesh, Karnataka, Himachal Pradesh, Gujarat, Uttar Pradesh and Kerala are among the leading states.
- Natural farming aims at **restoring soil health, maintenance of diversity, ensure animal welfare**, stress on **efficient use of natural/local resources** and promote **ecological fairness**.
- Natural farming is an **ecological farming approach** where farming system works with the natural biodiversity, encouraging the soil's biological activity and managing the complexity of living organisms both plant and animal to thrive along with food production system.
- Important practices, essential for adoption of natural farming includes **no external inputs**, local seeds (use of local varieties), on-farm produced microbial formulation for seed treatment (**bijamrita**), on-farm made microbial inoculants (**Jivamrita**) for soil enrichment, cover crops and mulching with green and dry organic matter for nutrient recycling and for creating a suitable micro-climate for maximum beneficial microbial activity in soil, mixed cropping, managing diversity on farm through integration of trees, management of pests through diversity and local on-farm made botanical concoctions (such as neemastra, agniastra, neem ark, dashparni ark etc), integration of livestock, especially of native breed for cow dung and cow urine as essential inputs for several practices and water and moisture conservation.
- Major Objectives of Natural farming:
 - Preserve natural flora and fauna
 - Restore Soil fertility and production and biological life
 - Maintain diversity of crop production
 - Efficient utilization of land and natural resources (light, air, water)
 - Promote inbuilt natural insects, animals and microbes in soil
 - Promotion of local breeds of Livestock integration
 - Use of Natural / local based inputs
 - Reduce input cost of agricultural production
 - Improve economy of farmers



- **Paramparagat Krishi Vikas Yojana (PKVY):** The **National Mission on Natural Farming** is an upscaling of the Bhartiya Prakritik Krishi Paddati (BPKP) which is a sub-scheme under Paramparagat Krishi Vikas Yojana (PKVY). PKVY provides financial assistance to farmers who want to adopt organic farming practices and encourages them to use eco-friendly techniques for pest management and soil fertility management.
- **Climate Smart Agriculture:** An integrated approach to managing landscapes-cropland, livestock, forests, and fisheries-that address the interlinked challenges of food security and climate change. It aims to tackle three main objectives: sustainably increasing agricultural productivity and incomes, adapting and building resilience to climate change, and reducing greenhouse gas emissions wherever possible.

BENEFITS OF NATURAL FARMING IN INDIA

Natural Farming is a traditional, sustainable agricultural practice that minimizes or eliminates the use of synthetic chemicals like fertilizers and pesticides.

- **Improved Yield and Crop Quality:** According to the **Economic Survey of India**, natural farming helps maintain yield levels while significantly cutting down on input costs, making it a viable alternative to traditional farming.
 - Farmers practicing natural farming in Andhra Pradesh under the **Andhra Pradesh Community Managed Natural Farming (APCNF)** initiative reported similar or higher yields compared to those using chemical fertilizers. The practice of Pre-Monsoon Dry Sowing (PMDS) enhanced soil fertility and reduced water usage.
- **Cost Reduction and Increased Farmers' Income:** According to NITI Aayog, farmers practicing natural farming in India have seen an average reduction in input costs by 60-70%, contributing to a significant increase in their income.
 - In Gujarat's **Dang district**, natural farming initiatives provided a **monthly subsidy of ₹900** for maintaining cows used in preparing bio-fertilizers like Jeevamrit. Farmers also received up to **75% subsidy** on natural farming kits, which further reduced costs
- **Soil Health and Environmental Conservation:** Studies by the Indian Council of Agricultural Research (ICAR) indicate that natural farming significantly increases soil organic carbon, leading to better water retention and nutrient availability.
 - The adoption of natural farming in **Himachal Pradesh** under the **Prakritik Kheti Khushhal Kissan Yojana (PK3Y)** has improved soil health and increased organic content, resulting in sustainable agriculture practices. The scheme has enabled over **54,914 farmers** to adopt chemical-free farming practices on 2,451 hectares of land.
- **Water Conservation:** Natural farming can use up to **10% of the irrigation water** required by conventional farming, highlighting its potential for water-scarce regions in India.
 - Andhra Pradesh's Community Managed Natural Farming (APCNF) relies on early monsoon rains and water-efficient techniques, reducing water usage by **up to 50%** compared to conventional methods
- **Reduced Greenhouse Gas Emissions and Climate Resilience:** According to the United Nations Food and Agriculture Organization (FAO), natural farming practices can sequester carbon in soils, reducing carbon emissions by up to **30%** compared to conventional farming methods.

- In Rajasthan, natural farming practices have been piloted to **reduce carbon and nitrogen footprints**, contributing to climate resilience in arid and semi-arid regions
- **Health Benefits and Food Safety:** Studies suggest that organic and naturally grown foods have **20-40% higher nutrient density** than conventionally grown produce, leading to better health outcomes.
 - In Andhra Pradesh, farmers practicing natural farming have produced food with higher nutritional content, which has been supported by testing and certification standards. This has increased the market value of their produce, making it attractive to health-conscious consumers
- **Employment Generation and Rural Development:** The Andhra Pradesh model has shown that natural farming can engage more farmers, with an estimated **10 million** farmers employed by 2050 compared to **5 million** in an industrial agriculture scenario.
 - The **APCNF initiative** in Andhra Pradesh is expected to employ **twice the number of farmers** compared to conventional agriculture by 2050, reducing unemployment and supporting rural livelihoods
- **Biodiversity Conservation:** Research indicates that farms practicing natural farming support **30-50% more species diversity**, including beneficial insects, pollinators, and soil organisms, compared to conventional farms
 - Gujarat's initiative in **Dang district**, which declared the region as fully natural farming-based, has led to increased agro-biodiversity and the conservation of indigenous crop varieties
- **Resilience to Market Fluctuations:** In Gujarat, the introduction of **Jeevamrit** and other natural inputs has reduced the dependency on expensive fertilizers, helping farmers stabilize production costs and withstand market volatility

CHALLENGES OF NATURAL FARMING:

- **High Labor Intensity and Time Consumption:** The Union Budget 2024-25 emphasized the establishment of **10,000 bio-input resource centres (BRCs)**, but concerns remain about the labour-intensive nature of producing and applying these bio-inputs on a large scale. Farmers in Gujarat's **Dang district** have benefited from mechanization, but many smallholders across India do not have access to such tools
- **Limited Availability of Inputs for Bio-Fertilizers:** In Andhra Pradesh, the shortage of indigenous cows has made it difficult for some farmers to source sufficient cow dung and urine for preparing Jeevamrit. Chhattisgarh's **Godhan Nyay Yojana** faced similar issues, with inconsistent supply chains for cow dung, highlighting the need for reliable and region-specific input resources.
- **Knowledge Gaps and Lack of Awareness:** In Rajasthan's **Kheti Mein Jaan Toh Sashakt Kisan** initiative, the training of farmers was crucial to adopting natural farming, but it was observed that many farmers still lacked confidence in the methods due to limited technical guidance. According to NITI Aayog, the effective dissemination of knowledge and best practices remains a challenge, with multi-location studies needed for scientific validation and farmer confidence building.
- **Challenges in Market Access and Certification:** While the 2024-25 Union Budget focuses on branding and certification for natural products, the scale of this transition is slow. Many farmers find it difficult to obtain certification, which is crucial for fetching higher prices.
- **Inconsistent Yields and Pest Management:** Farmers in regions like Uttar Pradesh reported lower yields during the initial years of transitioning to natural farming due to difficulties in managing pests with natural methods.
- **Lack of Infrastructure and Support Systems:** In Chhattisgarh, the supply chain disruptions in the Godhan Nyay Yojana highlighted the need for better logistical support for bio-inputs. The experience serves as a caution for similar efforts nationwide.

- **Financial Risks and Economic Viability:** In Andhra Pradesh, the shift to Zero Budget Natural Farming (ZBNF) has been challenging for small farmers due to the initial drop in yields and financial instability, though profitability improves in the long run. According to a joint study by the FAO and the Andhra Pradesh government, natural farming can be profitable by 2050, but financial support is needed during the transition phase to mitigate risks.
- **Resistance from Conventional Agricultural Systems:** Farmers in states like Punjab and Haryana, which rely heavily on chemical inputs for high-yielding crops, face cultural and economic barriers to transitioning to natural methods, with significant pushback from the conventional agriculture lobby.

WAY FORWARD:

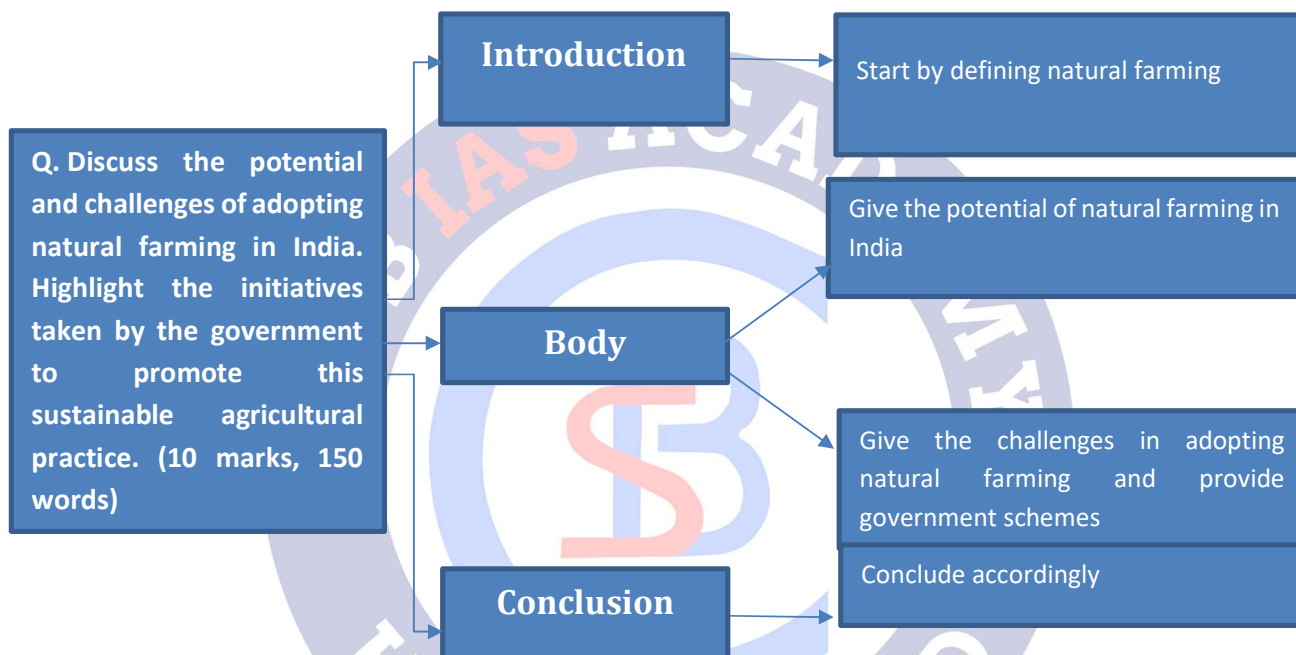
- **Strengthening the Knowledge and Training Infrastructure:** In **Cuba**, the success of sustainable farming has been attributed to comprehensive farmer training and knowledge-sharing networks.
 - Establish a nationwide network of **Natural Farming Resource Centers (NFRCs)** and Farmer Field Schools to offer training on natural inputs like Jeevamrit and Beejamrit, crop rotation, agroforestry, and integrated pest management.
 - Invest in local Krishi Vigyan Kendras (KVKs) and Agricultural Universities to conduct on-field demonstrations and research on natural farming techniques.
 - Utilize successful models like **Andhra Pradesh's Rythu Sadhikara Samstha (RySS)**, which uses farmer-to-farmer training to educate and empower local communities, reducing dependency on external inputs and promoting peer learning.
- **Developing Infrastructure for Bio-Input Production:** In **Brazil**, the Ministry of Agriculture supports local cooperatives for producing bio-fertilizers and natural pesticides.
 - Set up **Community Bio-Input Resource Centers** at the village level to produce and distribute low-cost natural fertilizers and pest control solutions.
 - Encourage Self-Help Groups (SHGs) and cooperatives to manage these centers, generating employment, particularly for rural women.
- **Encouraging Diversified and Integrated Farming Systems:** The **System of Rice Intensification (SRI)** method used in **Madagascar** encourages intercropping and integrated pest management, reducing the need for chemical fertilizers and enhancing crop diversity.
- **Implementing Community-Based Water Management Practices:** In **Israel**, precision irrigation techniques like drip irrigation and rainwater harvesting have made agriculture highly water-efficient, even in arid regions. These methods have led to sustainable water use while maintaining high productivity.
- **Providing Market Access and Certification Support:** In **Denmark**, organic and natural products are supported by strong market linkages, branding, and certification programs that fetch premium prices for farmers. A streamlined certification process has enabled small-scale farmers to access high-value markets.
 - Develop a **National Certification System for Natural Products** to streamline the certification process and reduce bureaucratic hurdles, enabling farmers to access premium markets.
 - Use Geographic Indication (GI) tags for unique regional natural products, similar to the branding of Dang's maize in Gujarat, to fetch higher prices and create regional identity.
- **Scaling Up Public-Private Partnerships (PPP) in Natural Farming:** In the **United States**, the Sustainable Agriculture Research and Education (SARE) program encourages PPPs to develop sustainable agriculture technologies, share knowledge, and enhance research.
- **Adopting Digital Solutions and Precision Agriculture:** In **the Netherlands**, precision farming technologies like GPS-guided equipment, soil sensors, and farm management software have optimized inputs, reduced waste, and increased productivity.

- **Incentivizing Natural Farming through Policy and Financial Support:** In **Japan**, the government supports organic and natural farmers with subsidies, low-interest loans, and tax benefits to encourage the transition from conventional to sustainable practices.
- **Creating Employment Opportunities in the Natural Farming Ecosystem:** In **Italy**, agritourism has created employment in rural areas by combining sustainable farming with tourism, educational workshops, and eco-friendly experiences.

PRACTICE QUESTION

Q. Discuss the potential and challenges of adopting natural farming in India. Highlight the initiatives taken by the government to promote this sustainable agricultural practice. (10 marks, 150 words)

APPROACH



MODEL ANSWER

Natural farming is an ecologically sustainable agricultural method that minimizes the use of chemical inputs and promotes the use of organic materials like bio-fertilizers (Jeevamrit, Beejamrit). In India, natural farming has gained momentum as a viable alternative to conventional farming due to its potential to improve soil health, reduce input costs, and enhance resilience to climate change.

POTENTIAL OF NATURAL FARMING IN INDIA:

- **Cost Reduction:** Natural farming significantly reduces dependency on expensive synthetic fertilizers and pesticides, lowering input costs. According to NITI Aayog, farmers practicing natural farming have reported a **60-70% reduction in input costs**, leading to increased net income.
- **Environmental Benefits:** It enhances soil health by improving organic content and promotes biodiversity, reducing greenhouse gas emissions by up to **30%** compared to conventional farming.
- **Water Conservation:** Techniques like mulching and intercropping reduce irrigation needs, making natural farming suitable for water-scarce regions. Andhra Pradesh's Community Managed Natural Farming (APCNF) reduced water use by **50%** compared to conventional methods.

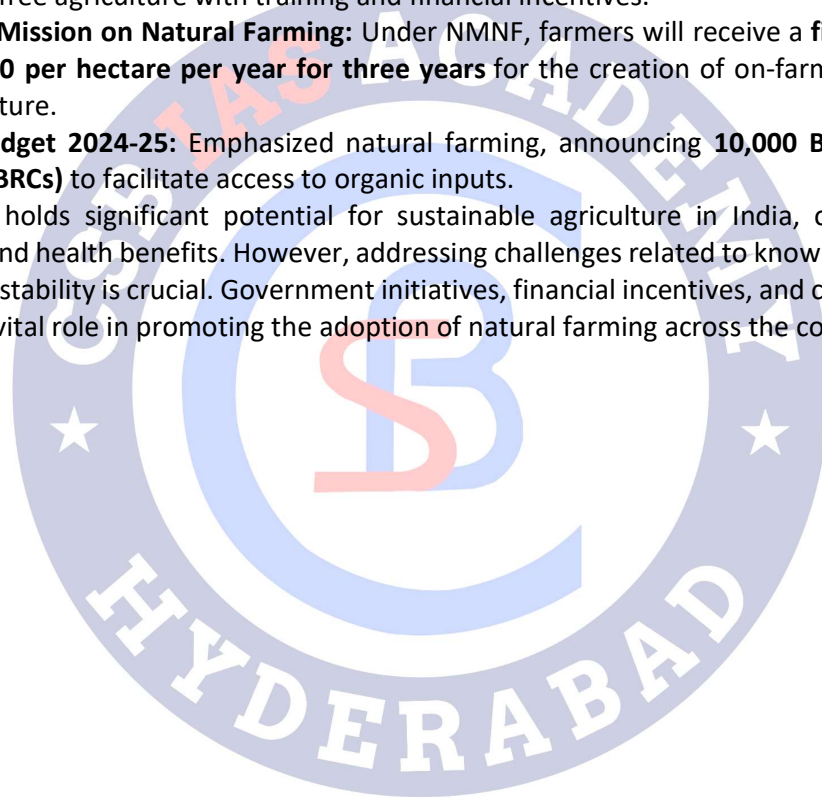
CHALLENGES OF NATURAL FARMING:

- **Knowledge Gaps:** There is a lack of awareness and technical knowledge among farmers, leading to hesitancy in adopting natural practices. Many farmers are unfamiliar with preparing bio-inputs.
- **Market Access:** Farmers often face challenges accessing premium markets for organic produce, limiting the economic benefits. Certification processes are also cumbersome.
- **Yield Variability:** Inconsistent yields during the transition phase can deter small farmers who rely heavily on stable production.

GOVERNMENT INITIATIVES:

- **Bhartiya Prakritik Krishi Paddhati (BPKP):** Launched to promote traditional indigenous practices, focusing on organic inputs like cow dung.
- **Paramparagat Krishi Vikas Yojana (PKVY):** Provides financial assistance to farmers transitioning to organic and natural farming, focusing on cluster development and certification support.
- **Prakritik Kheti Khushhal Kissan Yojana (PK3Y):** Himachal Pradesh's initiative, promoting chemical-free agriculture with training and financial incentives.
- **National Mission on Natural Farming:** Under NMNF, farmers will receive a **financial assistance of ₹15,000 per hectare per year for three years** for the creation of on-farm input production infrastructure.
- **Union Budget 2024-25:** Emphasized natural farming, announcing **10,000 Bio-Input Resource Centers (BRCs)** to facilitate access to organic inputs.

Natural farming holds significant potential for sustainable agriculture in India, offering economic, environmental, and health benefits. However, addressing challenges related to knowledge gaps, market access, and yield stability is crucial. Government initiatives, financial incentives, and community training programs play a vital role in promoting the adoption of natural farming across the country.



24. THERMAL POWER PLANTS AND POLLUTION

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Environment >> Pollution

REFERENCE NEWS:

Delhi's Air Quality Index (AQI) reading soared to an alarming 481, placing several areas in the 'severe' category of the index. A report by think tank Centre for Research on Energy and Clean Air (CREA) has turned the spotlight on thermal power plants as a dominant, year-round source of sulphur dioxide (SO₂) emissions. These plants emit SO₂ at levels 240 times greater than stubble burning, a seasonal contributor to air pollution that often garners significant attention, the paper highlighted.

THERMAL POWER PLANTS IN INDIA:

Thermal power plants or thermal power stations are power stations that generate electricity from heat. Thermal power plants use different sources of energy to produce heat, including coal, oil, natural gas, and geothermal sources.

- As of 2024, thermal power plants account for around **60-65% of India's total electricity generation capacity**. This makes thermal energy the most significant contributor to the country's energy mix.
- According to the Central Electricity Authority (CEA), India's total installed electricity generation capacity is approximately 425 GW, with thermal power contributing about 250 GW.
- **Coal-Based Plants** are the most common and contribute to over 80% of the thermal power capacity. Coal is an abundant resource in India, and the majority of plants utilize domestic coal as it is the 2nd largest coal producer in the world.
- Thermal power plants are significant employers, as they constitute over 70 per cent of India's annual electricity generation and directly **employ 3.2–4 lakh individuals** across the country (CEA 2021; CEA 2024).

CONTRIBUTION OF THERMAL POWER PLANTS TO POLLUTION IN INDIA:

AIR POLLUTION:

- Thermal power plants are the largest industrial contributors to air pollution in India, emitting large quantities of particulate matter (PM), sulphur dioxide (SO₂), nitrogen oxides (NO_x), and carbon dioxide (CO₂).
 - In 2021, thermal power plants were responsible for approximately 45% of India's total CO₂ emissions, contributing to the country's status as the third-largest emitter of greenhouse gases globally.
- **Particulate Matter (PM_{2.5} and PM₁₀):** Coal-based power plants emit fine particulate matter (PM_{2.5}), which can penetrate deep into the lungs, causing respiratory and cardiovascular diseases.
 - A study by the Centre for Science and Environment (CSE) highlighted that PM emissions from coal-fired plants contribute to over 80% of PM_{2.5} pollution in Delhi, especially during the winter months.
- **Sulphur Dioxide (SO₂):** In 2022, India was the world's top emitter of SO₂, contributing to over 20% of global human-caused emissions, primarily because of its dependence on coal for power production.
 - While stubble burning accounts for 17.8 kilotonnes of SO₂ emissions annually, thermal power plants emit over 240 times more, found the analysis. SO₂ is a precursor to fine particulate matter (PM_{2.5}), a significant pollutant that worsens respiratory and cardiovascular diseases. It also leads to acid rain, causing widespread ecological harm.
- **Nitrogen Oxides (NO_x):** NO_x emissions contribute to the formation of ground-level ozone, which can cause respiratory problems, and smog, impacting air quality.

- In 2020, a report by the International Energy Agency (IEA) noted that India's coal-based power sector accounted for nearly 30% of the country's NOx emissions.

GREENHOUSE GAS EMISSIONS (GHG):

- **CO₂ Emissions:** Thermal power plants are the largest source of CO₂ emissions in India, a key driver of global warming and climate change.
 - In 2021, India's coal-fired power plants emitted about 1.1 billion tonnes of CO₂, accounting for 50-60% of the country's total CO₂ emissions. The Korba Super Thermal Power Plant in Chhattisgarh is one of the highest CO₂ emitters, given its large installed capacity and reliance on domestic coal.
- **Climate Impact:** The heavy reliance on coal for electricity generation has been a major obstacle in India's efforts to meet its climate commitments, including the Nationally Determined Contributions (NDCs) under the Paris Agreement.

WATER POLLUTION:

- **Thermal Power and Water Contamination:** Thermal power plants, particularly those based on coal, use large quantities of water for cooling, leading to thermal pollution in nearby water bodies. Discharges from plants often contain heavy metals like mercury, arsenic, and lead, polluting local water sources.
 - The Tirora Thermal Power Plant in Maharashtra has faced criticism for discharging hot water into nearby rivers, causing a significant rise in water temperatures and impacting aquatic life.
- **Mercury Pollution:** Coal-fired power plants are the largest source of mercury emissions in India. Mercury from coal combustion settles in water bodies, contaminating fish and posing risks to human health.
 - According to a report by the Mercury in India's Power Sector (2018), Indian coal-fired plants emit approximately 71 tonnes of mercury annually.
- **Ash Ponds and Groundwater Contamination:** Many thermal power plants dispose of fly ash, a byproduct of coal combustion, in ash ponds. These ash ponds can leach toxic substances into the soil and groundwater, impacting drinking water sources.
 - **Example:** The Fly Ash Dyke Failure incident at the NTPC Vindhyachal Power Plant in Madhya Pradesh (2019) led to the spillage of toxic ash slurry, contaminating agricultural lands and local water bodies.

LAND POLLUTION

- **Fly Ash Disposal:** Coal-based thermal power plants generate millions of tonnes of fly ash annually. Improper disposal of fly ash has led to severe land and soil pollution, affecting agriculture and local ecosystems.
 - India generates over 200 million tonnes of fly ash annually, with about 30-40% of it not being utilized, leading to the creation of massive ash ponds.
 - The Badarpur Thermal Power Station in Delhi, which has since been shut down, was a significant source of fly ash pollution, with fly ash dispersal affecting nearby residential areas.
- **Land Degradation:** Open-pit coal mining, which supplies coal to thermal power plants, also leads to land degradation and deforestation. The loss of green cover contributes to soil erosion and loss of biodiversity.
 - The Jharia Coalfield in Jharkhand, known for its extensive coal mining to supply power plants, has experienced severe land degradation and underground coal fires that have been burning for decades.

IMPACT OF SUCH POLLUTION:

Economic Impact

- **Healthcare Costs:** Pollution from thermal power plants, especially air pollutants like particulate matter (PM), sulphur dioxide (SO₂), and nitrogen oxides (NOx), has a direct impact on public

health. Increased respiratory, cardiovascular, and other pollution-related illnesses lead to higher healthcare costs.

- **Economic Burden:** According to the Lancet Commission on Pollution and Health (2022), air pollution in India results in healthcare costs estimated at about 1-3% of GDP annually, with thermal power plants being a major contributor.
- **Agricultural Impact:** Thermal power plants contribute to acid rain through SO₂ and NO_x emissions, which can damage crops, reduce soil fertility, and lower agricultural yields. This has a direct economic impact on rural communities dependent on farming.
 - In regions like Singrauli and Korba, heavy air pollution from power plants has been linked to declining agricultural productivity and crop damage.
- **Costs of Environmental Degradation:** Pollution from thermal power plants leads to environmental degradation, including contaminated water bodies and damaged ecosystems.
 - **Fly Ash Management:** Improper disposal of fly ash, a byproduct of coal combustion, has economic costs associated with managing ash ponds and preventing soil and groundwater contamination.
- **Infrastructure and Compliance Costs:** The need to retrofit existing thermal power plants with pollution control technologies, such as Flue Gas Desulfurization (FGD) units and Electrostatic Precipitators (ESP), imposes substantial costs on the power sector.

Social Impact

- **Impact on Rural Communities:** Pollution can lead to the contamination of local water sources, soil degradation, and loss of agricultural land, disrupting the livelihoods of farmers and rural populations.
 - In areas like Talcher in Odisha, heavy reliance on coal-based power plants has led to significant environmental degradation, impacting the health and livelihoods of local communities who depend on agriculture.
- **Displacement and Loss of Livelihoods:** The establishment of thermal power plants often involves land acquisition, which can displace local communities and lead to the loss of livelihoods, particularly for indigenous and marginalized populations.
 - Large-scale coal mining to supply power plants has led to the displacement of tribal communities in regions like Jharkhand, affecting their socio-cultural ties to the land.
- **Social Inequality:** Lower-income and marginalized communities often reside closer to power plants, bearing the brunt of pollution-related health impacts due to their limited access to healthcare and cleaner environments.
 - **Environmental Justice:** A lack of stringent regulation enforcement in poorer regions has led to disparities in pollution exposure, raising concerns about environmental justice.
- **Impact on Water Resources:** Thermal power plants are water-intensive, using large quantities for cooling purposes. This can lead to local water scarcity, impacting agriculture, drinking water availability, and overall quality of life.
 - In states like Maharashtra, during periods of drought, power plants have been prioritized for water supply over local communities, leading to social unrest and water conflicts.
- **Urban Pollution and Quality of Life:** In urban areas, thermal power plants located near cities contribute significantly to smog and poor air quality. This affects the daily lives of millions, leading to restricted outdoor activities, increased allergies, and respiratory problems.
 - The now-closed Badarpur Thermal Power Plant in Delhi was identified as a major source of winter smog, contributing to the city's severe air pollution problem.

WAY FORWARD:

- **Stricter Enforcement of Emission Standards:** The European Union's Industrial Emissions Directive (IED) mandates stricter emission limits for pollutants from power plants. India can take cues from Europe by implementing stringent standards and providing clear timelines for compliance.

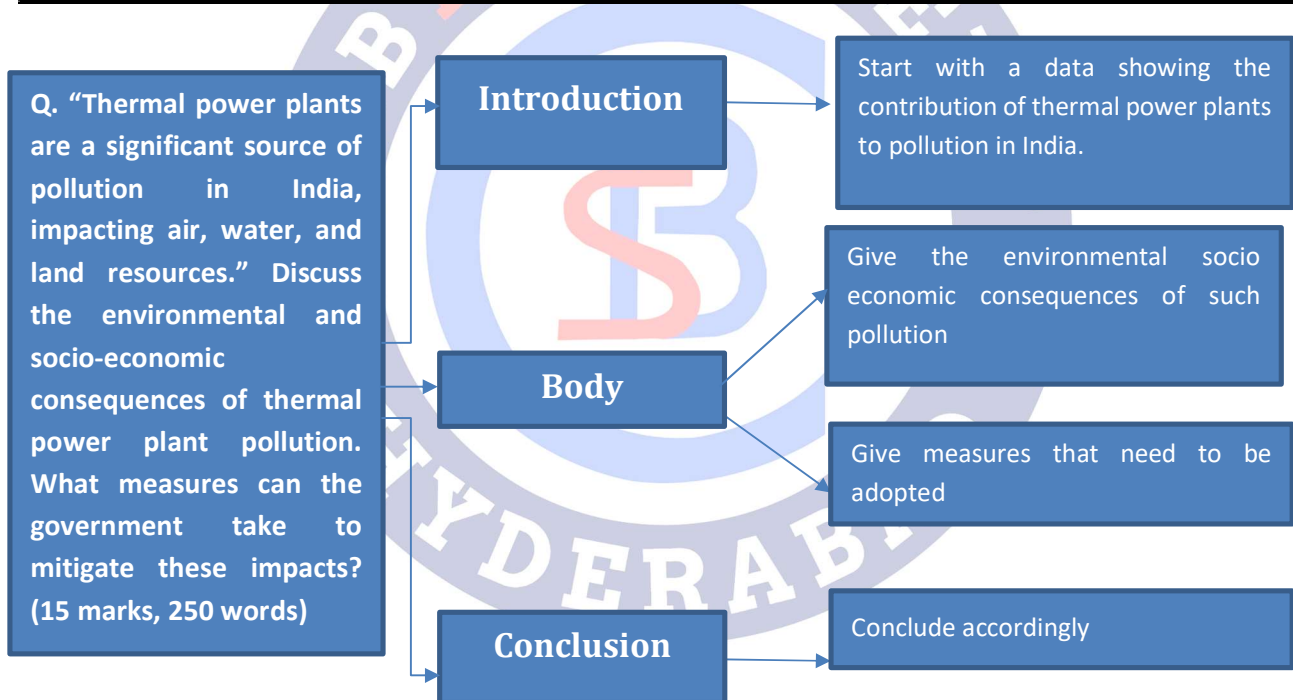
- **Upgrading Pollution Monitoring Systems:** In India, the Ministry of Environment, Forest and Climate Change (MoEFCC) has mandated the installation of Continuous Emission Monitoring Systems (CEMS) in major industrial units, but effective enforcement remains a challenge.
- **Adoption of Supercritical and Ultra-Supercritical Technology:** Transitioning from sub-critical to supercritical and ultra-supercritical technology can significantly reduce emissions and improve efficiency.
 - **NTPC's Supercritical Plants:** NTPC, India's largest power producer, has successfully implemented supercritical technology in several plants, such as the Mouda Super Thermal Power Station in Maharashtra, leading to better efficiency and lower emissions.
- **Installation of Pollution Control Equipment: Installing Flue Gas Desulfurization (FGD) units, Electrostatic Precipitators (ESP), and Selective Catalytic Reduction (SCR) systems** can help control emissions of SO₂, particulate matter, and NO_x.
 - The Dadri Power Plant in Uttar Pradesh, managed by NTPC, installed FGD units, leading to a substantial reduction in sulphur emissions.
- **Fly Ash Management:** Promoting the utilization of fly ash in construction, road building, and cement production can help reduce the burden on ash ponds and prevent soil and water contamination.
 - **Use of Fly Ash in Construction:** The Delhi Metro project extensively used fly ash bricks, demonstrating how industrial waste can be repurposed for sustainable construction.
- **Gradual Transition to Renewable Energy:** A phased reduction in the dependence on coal-based thermal power can be achieved by increasing the share of solar, wind, hydro, and biomass energy in the electricity mix.
 - **India's Renewable Energy Push:** India has set an ambitious target of 500 GW of renewable energy capacity by 2030. The success of the Gujarat Solar Park and the Pavagada Solar Park in Karnataka highlights the feasibility of large-scale solar projects as alternatives to coal-based power.
- **Co-firing Biomass with Coal:** Encouraging thermal power plants to use biomass as a partial substitute for coal (co-firing) can reduce greenhouse gas emissions and provide an avenue for waste management.
 - The Rajpura Thermal Power Plant in Punjab has implemented biomass co-firing, using paddy straw as a substitute for coal. This helps tackle both pollution from stubble burning and emissions from thermal power generation.
- **Carbon Pricing and Emission Trading Schemes:** Introducing carbon pricing or an Emission Trading Scheme (ETS) can provide economic incentives for power plants to reduce emissions.
 - **China's Emission Trading System:** China has implemented a national carbon market that covers its power sector, including coal-based thermal plants. India can study China's model to design an effective ETS for reducing emissions.
- **Financial Incentives for Clean Technology:** Providing subsidies, tax benefits, and low-interest loans for retrofitting existing plants with pollution control technologies can encourage faster adoption.
 - The Indian government has introduced incentives under schemes like the Perform, Achieve, and Trade (PAT) mechanism to improve energy efficiency in thermal power plants.
- **Promotion of Water-Efficient Cooling Technologies:** Encouraging thermal power plants to adopt dry cooling systems or hybrid cooling systems can reduce water usage. Water audits should be mandatory to monitor and minimize water consumption.
 - The Dadri Thermal Power Station implemented a water recycling and reuse project, reducing its freshwater consumption by treating wastewater for cooling purposes.
- **Zero Liquid Discharge (ZLD) Systems:** Implementing ZLD systems to ensure that no industrial effluent is discharged into local water bodies can protect water resources from contamination.

- **NTPC's Effluent Management:** NTPC's Simhadri Power Plant in Andhra Pradesh has adopted a ZLD system to ensure that no wastewater is released into the environment, setting a benchmark for other plants.
- **Engagement with Local Communities: Singrauli's Citizen Science Initiative** of Singrauli region is a community-based environmental monitoring initiatives have empowered local residents to track pollution levels and advocate for stricter regulations.
- **Health Impact Assessments (HIA):** In the Chandrapur District of Maharashtra, NGOs have conducted HIAs to document the health impacts of pollution from nearby power plants, leading to greater public awareness and demands for action.
- **Investment in Clean Coal Technology:** Investing in research and development for advanced clean coal technologies, such as Integrated Gasification Combined Cycle (IGCC) and Carbon Capture and Storage (CCS), can help reduce the carbon footprint of coal-based plants.

PRACTICE QUESTION

Q. "Thermal power plants are a significant source of pollution in India, impacting air, water, and land resources." Discuss the environmental and socio-economic consequences of thermal power plant pollution. What measures can the government take to mitigate these impacts? (15 marks, 250 words)

APPROACH



MODEL ANSWER

Thermal power plants, particularly those using coal, are a dominant source of electricity in India, contributing to around 60-65% of the nation's energy needs. However, they are also one of the largest sources of pollution, impacting the environment and society. In 2022, India was the world's top emitter of SO₂, contributing to over 20% of global human-caused emissions, primarily because of its dependence on coal for power production.

ENVIRONMENTAL AND SOCIO-ECONOMIC CONSEQUENCES:

1. **Air Pollution:** In 2021, coal-based thermal power plants were responsible for 45% of India's CO₂ emissions, making the country the third-largest greenhouse gas emitter globally.

2. **Water Pollution:** The Tirora Thermal Power Plant in Maharashtra discharged hot water into nearby rivers, affecting aquatic life. Indian coal-fired plants emit about 71 tonnes of mercury annually, which settles in water bodies, posing risks to health
3. **Land Pollution:** The Badarpur Thermal Power Station in Delhi, now shut down, was a significant source of fly ash pollution, affecting nearby residential areas. In Jharkhand, coal mining for power plants has led to severe land degradation and underground coal fires
4. **Socio-economic Consequences:**
 - **Healthcare Costs:** According to the Lancet Commission on Pollution and Health (2022), air pollution in India results in healthcare costs estimated at about 1-3% of GDP annually, with thermal power plants being a major contributor.
 - **Costs of Environmental Degradation:** Pollution from thermal power plants leads to environmental degradation, including contaminated water bodies and damaged ecosystems.
 - **Infrastructure and Compliance Costs:** The need to retrofit existing thermal power plants with pollution control technologies, such as Flue Gas Desulfurization (FGD) units and Electrostatic Precipitators (ESP), imposes substantial costs on the power sector.
 - **Impact on Rural Communities:** In areas like Talcher in Odisha, heavy reliance on coal-based power plants has led to significant environmental degradation, impacting the health and livelihoods of local communities who depend on agriculture.
 - **Displacement and Loss of Livelihoods:** The establishment of thermal power plants often involves land acquisition, which can displace local communities and lead to the loss of livelihoods, particularly for indigenous and marginalized populations.
 - **Social Inequality:** Lower-income and marginalized communities often reside closer to power plants, bearing the brunt of pollution-related health impacts due to their limited access to healthcare and cleaner environments.
 - **Impact on Water Resources:** In states like Maharashtra, during periods of drought, power plants have been prioritized for water supply over local communities, leading to social unrest and water conflicts.

MEASURES TO MITIGATE IMPACTS

- **Stricter Emission Standards:** Enforcing stringent emission limits for SO₂, NO_x, and PM. Adoption of European-style Industrial Emissions Directives can guide compliance. India's installation of Continuous Emission Monitoring Systems (CEMS) can be expanded to cover all major plants
- **Supercritical and Ultra-Supercritical Technology:** Transitioning to more efficient and less polluting technologies can reduce emissions. The NTPC's Supercritical Plants like the Mouda Super Thermal Power Station in Maharashtra have improved efficiency and lowered emissions
- **Fly Ash Utilization:** Promoting the use of fly ash in construction and infrastructure projects to prevent land pollution. The Delhi Metro project utilized fly ash bricks, showcasing a sustainable way to handle industrial waste
- **Water Conservation Measures:** Implementing water-efficient cooling technologies and Zero Liquid Discharge (ZLD) systems. The Dadri Thermal Power Station has reduced water consumption by recycling wastewater for cooling
- **Transition to Renewable Energy:** A phased increase in the share of renewables like solar, wind, and biomass to reduce dependence on coal. India's target of 500 GW of renewable capacity by 2030, with successful projects like the Gujarat Solar Park and the Pavagada Solar Park

- **Public Awareness and Community Engagement:** Engaging local communities in monitoring pollution and enforcing accountability. In Singrauli, citizen science initiatives have empowered locals to advocate for stricter regulations

Thermal power plants are indispensable to India's energy security but have a significant environmental footprint. Addressing the pollution from these plants requires a multi-faceted strategy involving regulatory enforcement, technological upgrades, community involvement, and a shift towards renewable energy. A balanced approach is needed to ensure sustainable development while maintaining energy security.



25. AIR POLLUTION IN INDIA

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Environment & Ecology > Pollution > Air pollution

REFERENCE NEWS:

- With the **withdrawal of the southwest monsoon and the onset of winter**, the air quality in Delhi has recently started to deteriorate significantly. The city and its adjoining areas have consistently recorded **particulate matter (PM 2.5) levels exceeding 300**, categorizing as 'very poor' air quality. Forecasts suggest that this situation could worsen in the coming days. It has become an established pattern that this decline in air quality coincides with the **burning of farm stubble**, primarily from Punjab.

STATISTICS:

- According to the **World Air Quality Report 2023** released by the Swiss organisation IQAir, India is ranked as the **third most polluted country globally**.
- The report highlights that **83 of the top 100 most polluted cities** in the world are located in India, with **Begusarai in Bihar** identified as the most polluted metropolitan area. It notes that the average annual **PM2.5 concentration in India is 54.4 micrograms per cubic meter**, which is **more than 10 times** the guideline set by the World Health Organization.
- In the **Environmental Performance Index 2022**, India is at **179th rank in the air quality indicator**.
- Air pollution caused an estimated **1.6 million deaths in 2019 in India**: the highest in the world, according to the report by the Lancet Commission on Pollution and Health.
- Air pollution **shortens the average Indian life by roughly 3.4 years**, according to a study by the **Indian Institute of Tropical Meteorology**.

MAJOR CAUSES OF AIR POLLUTION IN INDIA:

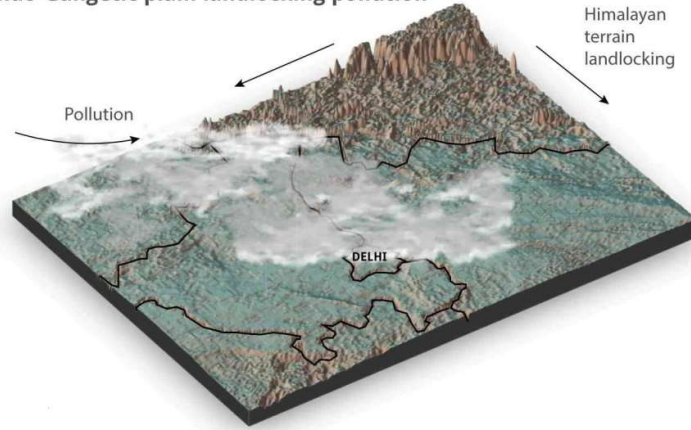
- **Agricultural activities:**
 - **Use of insecticides, pesticides and fertilizers** in agricultural activities release **ammonia** which is a major air pollutant.
 - **Crop residue burning:** Large-scale burning of crop residues from paddy crop in October-November and then wheat in April in Punjab, Haryana and western Uttar Pradesh contributes significantly to the air pollution in the Delhi NCR Region every year.
 - Crop fires **also led to higher levels of surface ozone**
- **High dependence on coal for power:**
 - Share of coal in power generation in India continue to be around 80%.
 - Coal power plants with poor technology and efficiency continue to be the major source of pollutants like CO and oxides of nitrogen and sulfur.
- **Fuel adulteration:**
 - Adulteration of gasoline and diesel with lower-priced fuels is common in India, hence beating the purpose of fixing fuel standards.
 - Some adulterants increase emissions of harmful pollutants from vehicles, worsening urban air pollution
- **Mining operations:**
 - During the process of mining, dust and chemicals are released in the air causing massive air pollution.
- **Pollution from transportation sector:**
 - Transportation sources account for approximately a third of PM pollution in India, and a somewhat higher proportion of nitrogen oxides
 - **India's vehicle fleet is growing rapidly** as it increased from about **10 million in 2007 to over 21 million in 2016**.

- **Industrial pollution:**
 - As per TERI's inventory **industrial sector contributes 36%** of total PM2.5 emissions. This includes pollution due to burning of fossil fuels, chemical solvents by tanning industries, releasing untreated waste into the environment, improper disposal of radioactive material.
- **High levels of poverty:**
 - Dependence on **fuelwood and kerosene** for the purpose of lighting and cooking leads to a high level of pollutants being released in the rural and urban periphery. **Overexploitation of resources** like forests, grazing lands and mindless deforestation reduces the natural capacity to absorb pollutants.
- **Climate change:**
 - Elevated air pollution levels is also a result of climate change events, such as sandstorms and wildfires,
- **Administrative issues:**
 - **Poor governance:**
 - While agencies like CPCB and SPCBs continue to be under-resourced and understaffed, the multiplicity of the state authorities at the ground level leads to poor coordination, lax enforcement of rules and lack of accountability as seen in Delhi.
 - Absence of environmental governance continues to be a major challenge.
 - **Poor enforcement of rules:**
 - The Air (Prevention and Control of Pollution) Act was passed in 1981 to regulate air pollution but **has failed to reduce pollution because of poor enforcement of the rules.**
 - **Unplanned urbanization:**
 - Rapid growth of urban areas has led to the proliferation of slums and poor public transport has increased the burden of personal vehicles on the road.
 - Landfills used for waste management also release pollutants in the air.
- **Poor access to technology:**
 - India's industrial landscape continues to be dominated by MSMEs which lack access to cleaner technologies. Agricultural waste burning is also the result of poor access to farm technologies.
- **Cultural reasons:**
 - Fire crackers are part of festivals such as Diwali. Stringent regulations during Diwali has been difficult due to people's reluctance.

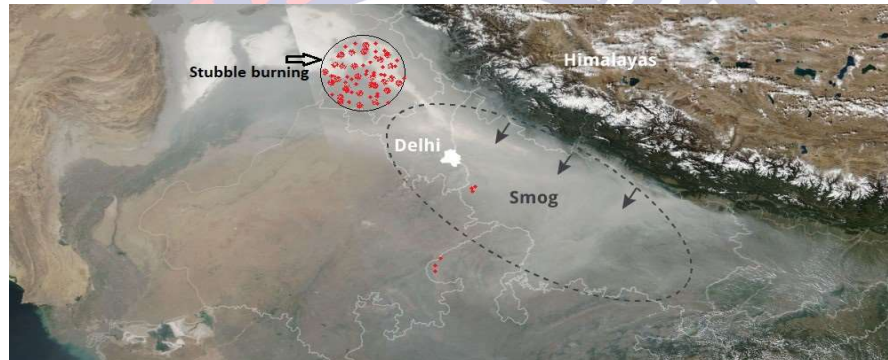
WHY DELHI SUFFERS THE MOST?

- **Geographical Disadvantage (Landlocked Region):** Delhi's landlocked position **without any moderating effect from seas or oceans** makes it particularly vulnerable to pollution accumulation. The slow-moving winds from the northwest during the crop burning season are **trapped by the Himalayas** to the north, as described in geographical studies from the Indian Institute of Tropical Meteorology, Pune.

Indo-Gangetic plain landlocking pollution



- **Stubble Burning:** Stubble burning in Punjab and Haryana majorly contributes to PM2.5 pollution in Delhi. A 2023 study by Climate Trends indicates that up to 35% of PM2.5 levels during peak burning periods can be attributed to this source. The geographical positioning worsens the impact, as pollutants are transported by prevailing winds.



- **Vehicular Emissions:** The high density of vehicles in Delhi contributes significantly to air pollution, with emissions accounting for **about 18% of PM2.5 levels**. This data is supported by findings from the Indian Institute of Tropical Meteorology (IITM), Pune.
- **Industrial Pollution:** Industries in around Delhi, including power manufacturing units, release from burning coal and diesel. The effective pollution control exacerbates this issue, as noted Central Pollution Control Board
- **Construction Dust:** Construction contribute to PM10 and PM2.5 with this source becoming particularly problematic in dry conditions. Local government highlight the contribution of construction dust to overall levels.
- **Meteorological Factors:** Reduced speeds and temperature inversions during the winter trap pollutants close to the ground. Meteorological data from the Indian Meteorological Department (IMD) support these observations.

Thermal power plants within 300 kilometres of Delhi



and plants and pollutants lack of measures by the (CPCB). activities levels, reports pollution

- **Transboundary Pollution:** Pollutants from neighboring states significantly affect Delhi's air quality. This emphasizes the need for cooperative regional efforts, as discussed in various inter-state environmental forums.
- **Environmental Degradation:** The degradation of the Aravalli Range reduces atmospheric moisture and rainy days, contributing to increased dust. Studies from environmental research institutes highlight the impact of green cover loss on local climate and air quality.
- **High Population Density :** Delhi's population density leads to increased construction, pollution, and waste burning. Urban planning reports from the Delhi Development Authority (DDA) provide insights into how urban sprawl contributes to air pollution.
- **Proximity to Polluting Sources:** The proximity to thermal power plants and the prevalence of firecrackers during Diwali are significant pollution sources. Reports from the CPCB detail the impact of these sources during festival times.

INITIATIVES:

Legislative Framework:

- **The Air (Prevention and Control of Pollution) Act, 1981:** Establishes mechanisms for controlling air pollution and sets up Central and State Pollution Control Boards.
- **The Environment (Protection) Act, 1986:** Acts as an umbrella legislation coordinating central and state authorities related to environmental protection, including air quality.
- **Dust Mitigation Plan:** Implemented under the Environment Protection Act to control dust pollution.

Schemes/Programs:

- **National Clean Air Programme (NCAP):** Aims to reduce PM2.5 and PM10 levels by 20%-30% from 2017 levels by 2024 through enhancing monitoring networks and building a national-level emission inventory.
- **National Air Quality Index (AQI):** Provides daily air quality updates with health advisories based on pollution levels.
- **Graded Response Action Plan:** Specifies actions for different air pollution levels in Delhi and NCR.
- **National Ambient Air Quality Standards (NAAQS):** Sets permissible limits for PM2.5 and PM10, aligned with stricter WHO guidelines.

Vehicular Pollution Control:

- **Bharat Stage Emission Standards (BSES):** Regulations to reduce emissions from vehicles, with a significant reduction in pollutants with the introduction of BS VI standards.
- **FAME India Scheme:** Promotes the adoption of electric and hybrid vehicles to reduce vehicular emissions.
- **Promotion of Public Transport:** Enhancements in public transport systems like rapid transit and implementation of traffic management schemes like the odd-even policy.

Indoor and Industrial Pollution Control:

- **Pradhan Mantri Ujjwala Yojana:** Provides LPG connections to reduce indoor air pollution from biomass burning.
- **Industrial Standards:** The Central Pollution Control Board (CPCB) enforces limits on industrial emissions and banned the use of polluting fuels like pet coke and furnace oil in several states.

WAY FORWARD:

- **Enhance Indoor Air Quality Initiatives:** Expand efforts beyond providing clean cooking fuels, incorporate continuous awareness programs on clean cooking benefits, and improve ventilation in rural kitchens.
- **Strengthen Public Transport Systems:** Integrate public transport services to ensure reliability, comfort, and comprehensive coverage, including last-mile connectivity, without incurring additional costs.
- **Improve Waste Management:** Prevent open burning of municipal and industrial waste by building stronger institutional capacities for enforcement and ensuring legal compliance.
- **Promote Renewable Energy:** Overcome intermittency issues with smart grid technologies and incentivize decentralized power production, such as biogas, rooftop solar, and electric vehicles.
- **Agricultural Waste Management:** Address crop burning by providing financial incentives and technology (like happy seeder machines and bio-decomposers), and develop markets for crop residues to encourage sustainable disposal methods.
- **Enhanced Inter-State Coordination:** Reform administrative and legal frameworks to improve coordination for managing transboundary pollution sources like stubble burning.

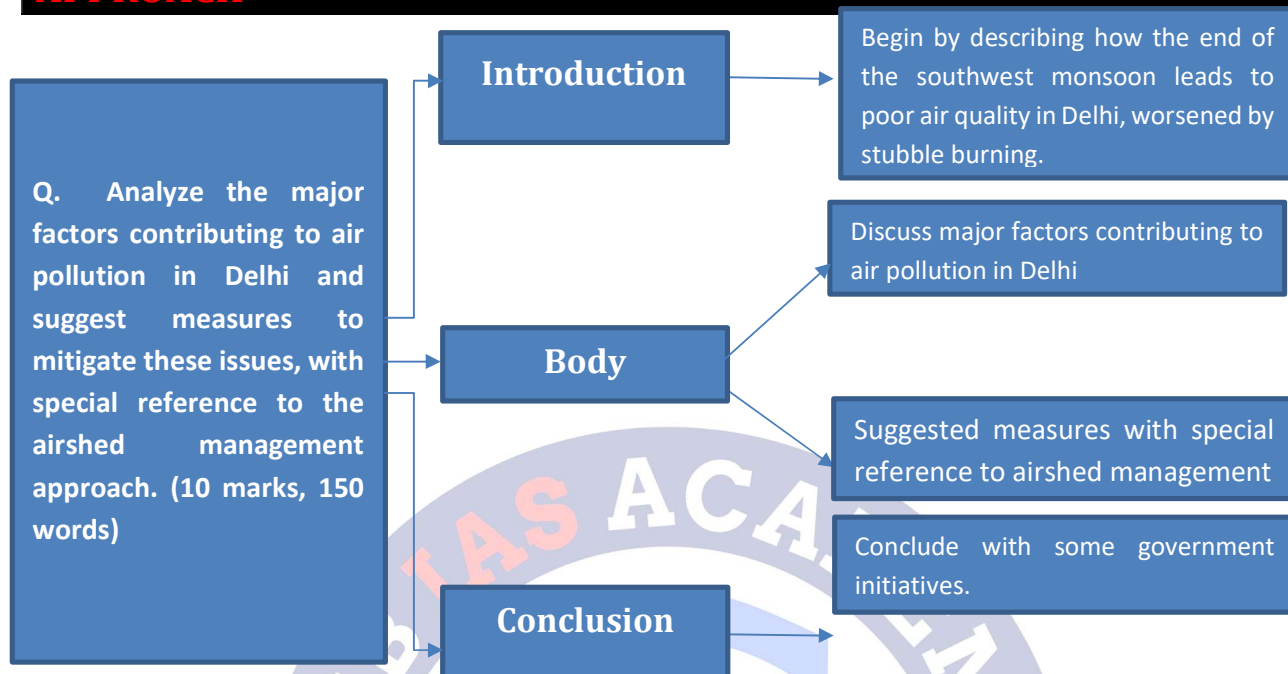
BEST PRACTICES:

- **Beijing's air quality management system:**
 - Beijing implemented a series of measures focused on **energy infrastructure optimization, coal-fired pollution control, and vehicle emission controls**
 - In the five years from 2013 to 2017, **fine particulate pollution (PM2.5) in Beijing fell by 35% and sulphur dioxide dropped by 83%.**
- **Airshed Management Overview**
 - **Concept Similarity:** Airshed management involves treating a geographic region as a unified area where pollutants disperse, similar to the concept of a watershed.
 - **Stakeholder Inclusion:** Includes the public, industry, and local governments as key stakeholders.
 - **Purpose and Need:** Addresses air quality issues that result from the cumulative impact of various activities and emission sources, particularly exacerbated by geographical and meteorological conditions that restrict pollutant dispersion.
 - **Successful Implementations:** Has been successfully applied in areas such as California, USA.
 - **Potential Application:** Suggested for the Indo-Gangetic plain to develop new strategies for pollution reduction.

PRACTICE QUESTION

Q. Analyze the major factors contributing to air pollution in Delhi and suggest measures to mitigate these issues, with special reference to the airshed management approach. (10 marks, 150 words)

APPROACH



MODEL ANSWER

With the withdrawal of the southwest monsoon, Delhi consistently experiences a severe decline in air quality, a recurring issue marked **by PM2.5 levels rising above 300, which signals a 'very poor' air quality status. This regular pattern is often exacerbated by stubble burning** from neighboring states like Punjab and highlights the complex interplay of factors contributing to the city's recurring air pollution crisis during this particular time each year.

Major Factors Contributing to Air Pollution in Delhi

1. **Stubble Burning:** A 2023 study by Climate Trends identifies that up to 35% of Delhi's PM2.5 levels during peak burning seasons are due to stubble burning in Punjab and Haryana. This seasonal activity significantly deteriorates air quality.
2. **Vehicular Emissions:** The Indian Institute of Tropical Meteorology (IITM) reports that vehicular emissions contribute about 18% to PM2.5 levels in Delhi, underlining the city's heavy reliance on road transport.
3. **Industrial Activities:** According to TERI's inventory, industrial activities contribute 36% of PM2.5 emissions in Delhi, from sectors including power plants and manufacturing units that often use outdated pollution control technology.
4. **Geographical Challenges:** Delhi's landlocked position exacerbates air pollution, with the Himalayas to the north trapping pollutants during periods of low wind in winter.
5. **Meteorological Conditions:** The Indian Meteorological Department (IMD) highlights that reduced wind speeds and temperature inversions are frequent in winter, significantly affecting pollutant dispersion.
6. **Transboundary Pollution:** Pollution does not respect borders, affecting Delhi from surrounding states. This necessitates regional cooperation for effective air quality management.

< May include diagrams and maps provided in the article.>

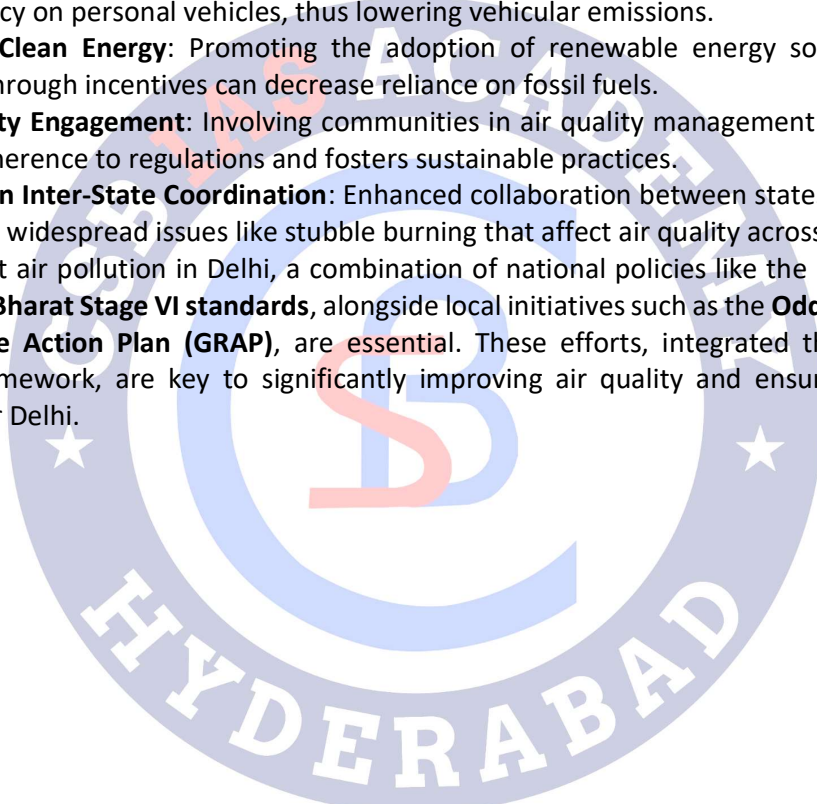
Suggested Measures with Special Reference to Airshed Management

1. **Adopt Airshed Management:** Airshed management treats a geographic region as a single entity, considering all pollution sources collectively rather than in isolation.

○ **Potential Benefits of Airshed Management**

- **Unified Approach:** Facilitates coordinated actions across different administrative regions and sectors, leading to more effective pollution control.
 - **Successful Implementations:**
 - **California, USA:** Has successfully implemented airshed management to significantly improve air quality by regulating emissions from various sources including vehicles and industry.
 - **Beijing, China:** Implemented similar strategies which resulted in a 35% reduction in PM2.5 levels from 2013 to 2017 by targeting coal-fired pollution and vehicle emissions.
2. **Policy Enforcement:** Effective enforcement of the Air (Prevention and Control of Pollution) Act, 1981 and Environment Protection Act, 1986 is crucial. These should be rigorously applied to curb emissions from all sources.
 3. **Enhance Public Transport:** Developing a robust, integrated public transport system can reduce dependency on personal vehicles, thus lowering vehicular emissions.
 4. **Promote Clean Energy:** Promoting the adoption of renewable energy sources and electric vehicles through incentives can decrease reliance on fossil fuels.
 5. **Community Engagement:** Involving communities in air quality management initiatives ensures better adherence to regulations and fosters sustainable practices.
 6. **Strengthen Inter-State Coordination:** Enhanced collaboration between states is vital, especially in tackling widespread issues like stubble burning that affect air quality across state lines.

Delhi's To combat air pollution in Delhi, a combination of national policies like the **National Clean Air Programme and Bharat Stage VI standards**, alongside local initiatives such as the **Odd-Even scheme and Graded Response Action Plan (GRAP)**, are essential. These efforts, integrated through an airshed management framework, are key to significantly improving air quality and ensuring a sustainable, healthy future for Delhi.



26. STAGNANT RURAL WAGES

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Economic Development > Indian Economy and issues

REFERENCE NEWS:

- India's rural wages have shown limited growth in real terms, contrasting sharply with robust GDP figures.

MORE ON NEWS:

- **GDP Growth (2019-2024):** Indian GDP grew at an average annual rate of 4.6%, with a sharper increase to **7.8% in the last three years**.
- **Agriculture Sector Growth:** Agriculture grew at 4.2% annually from 2019-20 to 2023-24 and at 3.6% in recent years, yet these gains aren't mirrored in rural wage growth (source: Labour Bureau).
- Data from the Labour Bureau on rural wage rates across 25 occupations in 600 sample villages shows stagnant or negative wage growth in real terms.
 - **Average Nominal Wage Growth (2019-2024):** Rural wages grew nominally at 5.2% per year, and agricultural wages at 5.8%.
 - **Average Real Wage Growth (2019-2024):** Adjusted for inflation, rural wages **declined by an average of 0.4% per year**, while agricultural wages rose by just 0.2%.
 - **Current Fiscal Year Growth (April-August 2024):**
 - Rural wages increased by 5.4% nominally and **0.5% in real terms**.
 - Agricultural wages grew by 5.7% nominally and 0.7% in real terms (source: Labour Bureau).

FACTORS BEHIND STAGNANT RURAL WAGES IN INDIA:

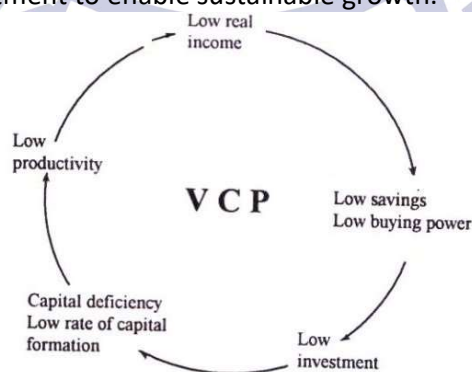
- **Increased Labour Force Participation Among Rural Women:**
 - The **Labour Force Participation Rate (LFPR) for rural women** rose significantly, from 26.4% in 2018-19 to **47.6% in 2023-24**. (Source: Periodic Labour Force Survey, 2023-24)
 - As per the Economic Survey 2023-24, this increase, partly attributed to initiatives like the Ujjwala and Swachh Bharat schemes, has expanded the rural labour supply, exerting downward pressure on wages as more individuals enter the workforce.
- **Capital-Intensive Economic Growth:**
 - As per the **Economic Survey 2023-24**, India's recent economic expansion has increasingly relied on capital-intensive industries, which require **less labor per unit of output**. This shift has reduced demand for labor, particularly in rural areas, limiting wage growth.
- **Decline in Agricultural Productivity:**
 - Agriculture continues to be the largest employer in rural India, accounting for approximately **45.6% of the rural workforce** as of the latest Periodic Labour Force Survey (PLFS) 2022-23.
 - However, **erratic monsoons, soil degradation, and limited access to modern farming techniques** have stunted productivity growth, restricting farmers' ability to raise wages.
- **Insufficient Non-Farm Employment Opportunities:**
 - The **lack of non-agricultural employment options** forces many rural workers into low-paying agricultural jobs, creating an **oversupply of labor** in the agricultural sector and keeping wages low.
- **Inadequate Implementation of Rural Employment Schemes:**
 - While programs like the Mahatma Gandhi National Rural Employment Guarantee Scheme aim to provide rural employment, issues such as **delayed payments, underfunding, and**

administrative inefficiencies have reduced their impact on rural wage growth. (Source: Ministry of Rural Development; MGNREGA Annual Report 2023-24)

- **Inflation Outpacing Wage Growth:**
 - Rural inflation has frequently exceeded wage growth, **reducing the purchasing power of rural workers.**
 - For instance, between November 2023 and February 2024, rural inflation ranged between **7.1% and 7.5%**, **leading to real wage contraction** in 25 of the 27 months up to February 2024 (Source: Reserve Bank of India (RBI) Inflation Reports.)
- **Structural Issues in Rural Labor Markets:**
 - Structural challenges, including high levels of informal employment, limited collective bargaining, and inadequate access to education and skills development, have constrained wage growth and job security in rural areas.

IMPLICATIONS AND CHALLENGES OF STAGNANT RURAL WAGES IN INDIA:

- **Impeded Poverty Reduction:**
 - Stagnant wages hinder efforts to reduce poverty in rural areas, where a significant portion of the population depends on agriculture and related activities.
 - According to a **NITI Aayog report** titled 'National Multidimensional Poverty Index (MPI): A Progress Review 2023', **19.28% of the rural population in India remains multidimensionally poor**, compared to **5.27% in urban areas**. Without wage growth, these individuals struggle to improve their living standards.
- **Suppressed Rural Consumption:**
 - Limited wage growth constrains the purchasing power of rural households, leading to reduced demand for goods and services.
- **Increased Migration to Urban Areas:**
 - Inadequate rural wages drive migration to cities in search of better opportunities.
 - For instance, the **National Sample Survey Office (NSSO) data from 2021-22** shows a **12% increase in rural-to-urban migration** over the past decade, contributing to urban overcrowding and pressure on urban infrastructure.
- **Vicious Cycle of Poverty:**
 - Stagnant rural wages **trap communities in a Vicious Cycle of Poverty**, where low income limits savings and investment, leading to low productivity and capital deficiency, which in turn reinforces poverty and wage stagnation. Breaking this cycle requires boosting income and investment to enable sustainable growth.



- **Heightened Income Inequality:**
 - Persistent wage stagnation exacerbates income inequality between rural and urban populations.
- **Adverse Health and Education Outcomes:**
 - Limited income restricts access to quality healthcare and education. The National Family Health Survey (NFHS-5) (2019-21) reveals that rural areas have **higher malnutrition rates**

and lower literacy levels compared to urban counterparts, **perpetuating cycles of poverty.**

○ **Threat to Food Security:**

- Stagnant rural wages undermine food security by affecting both the affordability of food and the sustainability of agricultural production.

- **Affordability of Food:** With limited wage growth, rural households face challenges in accessing sufficient and nutritious food, leading to higher rates of malnutrition. The National Family Health Survey (NFHS-5) (2019-21) reported that **rural India has a malnutrition rate of over 35%**, partly due to constrained income levels.
- **Sustainability of Agriculture:** Low wages discourage investment in agricultural inputs like quality seeds, fertilizers, and technology, which impacts crop yields. According to the Food and Agriculture Organization (FAO), **stagnation in rural income can lead to a reduction in food production and increased dependency on imports**, ultimately posing risks to national food security.

○ **Increased Vulnerability to Price Shocks:**

- Stagnant wages make rural populations more vulnerable to food price inflation, limiting their ability to buy essentials during price hikes.
- For instance, the **Reserve Bank of India (RBI) noted that food inflation** disproportionately affects rural areas, where income growth hasn't kept pace with rising costs.

GOVERNMENT INITIATIVES:

- **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA):** Provides up to 100 days of guaranteed wage employment per year to rural households, ensuring a minimum income and reducing underemployment in rural regions.
- **Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY-NRLM):** Aims to alleviate rural poverty by promoting self-employment and skill development among the rural poor, thereby enhancing income through diversified livelihood opportunities.
- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY):** Offers skill development training to rural youth, improving their employability and potential to earn higher wages.
- **Aatmanirbhar Bharat Rozgar Yojana (ABRY):** Launched to incentivize employers for creating new employment opportunities during the COVID-19 recovery phase, including re-employment of individuals who lost their jobs due to the pandemic.
- **National Career Service (NCS) Project:** A one-stop solution providing a wide array of employment and career-related services to Indian citizens, including job matching, career counseling, vocational guidance, and information on skill development courses.
- **Rural Infrastructure Development Fund (RIDF):** Focuses on creating rural infrastructure (e.g., roads, irrigation) which indirectly boosts demand for rural labor and improves wage rates through increased employment opportunities.
- **Pradhan Mantri Fasal Bima Yojana (PMFBY):** Provides crop insurance to protect farmers against income loss due to crop failure.

WAY FORWARD:

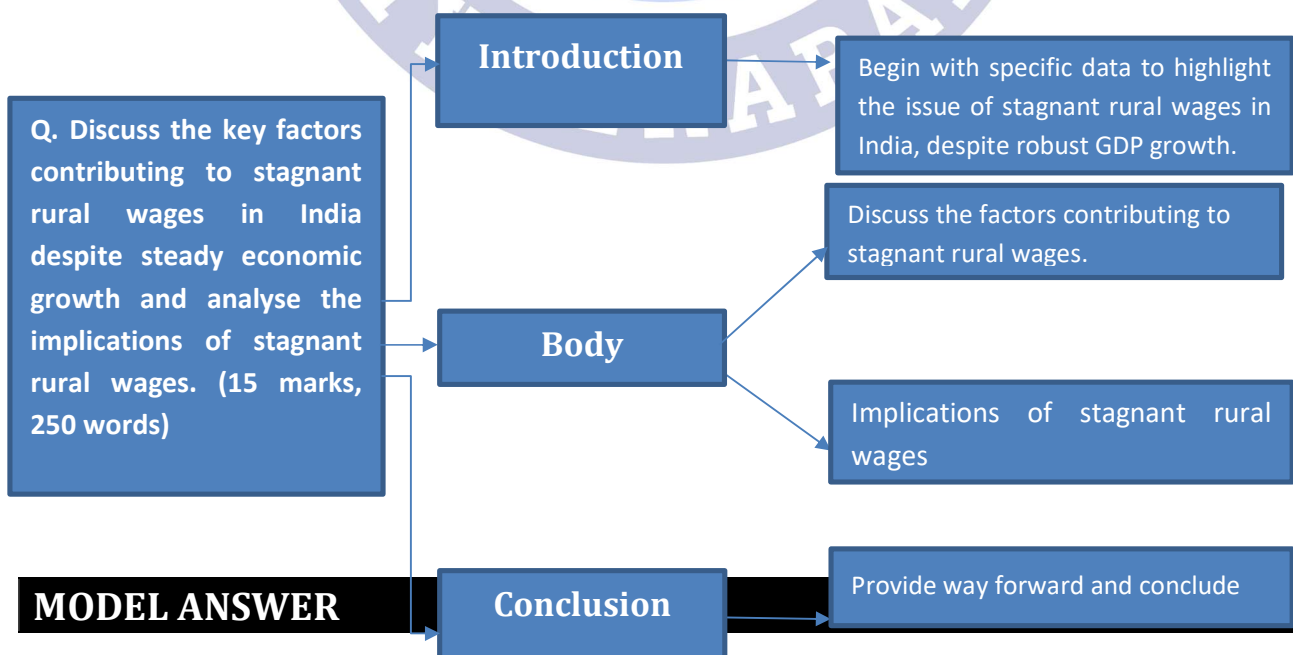
- **Enhancing Non-Farm Employment Opportunities:** Diversifying rural employment through the promotion of agro-based industries, rural tourism, and small-scale manufacturing can reduce the over-reliance on agriculture. This can create more stable job opportunities and improve rural wage levels.
- **Strengthening Skill Development Programs:** Expanding and tailoring skill development initiatives like PMKVY to meet the specific needs of rural economies will improve employability and allow rural workers to access higher-paying jobs, both locally and in urban areas.
- **Increasing Investment in Rural Infrastructure:** Programs like the Rural Infrastructure Development Fund (RIDF) should be scaled up to develop critical infrastructure, such as roads,

- electricity, and internet connectivity. This will enhance productivity and encourage private investment in rural areas, which can lead to better wage growth.
- **Implementing Minimum Wage Reforms:** Regularly revising and enforcing minimum wages in rural sectors can ensure fair compensation for workers. Strengthening wage laws and enforcement mechanisms will also help in protecting rural laborers from exploitation.
 - **Promoting Agricultural Modernization:** Increasing access to modern farming techniques, quality seeds, and irrigation facilities can boost agricultural productivity. Enhanced productivity can help farmers generate higher incomes, allowing them to pay better wages to laborers.
 - **Improving Access to Credit:** Expanding access to affordable credit for rural businesses and farmers through government schemes like Kisan Credit Card can enable rural entrepreneurs and farmers to invest in productivity-enhancing assets, indirectly contributing to wage growth.
 - **Better Implementation of Social Security Schemes:** Ensuring timely and effective implementation of social security programs like MGNREGA and PM-KISAN can provide a safety net for rural households, improving their financial stability and reducing wage volatility.
 - **Encouraging Private Sector Involvement:** Creating incentives for private sector companies to set up operations in rural areas can stimulate job creation and wage growth. Policies encouraging rural entrepreneurship and public-private partnerships in rural development can attract more investments.
 - **Enhancing Rural Education and Healthcare Access:** Improving access to quality education and healthcare can lead to better human capital development. Healthier and more educated rural populations can contribute to higher productivity and wage levels over time.
 - **Addressing Rural Inflation through Subsidies and Price Controls:** To prevent rural wages from being eroded by inflation, targeted subsidies on essential items (such as food and fuel) and price control mechanisms can help stabilize the purchasing power of rural households, making wage gains more meaningful.

PRACTICE QUESTION

Q. Discuss the key factors contributing to stagnant rural wages in India despite steady economic growth and analyse the implications of stagnant rural wages. (15 marks, 250 words)

APPROACH



MODEL ANSWER

Despite India's robust GDP growth, rural wages have shown limited real-term growth, highlighting a disconnect between national economic progress and rural income levels. **From 2019 to 2024, India's GDP grew at an annual average of 4.6%, with a sharper rise to 7.8% in the last three years.** However, rural wages have lagged, growing nominally at 5.2% per year and agricultural wages at 5.8%, while inflation-adjusted **real wage growth shows a decline of 0.4% annually, with agricultural wages rising by only 0.2%** (Source: Labour Bureau). This stagnation reveals a pressing issue within the rural economy.

Factors Contributing to Stagnant Rural Wages:

- Increased Labour Force Participation Among Rural Women:** The Labour Force Participation Rate (LFPR) for rural women rose from 26.4% in 2018-19 to 47.6% in 2023-24, partly driven by initiatives like the Ujjwala and Swachh Bharat schemes. This increase in labor supply exerts downward pressure on wages as more individuals enter the workforce (Periodic Labour Force Survey, 2023-24).
- Capital-Intensive Economic Growth:** India's economic expansion has shifted toward capital-intensive industries that require less labor, especially in rural areas, reducing labor demand and wage growth opportunities (Economic Survey 2023-24).
- Decline in Agricultural Productivity:** Agriculture, the primary employer in rural India (45.6% of the rural workforce as per PLFS 2022-23), faces challenges such as erratic monsoons and limited access to modern techniques, leading to low productivity and restricted wage growth.
- Insufficient Non-Farm Employment Opportunities:** With limited non-agricultural employment options, rural workers are often confined to low-paying agricultural jobs, resulting in an oversupply of labor and stagnant wages.
- Inadequate Implementation of Rural Employment Schemes:** Programs like MGNREGA aim to provide wage employment in rural areas, yet challenges like delayed payments and underfunding have hindered their potential to support wage growth (MGNREGA Annual Report 2023-24).
- Inflation Outpacing Wage Growth:** Persistent rural inflation, ranging from 7.1% to 7.5% between November 2023 and February 2024, has eroded purchasing power, leading to real wage contraction in 25 of 27 recent months (RBI Inflation Reports).

Implications of Stagnant Rural Wages

- Impeded Poverty Reduction:** Low wages hinder poverty alleviation, with 19.28% of the rural population remaining multidimensionally poor compared to 5.27% in urban areas (National MPI Review 2023).
- Suppressed Rural Consumption:** Limited wage growth reduces purchasing power, lowering demand for goods and services and slowing economic growth.
- Increased Migration to Urban Areas;** Low rural wages drive migration to cities, adding pressure to urban infrastructure (NSSO 2021-22).
- Vicious Cycle of Poverty:** Low wages create a cycle of poverty, limiting savings, investment, and productivity, which in turn reinforces wage stagnation.
- Heightened Income Inequality:** Persistent wage stagnation exacerbates income inequality between rural and urban areas, contributing to social disparities.
- Adverse Health and Education Outcomes:** Limited income affects access to healthcare and education, leading to higher malnutrition rates and lower literacy in rural areas (NFHS-5, 2019-21).

Government Initiatives to Address Stagnant Rural Wages:

- Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)
- Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY-NRLM)
- Pradhan Mantri Kaushal Vikas Yojana (PMKVY)
- Aatmanirbhar Bharat Rozgar Yojana (ABRY)

Way Forward

- **Enhance Non-Farm Employment Opportunities** to reduce reliance on agriculture.
- **Strengthen Skill Development Programs** to improve employability in higher-wage jobs.
- **Increase Investment in Rural Infrastructure** to boost productivity and attract private investment.
- **Implement Minimum Wage Reforms** to ensure fair compensation.
- **Modernize Agricultural Practices** with access to quality seeds and irrigation for higher productivity.
- **Expand Access to Credit** through schemes like the Kisan Credit Card for investment in productivity.

Addressing stagnant rural wages requires a comprehensive approach that fosters non-farm employment, skill development, and infrastructure investment. Moving forward, aligning rural income growth with national economic progress is essential for poverty reduction and social stability. By focusing on equitable wage distribution and sustainable job opportunities, India can create a balanced path toward inclusive development and improved rural livelihoods.



27. DEDICATED FREIGHT CORRIDORS

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Industry and infrastructure > Infrastructure & Investment models > Railways

REFERENCE NEWS:

- A recent study by the University of New South Wales, published in Elsevier, highlights the substantial economic contributions of India's Dedicated Freight Corridors (DFCs). These corridors are not only enhancing India's GDP but also boosting Indian Railways' revenues through increased efficiency and reduced freight costs.

MORE ON NEWS:

- The DFCs have been shown to contribute to overall GDP growth by making the transport of goods more efficient.
- According to the study, DFCs contributed to a **2.94% growth in Indian Railways' revenue** from FY 2018–19 to FY 2022–23.
- Faster and more efficient freight transit has reduced the transportation cost and time, leading to a **reduction in commodity prices by up to 0.5%**.
- This price reduction not only benefits consumers but also increases India's global trade competitiveness.
- The findings were derived from an analysis of the **Western Dedicated Freight Corridor (WDFC) data from FY 2019–20**.

WHAT ARE DEDICATED FREIGHT CORRIDORS?

- DFCs are specific routes optimized for freight transportation, designed to enhance efficiency and capacity by facilitating the faster transit of goods, double-stacked containers, and heavy-haul trains.
- By improving supply chain efficiency, DFCs are strategically positioned along key industrial and economic hubs, boosting export-import traffic.
- **In October 2006**, the **Dedicated Freight Corridor Corporation of India Limited (DFCCIL)**, a Public Sector Undertaking (PSU) corporation run by the Ministry of Railways, was established as a Special Purpose Vehicle for constructing, operating, and maintaining these corridors.

BACKGROUND AND CURRENT STATUS OF THE DFC PROJECT

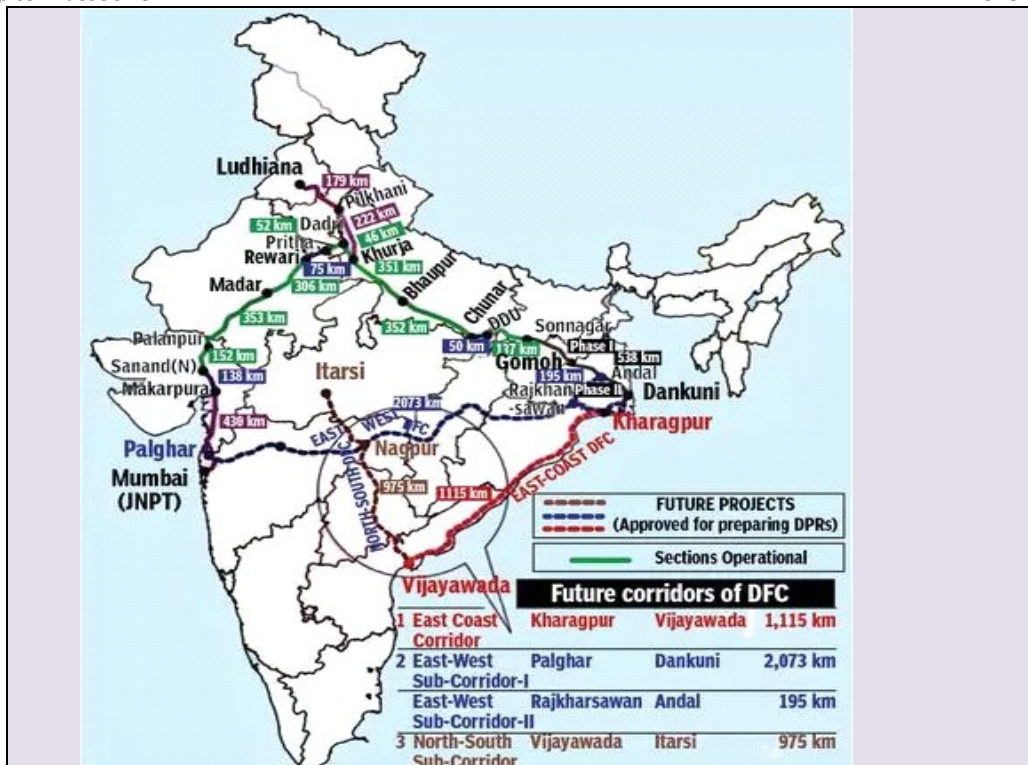
- **Initial Planning and Development:**
 - The Ministry of Railways initiated the construction of two primary corridors:
 - **Eastern Dedicated Freight Corridor (EDFC):** 1,337 km route from Sonnagar in Bihar to Sahnewal in Punjab.
 - **Western Dedicated Freight Corridor (WDFC):** 1,506 km stretch from Jawaharlal Nehru Port Terminal in Mumbai to Dadri in Uttar Pradesh.
 - Foundation laid in 2006 by then Prime Minister Dr. Manmohan Singh.



- **Completion and Progress:**
 - **EDFC: Fully operational** with feeder routes connected to various coal mines and thermal power plants.
 - **WDFC: 93% completed**, with feeder routes to major ports in Gujarat. Expected to be fully operational by December 2025.
 - **Investment:** As of March 2024, ₹94,091 crore has been invested in the project, excluding land acquisition costs.
- **Operational Impact:**
 - Currently, 325 trains run daily, a 60% increase from the previous year.
 - DFC trains are faster, safer, and heavier, having carried over 232 billion Gross Tonne Kilometres (GTKMs) and 122 billion Net Ton Kilometres (NTKMs) since inception.
 - More than **10% of Indian Railways' freight is now transported via DFCs.**

Future Prospects: Proposed DFCs

- **Expansion Plans:**
 - **East Coast Corridor:** Kharagpur to Vijayawada (1,115 km).
 - **East-West Sub-corridor I:** Palghar to Dankuni (2,073 km).
 - **East-West Sub-corridor II:** Rajkharsawan to Andal (195 km).
 - **North-South Sub-corridor:** Vijayawada to Itarsi (975 km).



SIGNIFICANCE OF DEDICATED FREIGHT CORRIDORS (DFCS)

- **Over-utilization of Existing Network:**
 - The **Golden Quadrilateral**, connecting Delhi, Mumbai, Chennai, and Howrah, handles **52% of passenger traffic and 58% of revenue-generating freight**, despite comprising **only 16% of the rail route**.
- **Decongestion:**
 - With approximately **70% of freight trains** expected to shift to DFCs, the existing rail network will have more capacity to accommodate passenger trains, improving punctuality and service efficiency.
- **Increasing Rail Freight Share:**
 - In line with the **National Rail Plan**, which aims to **boost rail freight share to 45% by 2030**, DFCs will enhance rail capacity, providing a competitive alternative to road transport.
- **Reduction in Greenhouse Gas Emissions:**
 - DFCs offer an environmentally friendly option by alleviating road congestion, thus reducing greenhouse gas emissions associated with road transport.
- **Economic and Social Impact of DFCs**
 - **Study Findings by University of New South Wales:**
 - **GDP Contribution:** DFCs contributed to a 2.94% revenue growth for the Railways from FY 2018–19 to FY 2022–23.
 - **Commodity Prices:** Reduction in freight costs and travel time through DFCs has led to a decrease in commodity prices by up to 0.5%.
 - **Social Equalising Effect:** Significant economic benefits were observed in states with lower per-capita GDP, indicating a positive redistribution impact.
- **Improved Connectivity:**
 - By connecting key economic centers, DFCs support logistics players and industries along their routes, boosting import-export activity and supply chain efficiency.
- **Faster Transit Times:**
 - Transit times are reduced by up to **50%** in some cases, allowing goods to reach destinations quicker and minimizing delays.

- **New Investment Avenues:**
 - The establishment of **industrial corridors and logistics parks** along the DFCs promotes investment, stimulating economic activity in regions around these routes.
- **Track Access Charges and Custom Logistic Services:**
 - DFCs will earn track access charges from Indian Railways and expand rail freight share by offering tailored logistic services, further boosting revenue.
- **Increased Load Capacity:**
 - DFC tracks are built to **carry heavier loads**, accommodating high levels of transport demand.
- **High-end Technology Integration:**
 - The corridors incorporate advanced IT systems for managing freight operations, improving productivity and reducing unit transport costs.

CHALLENGES

- **Slow progress in land acquisition by states:** For instance, the Gujarat government has cited **slow acquisition of land** for approach roads as a major hurdle. Rehabilitation of affected communities is also a persistent issue, delaying project progress.
- **Time taken in obtaining statutory clearances:** Securing approvals for the procurement of construction materials has disrupted the project schedule, impacting the timeline for implementing agencies.
- **Sluggish work by contractors:** Major contractors, including Alstom, Hitachi, GMR Infra, TPL-Aldesa (a joint venture of TATA Projects India and ALDESA of Spain), and Texmaco Rail and Engineering, have faced difficulties such as **labor shortages, cash flow problems, and general delays in mobilizing resources**.
- **Law and order situation:** In the Eastern Dedicated Freight Corridor (EDFC), **law and order issues** have arisen in areas like Meerut, Muzaffarnagar, and Saharanpur in Uttar Pradesh. These regions have faced **protests that disrupted construction**, especially affecting the completion of 46 planned road-over-bridges (RoBs), of which only three have been completed while work is yet to commence on 13 others.
- **Delay in construction of approach roads by state governments:** Slow progress in building essential approach roads has created logistical challenges, while long-pending arbitration cases have further delayed development.
- **Delay in cost-sharing agreements for Road Over Bridges (RoBs):** Prolonged delays in obtaining consent and subsequent sanctioning of cost-sharing arrangements for RoBs by state governments along the DFC alignment pose a significant risk to the project's timely execution.
- **Impact of COVID-19 pandemic:** Initially scheduled for completion by December 2021, the DFC project was delayed due to the pandemic, pushing the completion deadline to June 2022. The pandemic resulted in labor shortages, disrupted supply chains, and restricted access to work sites.
- **Lease rent demands by state departments:** The Uttar Pradesh Forest Department's high lease rent demands have further impeded the project's progress.
- **Challenges in coordination with industrial corridors:** Ensuring seamless integration between DFCs and industrial corridors has been challenging, affecting the connectivity between these projects and overall operational efficiency.
- **Public-Private Partnership (PPP) project complications:** PPP projects often experience time and cost overruns, with private entities pushing for higher revenues, complicating project management and increasing budget pressures.
- **Stringent environmental regulations:** Environmental laws have become more rigorous, and securing necessary clearances, particularly from the National Green Tribunal (NGT), has led to project delays.

- **Limited capacity for efficient coordination among states:** Coordination between central and state governments, especially for RoB and land acquisition matters, remains a challenge, slowing down approval processes and decision-making.

WAY FORWARD

- **Streamlining Land Acquisition:** To expedite land acquisition, state governments could adopt single-window clearance mechanisms, ensuring swift and transparent processing of required approvals and prioritizing rehabilitation programs for affected communities.
- **Improving Coordination Among Agencies:** Enhancing coordination between the Dedicated Freight Corridor Corporation of India Limited (DFCCIL), state governments, and industrial corridors can help avoid delays. Setting up joint committees with representatives from key stakeholders could facilitate smoother decision-making.
- **Ensuring Contractor Accountability:** Strengthening contracts with enforceable clauses for accountability and timely completion would help mitigate delays from contractors. The government could also consider incentives for early completion and penalties for sluggish work.
- **Strengthening Law and Order:** Improved collaboration with local authorities to maintain law and order in sensitive areas along the DFC routes is essential. Engaging with local communities to address grievances and ensure security for construction workers can help mitigate disruptions.
- **Addressing Environmental Concerns:** Establishing a framework for faster environmental clearances while adhering to sustainability standards will help meet both regulatory and operational needs. Engaging with the National Green Tribunal (NGT) early in the planning process can help minimize delays due to environmental laws.
- **Expanding Public-Private Partnerships (PPP):** The government can encourage more effective PPP models by defining clear terms and setting realistic profit-sharing goals, while monitoring progress closely. A supportive regulatory environment that ensures fair returns for private players while aligning with project goals is essential.
- **Deploying Advanced Technology:** Utilizing high-end technology and advanced IT systems for project monitoring, data management, and supply chain optimization will increase efficiency, reduce delays, and enhance freight productivity on the DFCs.
- **Developing Skilled Workforce:** Investing in training programs for construction workers, engineers, and operators associated with the DFCs will ensure that skilled labor is available to meet future demands.

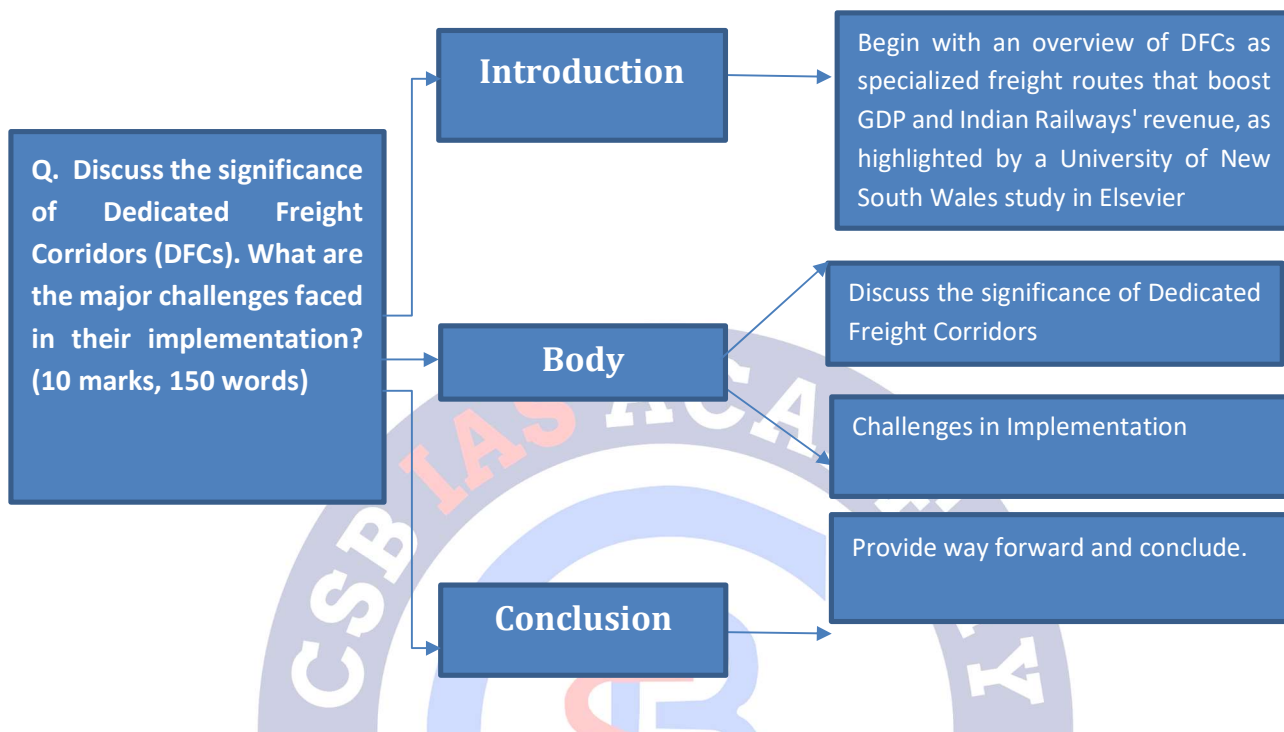
CONCLUSION

- The Dedicated Freight Corridors represent a transformative shift in India's rail and logistics infrastructure, offering solutions to longstanding issues of congestion, environmental impact, and economic inefficiencies. By addressing current challenges and implementing strategic improvements, India can realize the full potential of DFCs, which promise to enhance GDP growth, reduce logistics costs, and foster regional development. The DFCs, once fully operational, will be instrumental in elevating India's competitiveness in global trade and advancing its economic ambitions.

PRACTICE QUESTION

Q. Discuss the significance of Dedicated Freight Corridors (DFCs). What are the major challenges faced in their implementation? (10 marks, 150 words)

APPROACH



MODEL ANSWER

The University of New South Wales, in a study published by *Elsevier*, highlighted the significant economic contributions of India's Dedicated Freight Corridors (DFCs). These specialized freight routes, designed for efficient goods transit, **have enhanced GDP and increased Indian Railways' revenue** by reducing freight costs and improving transport times. Initiated in 2006 by the Dedicated Freight Corridor Corporation of India Limited (DFCCIL), DFCs connect major industrial hubs, streamlining India's supply chain.

Significance of Dedicated Freight Corridors:

1. **Economic Growth:** DFCs contributed to a 2.94% revenue increase for Indian Railways between FY 2018–19 and FY 2022–23.
2. **Reduced Commodity Prices:** Faster transit reduces transportation costs, decreasing commodity prices by up to 0.5%.
3. **Higher Rail Freight Share:** DFCs support the National Rail Plan's target of a 45% rail freight share by 2030, reducing road traffic.
4. **Decongestion of Rail Network:** Shifting 70% of freight trains to DFCs allows greater capacity for passenger trains, enhancing punctuality.
5. **Environmental Benefits:** DFCs reduce greenhouse gas emissions by lessening road transport dependency.
6. **Regional Development:** States with lower per capita GDP benefit significantly, promoting balanced economic growth.
7. **Improved Investment Opportunities:** DFCs foster the development of industrial corridors and logistics parks, stimulating regional investments.

Challenges in Implementation:

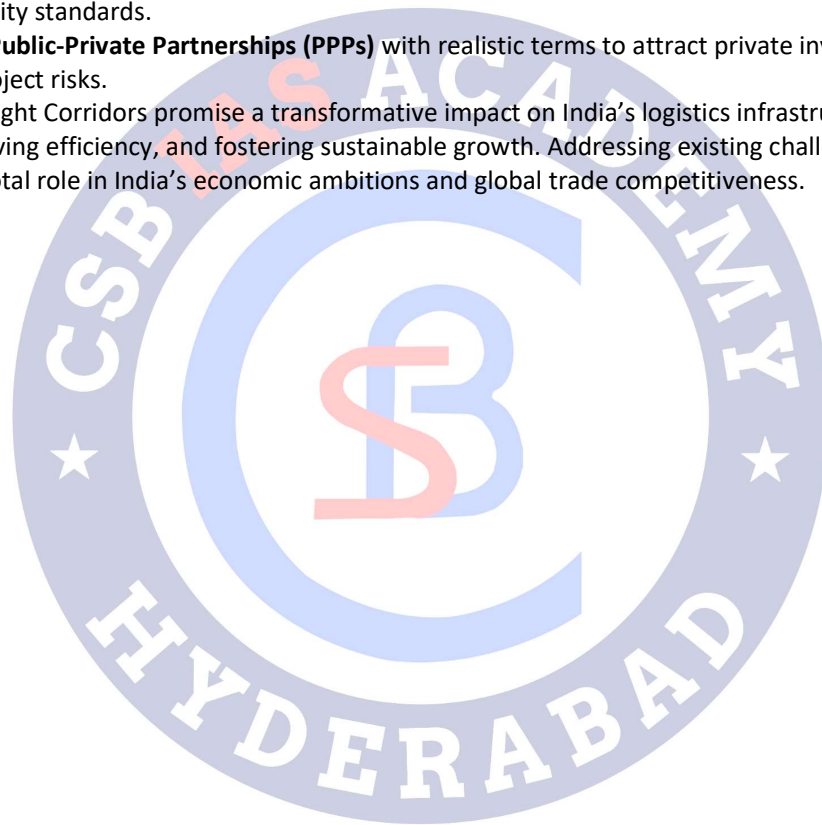
1. **Land Acquisition Delays:** Slow land acquisition and rehabilitation processes, especially in Gujarat, impact project timelines.
2. **Delays in Statutory Clearances:** Obtaining construction material and environmental clearances disrupts schedules.

3. **Underperforming Contractors:** Labor shortages and cash flow issues among contractors lead to project delays.
4. **Law and Order Issues:** Protests in areas like Meerut disrupt construction, particularly for Road Over Bridges (RoBs).
5. **Coordination with Industrial Corridors:** Integrating DFCs with industrial corridors poses connectivity and efficiency challenges.
6. **Impact of COVID-19:** The pandemic caused delays due to labor shortages and supply chain disruptions.
7. **Environmental and Regulatory Challenges:** Strict environmental laws and National Green Tribunal (NGT) clearances slow progress.

Way Forward

- **Expedite Land Acquisition** through single-window clearance systems and prioritize rehabilitation.
- **Enhance Coordination** between DFCCIL, state agencies, and industrial corridors for smoother integration.
- **Strengthen Contracts** with enforceable timelines and penalties to ensure contractor accountability.
- **Address Environmental Concerns** by establishing streamlined clearance processes aligned with sustainability standards.
- **Promote Public-Private Partnerships (PPPs)** with realistic terms to attract private investment and reduce project risks.

The Dedicated Freight Corridors promise a transformative impact on India's logistics infrastructure by reducing congestion, improving efficiency, and fostering sustainable growth. Addressing existing challenges will allow DFCs to play a pivotal role in India's economic ambitions and global trade competitiveness.



28. WIND ENERGY IN INDIA

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Environment & Ecology > Global warming > Renewable energy

REFERENCE NEWS:

- Recently, the Tamil Nadu government introduced the "**Tamil Nadu Repowering, Refurbishment and Life Extension Policy for Wind Power Projects - 2024**," which has faced opposition from wind energy generators, resulting in a judicial stay.
- The policy aims to **modernize Tamil Nadu's aging wind energy infrastructure**, improve efficiency, and maximize the state's wind energy potential.
- Tamil Nadu has been a leader in wind turbine installations since the 1980s. The state currently has the second-largest installed wind energy capacity in India, totaling 10,603.5 MW. Nearly half of the 20,000 wind turbines in Tamil Nadu are smaller than 1 MW in capacity.

MORE ON NEWS:

- "Tamil Nadu Repowering, Refurbishment, and Life Extension Policy for Wind Power Projects—2024" has faced significant opposition from wind energy generators due to the following reasons:
 - **High Development Charges:** The policy imposes a charge of **₹30 lakh per MW for repowering or refurbishment**. When combined with the costs of evacuation infrastructure and maintenance, this significantly increases the financial burden on generators.
 - **Restrictive Energy Banking Provisions:** The policy limits energy banking to 50% of the power generated during windy months and **raises banking charges from 14% to 16%**. This restricts operational flexibility and affects financial sustainability.
 - **Mandatory Repowering for Older Turbines:** Turbines **older than 20 years** must be repowered or refurbished, even if operational. This requirement places a disproportionate financial strain on smaller generators who may struggle to justify the investment.
 - **Infrastructure Costs:** Generators must fund substation upgrades and feeder enhancements to handle increased power output, further adding to the economic strain.
 - **Lack of Incentives:** The policy **does not provide sufficient financial support or incentives** to offset the costs of repowering and refurbishment, making projects commercially unviable.

These provisions, while aimed at modernizing wind energy infrastructure, have been criticized for **their impracticality and financial implications**, prompting generators to seek revisions for a **more balanced and sustainable policy**.

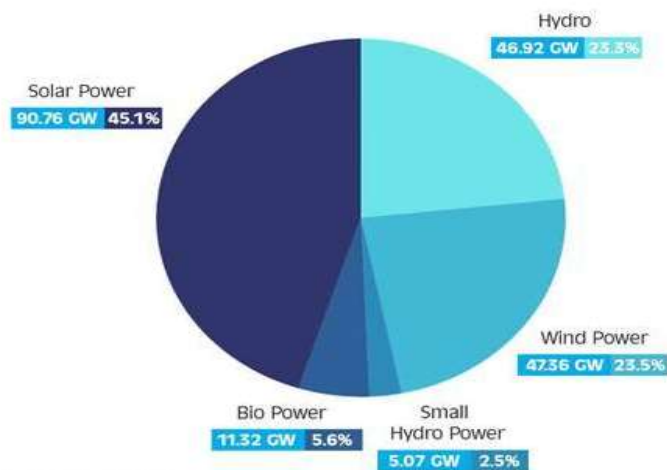
Repowering involves replacing older wind turbines (more than 15 years old or under 2 MW) with new, **more efficient models**. **Refurbishment** may include measures such as **increasing the turbine height, changing blades, or upgrading gearboxes** to enhance energy generation.

CURRENT STATUS:

- India is **ranked fourth globally** in installed wind energy capacity.
- The National Institute of Wind Energy (NIWE) notes a potential of **1,163.86 GW at 150 meters above ground** and **695.51 GW at the normal turbine height of 120 meters**.
- Key contributors including **Gujarat, Tamil Nadu, Karnataka, Maharashtra, Rajasthan, and Andhra Pradesh** account for **93.37%** of the country's wind power capacity installation.



Renewable Energy Capacity in India



As of October 10, 2024

SIGNIFICANCE OF WIND POWER FOR INDIA

Wind power plays a pivotal role in India's energy landscape, offering numerous benefits that align with the nation's environmental, economic, and energy security objectives.

- **Combating Climate Change:**
 - India's Intended Nationally Determined Contributions (INDCs) under the Paris Agreement emphasize reducing carbon emissions and increasing the share of non-fossil fuel-based energy. Wind energy, as a clean and renewable source, is integral to achieving these targets. By expanding wind power capacity, India can significantly lower greenhouse gas emissions, contributing to global climate change mitigation efforts.
- **Enhancing Energy Security:**
 - India imports approximately 90% of its primary energy requirements, making it vulnerable to global energy market fluctuations. Diversifying the energy mix with wind power reduces dependence on imported fossil fuels, thereby enhancing energy security and stabilizing the economy against external shocks.
- **Leveraging Geographical Potential:**
 - The National Institute of Wind Energy (NIWE) has assessed India's wind power potential at 695.50 GW at 120 meters above ground level. Additionally, with a coastline of about 7,600 km, India has substantial prospects for offshore wind energy development. These resources, if harnessed effectively, can substantially contribute to the nation's energy supply.
- **Meeting Rising Energy Demands:**
 - India faces chronic energy shortages, and initiatives like FAME-II and Make in India are expected to increase electricity demand. Wind energy offers a scalable solution to meet this growing demand sustainably, supporting industrial growth and the transition to electric mobility.
- **Promoting Inclusive Growth:**
 - The cost of wind energy has decreased significantly, with tariffs reaching as low as ₹2.43 per unit in Gujarat in 2017. This affordability makes clean energy accessible to a broader population, including economically disadvantaged communities, fostering inclusive growth and reducing energy poverty.

- **Aligning with Government Policies:**
 - India has committed to sourcing 50% of its electricity from non-fossil fuel sources by 2030. These policy targets underscore the government's dedication to transitioning towards a sustainable energy future, with wind power as a cornerstone of this strategy.

GOVERNMENT INITIATIVES:

- **National Offshore Wind Energy Policy (2015):** This policy facilitates the development of offshore wind energy projects within India's Exclusive Economic Zone (EEZ), aiming to harness the vast offshore wind potential along the coastline.
- **National Wind-Solar Hybrid Policy (2018):** It provides a framework for large grid-connected wind-solar photovoltaic (PV) hybrid systems, optimizing the use of transmission infrastructure and land resources.
- **Green Energy Corridor Project:** This initiative focuses on strengthening the transmission network to integrate renewable energy sources, including wind, into the national grid, ensuring efficient power evacuation.
- **Policy for Repowering of Wind Power Projects (2016, Revised in 2023):** The policy encourages the replacement of older wind turbines with modern, higher-capacity units to enhance efficiency and energy output.
- **Foreign Direct Investment (FDI):** The government permits 100% FDI under the automatic route for renewable energy projects, including wind energy, to attract international investments.
- **Accelerated Depreciation and Generation-Based Incentives (GBI):** These fiscal incentives are designed to encourage investment in wind energy by offering tax benefits and financial rewards based on energy generation.

CHALLENGES:

- **Location-Specific Potential:**
 - Optimal wind power generation requires high wind speeds, predominantly found in seven states: Gujarat, Rajasthan, Maharashtra, Tamil Nadu, Madhya Pradesh, Karnataka, and Andhra Pradesh. This geographic concentration limits widespread adoption.
- **High Capital Investments:**
 - Establishing wind farms involves substantial capital expenditure, estimated between ₹6.8 to ₹7.2 crore per megawatt (MW). This high upfront cost can deter investors.
- **Grid Connectivity Issues:**
 - Inadequate transmission infrastructure and limited power storage facilities hinder the integration of wind energy into the national grid, affecting reliability and efficiency.
- **Unviable Tariffs:**
 - Competitive bidding has driven tariffs as low as ₹2.44 per unit, challenging the financial viability for companies operating in the sector.
- **Project Execution Delays:**
 - The involvement of multiple agencies, including the Ministry of New and Renewable Energy (MNRE), Indian Renewable Energy Development Agency (IREDA), state electricity boards, and regulatory commissions, complicates and delays project implementation.
- **Land Acquisition Challenges:**
 - Securing land for wind projects is complex due to competing land uses and regulatory hurdles, often leading to delays and increased costs.
- **Infrastructure Limitations:**
 - Many rural areas lack roads capable of transporting large turbine components, such as blades exceeding 100 feet, adding to logistical challenges and costs.

- **Policy and Regulatory Hurdles:**
 - Frequent policy changes and lack of consensus among stakeholders have impeded sector growth, creating uncertainty for investors and developers.
- **Technological Constraints:**
 - India's wind energy sector has been slow to adopt advanced technologies, such as larger turbines and offshore installations, limiting efficiency and capacity expansion.
- **Environmental and Social Concerns:**
 - Wind projects can face opposition due to potential impacts on local ecosystems and communities, necessitating careful planning and stakeholder engagement.

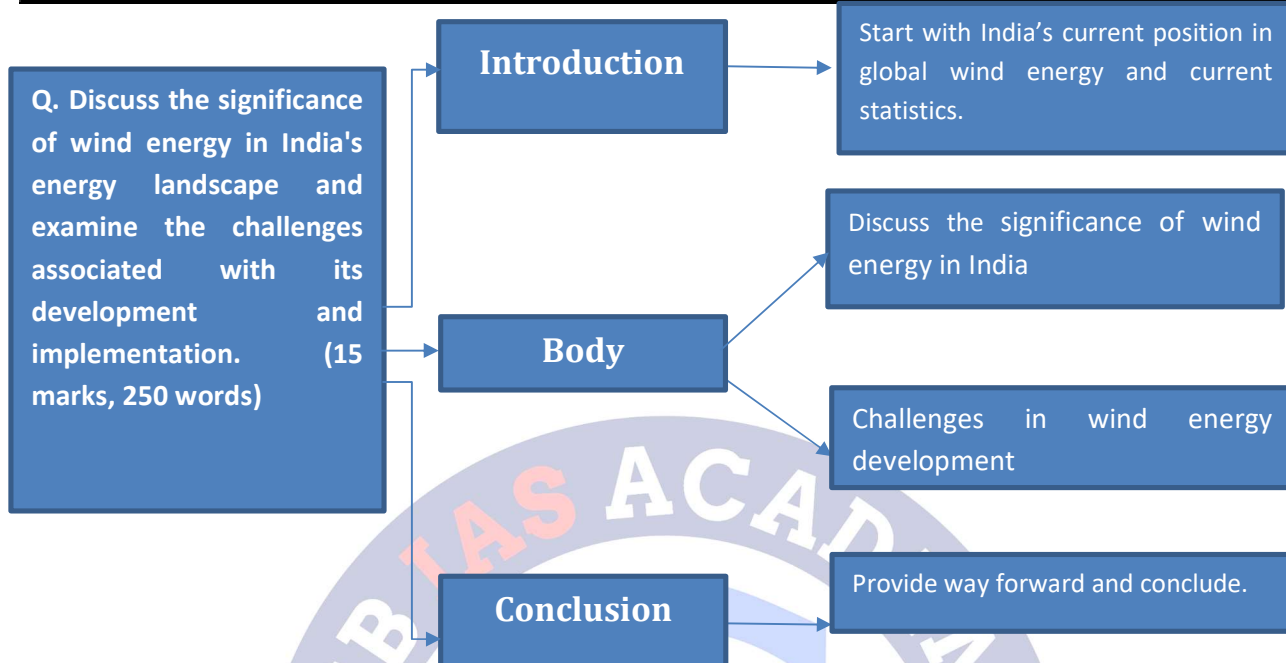
WAY FORWARD:

- **Efficient Storage Facilities:** Encourage research in indigenous storage solutions like lithium-ion batteries, pumped hydro, and green hydrogen to improve the reliability and integration of renewable energy sources.
- **Strengthen Power Purchase Agreements (PPAs):** Revamp and strengthen PPAs to ensure favorable terms for developers, making renewable energy projects more bankable and financially sustainable.
- **Explore Full Potential:** Encourage wind energy development in low wind speed areas and offshore regions to maximize the country's wind energy potential.
- **Robust Grid Infrastructure:** Expedite the Green Energy Corridor Project to integrate renewable energy efficiently and reduce grid congestion with dedicated transmission infrastructure.
- **Capital Cost Reduction:** Reduce customs duties on imported wind turbine components and promote domestic manufacturing to lower costs and create employment opportunities.
- **Simplify Land Acquisition:** Implement a single-window clearance system and prioritize the use of degraded or non-agricultural land to reduce conflicts and delays.
- **Adopt Advanced Technologies:** Deploy larger, efficient turbines and explore innovative solutions like floating turbines to harness offshore wind potential.
- **Decentralized Wind Energy:** Support small-scale and community-based wind projects with subsidies or net metering to enhance energy access in rural and remote areas.
- **Policy Stability and Reforms:** Maintain consistent and long-term policies while addressing regulatory bottlenecks to attract investors and ensure smooth project execution.
- **Involve Local Communities:** Engage local communities in projects and provide training programs to equip them with skills for employment in the wind energy sector.
- **Focus on Offshore Wind Energy:** Streamline approvals and develop port infrastructure to facilitate offshore wind projects, leveraging public-private partnerships.
- **Climate-Resilient Infrastructure:** Design wind energy systems to endure extreme weather events, ensuring their sustainability and reliability.
- **International Collaboration:** Collaborate with global leaders like Denmark and Germany for technology, funding, and expertise, and utilize mechanisms like the Green Climate Fund for large-scale wind energy projects

PRACTICE QUESTION

Q. Discuss the significance of wind energy in India's energy landscape and examine the challenges associated with its development and implementation. (15 marks, 250 words)

APPROACH



MODEL ANSWER

India ranks **4th globally** in installed wind energy capacity, with a total of **47.36 GW**, contributing **23.5% of the country's total renewable energy capacity of 200.43 GW (as of October 2024)**. The National Institute of Wind Energy (NIWE) notes a **potential of 1,163.86 GW at 150 meters above ground** and 695.51 GW at the normal turbine height of 120 meters. This underlines the critical role of wind energy in India's renewable energy mix and its transition to a sustainable energy future.

Significance of Wind Energy in India

- 1. Combatting Climate Change:** Wind energy is central to India's INDC targets under the Paris Agreement, aiming to source 50% of electricity from non-fossil fuel sources by 2030.
- 2. Enhancing Energy Security:** Reduces dependency on fossil fuel imports (90% of primary energy imports), insulating the economy from global energy price volatility.
- 3. Meeting Rising Energy Demands:** Initiatives like FAME-II and the push for electric mobility are driving higher electricity demand, which can be met sustainably through wind energy.
- 4. Promoting Inclusive Growth:** The falling tariffs of wind energy (as low as ₹2.43/unit in Gujarat, 2017) have made renewable energy affordable for economically weaker sections.
- 5. Leveraging Geographical Potential:** With a coastline of 7,600 km and high wind speed zones in states like Gujarat, Tamil Nadu, and Karnataka, India has immense onshore and offshore potential.
- 6. Aligning with Global Leadership in Renewables:** India's leadership in the International Solar Alliance is complemented by its advancements in wind energy, boosting its stature in global climate diplomacy.

Challenges in Wind Energy Development

- 1. Location-Specific Potential:** Wind energy generation is limited to specific states with high wind speeds, restricting widespread adoption.
- 2. High Capital Costs:** The initial investment is significant, estimated at ₹6.8–₹7.2 crore per MW, deterring investors.

3. **Grid Connectivity Issues:** Limited transmission infrastructure and storage facilities reduce the reliability of wind power integration.
4. **Land Acquisition Challenges:** Regulatory hurdles and competing land uses lead to delays and higher costs, especially in land-scarce regions.
5. **Policy Uncertainty:** Frequent changes in policies and lack of a uniform regulatory framework discourage private sector investment.
6. **Technological Constraints:** Lack of advanced technologies such as floating turbines and large-capacity offshore installations restricts efficiency and capacity expansion.
7. **Environmental and Social Concerns:** Projects face opposition due to potential disruptions to local ecosystems and community livelihoods.

Government Initiatives

- National Offshore Wind Energy Policy (2015)
- National Wind-Solar Hybrid Policy (2018)
- Green Energy Corridor Project
- Policy for Repowering of Wind Power Projects (2016, Revised 2023)
- Accelerated Depreciation and Generation-Based Incentives (GBI)

Way Forward

- **Develop Efficient Storage Solutions:** Invest in indigenous storage technologies like lithium-ion batteries and green hydrogen.
- **Strengthen Grid Infrastructure:** Expedite projects like the Green Energy Corridor to reduce grid congestion and ensure efficient evacuation.
- **Encourage Offshore Wind Development:** Develop port infrastructure and streamline regulatory approvals to harness offshore potential.
- **Promote Technology Upgradation:** Encourage the adoption of larger and more efficient turbines, including floating technologies.
- **Facilitate Land Acquisition:** Implement a single-window clearance system for land and promote the use of degraded lands.
- **Enhance Policy Stability:** Maintain consistent policies with long-term clarity to attract sustained private sector investments.
- **Foster International Collaboration:** Collaborate with global leaders like Denmark and Germany for technology transfer and funding.

Wind energy is pivotal to India's renewable energy goals, addressing climate change, energy security, and economic growth. However, overcoming challenges related to high costs, limited infrastructure, and policy bottlenecks is essential. A collaborative approach involving stakeholders, technological innovation, and supportive government policies can ensure wind energy becomes a cornerstone of India's sustainable energy future.

29. INDIA'S TRADE DEFICIT

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Economic Development

REFERENCE NEWS:

- Some experts argue that India's persistent trade deficit, often perceived as a sign of manufacturing weakness, instead highlights the country's competitive edge in services and its ability to draw significant foreign investments. This view questions traditional interpretations of trade deficits and emphasizes the broader structural strengths of the Indian economy.

TRADE DEFICIT:

- Trade Deficit refers to the economic condition where a **country's imports of goods and services exceed its exports** during a specific period. It is measured as the difference between the value of imports and exports in the trade balance.

Positive Trade Balance (Surplus): Exports > Imports.

Negative Trade Balance (Deficit): Imports > Exports.

- A trade deficit indicates that a **country is a net importer**, spending more on foreign goods and services than it earns from selling its own abroad.
- Components:**
 - Goods Trade Deficit:** When the import of goods exceeds their export.
 - Services Trade Deficit:** When the import of services exceeds their export (though some countries, like India, have a services trade surplus).

INDIA'S TRADE DEFICIT:

- India experiences a **persistent trade deficit**, primarily driven by **substantial imports of crude oil, gold, and electronics**.
- However, this is balanced by its **robust strengths in services exports**, particularly in IT and business process outsourcing, which significantly contribute to offsetting the deficit.
- Trade during October 2024 vs. October 2023:** (Source: Ministry of Commerce and Industry)

		October 2024 (USD Billion)	October 2023 (USD Billion)
Merchandise	Exports	39.20	33.43
	Imports	66.34	63.86
Services*	Exports	34.02	28.05
	Imports	17.00	13.46
Total Trade (Merchandise + Services) *	Exports	73.21	61.48
	Imports	83.33	77.33
	Trade Balance	-10.12	-15.85

- Key Observations:**
 - Merchandise exports showed robust growth**, while imports remained stable, leading to a controlled merchandise trade deficit.
 - Services exports performed exceptionally well, with a higher growth rate compared to imports, contributing to a **strong services trade surplus**.
 - The overall **trade deficit narrowed from USD -15.85 billion (October 2023) to USD -10.12 billion (October 2024)**, signaling improvement in the overall trade scenario.

WHY INDIA'S TRADE DEFICIT IS NOT NECESSARILY A WEAKNESS

- Strength in Services:**
 - India is a global leader in the services sector, particularly in IT and business process outsourcing, contributing significantly to its economy.

- For instance, services exports grew to **USD 215.98 billion (April-October 2024)**, with a surplus of **USD 101.41 billion**, helping offset the merchandise trade deficit.
- India's share in global services exports increased from **0.5% (1993)** to **4.3% (2022)**, making it the **7th largest services exporter**.
- **Comparative Advantage**
 - India's trade structure reflects its focus on exporting **high-value goods** such as **pharmaceuticals, automobiles, and engineering components**, where it holds a strong comparative advantage. For instance, **over one-third of US pharmaceuticals** are manufactured in India.
 - Simultaneously, India imports items like **crude oil, electronics, and machinery**, leveraging global markets for areas where its efficiency is lower.
 - This aligns with the principle of **comparative advantage**, where India focuses on areas of global competitiveness while relying on imports for sectors where it lacks efficiency.
- **Sectoral Competitiveness:**
 - India's manufacturing focuses on **high-value exports** rather than low-cost production, aligning with global demand.
 - For example, India has become a **global hub for automobile components**, with substantial exports to Europe and North America. This strategy prioritizes quality, **ensures sustainability, and strengthens India's position in global value chains**, proving that a trade deficit is not a weakness but a reflection of strategic economic priorities.
- **Capital Goods and Technology:**
 - A significant share of imports includes machinery and technology, essential for initiatives like **'Make in India.'**
 - These imports improve domestic manufacturing capabilities, foster innovation, and enable India to compete in high-value sectors globally.
 - Imports of raw materials and equipment support infrastructure projects and industrial growth, which are **vital for long-term economic development**.
- **Capital Inflows and Current Account Deficit:**
 - India's trade deficit is linked to its ability to attract foreign investments, as capital account inflows balance the current account deficit. This is an economic reality where:
 - Capital inflows of **USD 86.3 billion (FY24)** align with a manageable current account deficit of **0.7% of GDP (USD 23.2 billion)**.
 - Foreign investments bring in **resources, technology, and jobs, driving economic growth**.
- **Strong Domestic Consumption:**
 - A trade deficit often indicates strong domestic **demand for goods and services**, a characteristic of a growing economy.
 - Increased imports of consumer and capital goods signify **rising incomes and investments**.
- **Economic Development:**
 - The deficit reflects India's developmental priorities, where imports are strategically tied to **infrastructure, energy security, and industrialization**.
- **Foreign Exchange Reserves:**
 - India maintains adequate reserves (around \$658 billion) to cushion against economic shocks, such as oil price spikes or currency fluctuations, without overburdening its economy.
 - Reserve management aligns with capital inflows, balancing the trade deficit while maintaining financial stability.
- **Prudent Trade Policy:**
 - By keeping the current account deficit around **2% of GDP**, India ensures that its trade imbalance is sustainable and aligned with its economic strategy.

CHALLENGES AND CONCERNS ASSOCIATED WITH TRADE DEFICIT

- **Balance of Payments (BoP) Vulnerability:**
 - A persistent trade deficit can strain the BoP, especially during external shocks.
 - For instance, **the 1991 BoP crisis** resulted from a high trade deficit, low reserves, and global disruptions like the Gulf War. It necessitated major economic reforms to stabilize the economy.
- **External Shocks and Global Dependencies:**
 - India's heavy reliance on imports of essential commodities, **like crude oil**, makes it vulnerable to **global price fluctuations**.
 - For instance, the **Russia-Ukraine war conflict** led to a sharp rise in global crude oil prices, which significantly increased India's import bill. This contributed to a trade deficit of **USD 23.8 billion** in June 2022, one of the highest monthly trade deficits recorded.
- **Depreciation of the Indian Rupee:**
 - A widening trade deficit increases demand for foreign currency, pressuring the rupee.
 - Recently, the **rupee depreciated to a record low of 84.3950 against the U.S. dollar** in November 2024, exacerbating inflation as imports become more expensive.
- **Dependence on Foreign Capital:**
 - Financing the deficit through foreign inflows, such as FDI and portfolio investments, exposes the economy **to global market volatilities**.
 - For instance, geopolitical tensions with China have affected FDI inflows, highlighting the risks of relying heavily on external financing.
- **Impact on Domestic Industries:**
 - High levels of imports can challenge domestic industries by **increasing competition with cheaper foreign goods**.
 - For example, the **Indian steel industry** has sought protective measures against low-cost imports to safeguard local production, underscoring the risks to domestic employment and industry sustainability.
- **Fiscal Implications:**
 - A large trade deficit **can limit fiscal policy options**, as governments may need to borrow more to finance the deficit, impacting revenue and growth. Persistent deficits **can strain public finances and reduce fiscal flexibility**.

WAY FORWARD

- **Enhance Export Competitiveness:**
 - Provide incentives and infrastructure support to MSMEs to expand their presence in global markets.
 - Strengthen Free Trade Agreements (FTAs) with key trading partners to reduce tariffs and boost export opportunities.
 - **Leverage Export Promotion Schemes:** Utilize initiatives like the **Remission of Duties and Taxes on Exported Products (RoDTEP)**, **Export Promotion Capital Goods Scheme (EPCG)**, **Production Linked Incentive (PLI) Scheme**, and **Market Access Initiative (MAI)** to offer financial assistance, facilitate easier access to global markets, and reduce the cost of export production.
- **Reduce Import Dependency:**
 - Encourage domestic production of key imports, such as electronics and machinery, through initiatives like **'Make in India'** and **Production-Linked Incentive (PLI) schemes**.
 - Promote renewable energy and electric mobility to reduce dependency on crude oil imports.
- **Attract Sustainable Foreign Investments:**

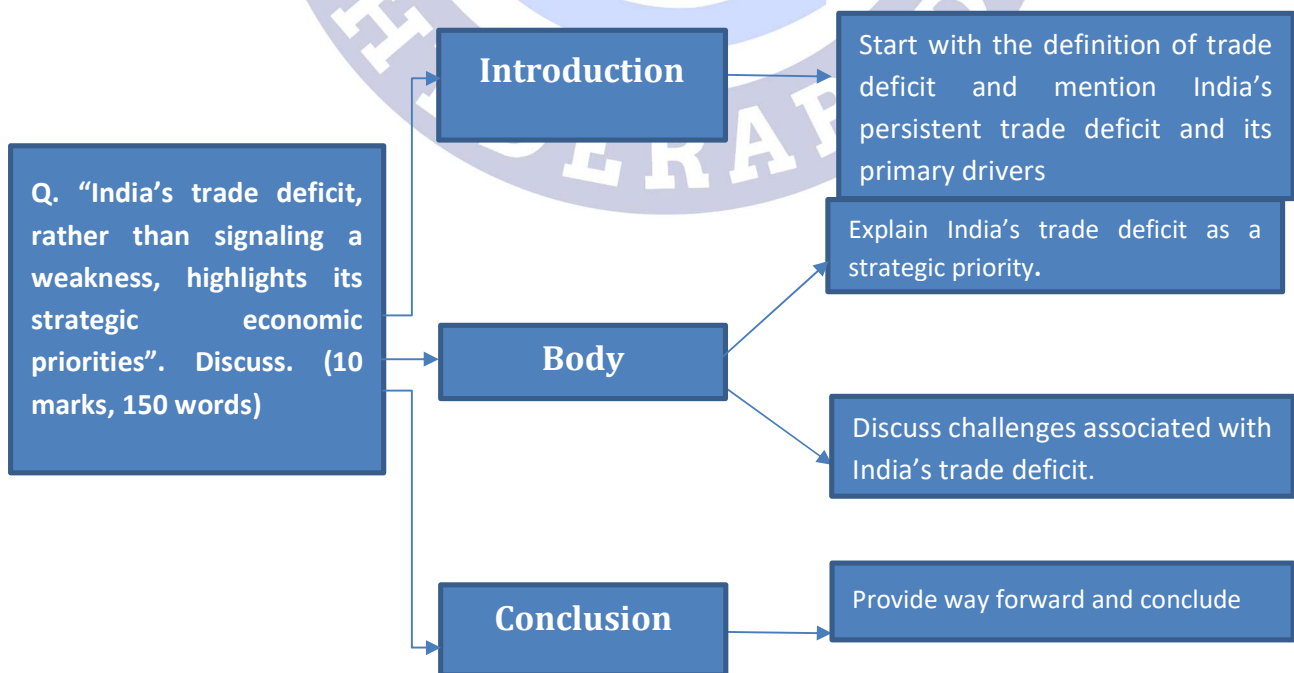
- Enhance ease of doing business to attract stable FDI flows, particularly in technology and manufacturing.
- Develop clear and consistent policy frameworks to address geopolitical challenges and encourage long-term investments.
- **Strengthen Resilience to External Shocks:**
 - Build strategic reserves for essential imports, like crude oil and critical minerals, to mitigate the impact of global price fluctuations.
 - Expand trade relationships to diversify sources of imports and reduce dependence on specific countries.
- **Address Balance of Payments Vulnerabilities:**
 - Maintain adequate foreign exchange reserves to manage currency fluctuations and ensure financial stability.
 - Promote services exports further, particularly in emerging areas like IT-enabled services, healthcare, and education, to maintain a strong current account surplus in services.
- **Foster Domestic Industrial Growth:**
 - Provide tax incentives and subsidies for research and development to encourage innovation and increase manufacturing efficiency.
 - Strengthen infrastructure, including logistics and supply chains, to reduce production costs for domestic industries.
- **Monitor Fiscal and Trade Policies:**
 - Ensure a balanced approach in fiscal policy to prevent excessive borrowing while financing infrastructure and developmental needs.

Continuously assess and revise trade policies to address global economic trends and safeguard national interests.

PRACTICE QUESTION

Q. "India's trade deficit, rather than signaling a weakness, highlights its strategic economic priorities". Discuss. (10 marks, 150 words)

APPROACH



MODEL ANSWER

India's trade deficit, which occurs when imports exceed exports, has been a persistent feature of its economy, primarily driven by imports of crude oil, machineries, gold etc. However, this deficit is balanced by **India's robust services exports** and strategic economic policies, highlighting its strengths in global trade. India's trade deficit narrowed from **USD -15.85 billion (October 2023)** to **USD -10.12 billion (October 2024)**, reflecting its evolving trade dynamics.

India's Trade Deficit as a Strategic Priority:

- 1. Strength in Services:** India's comparative advantage in the services sector offsets its merchandise trade deficit. Services exports reached **USD 215.98 billion (April-October 2024)**, with a surplus of **USD 101.41 billion**, making India the **7th largest services exporter globally**. This sector includes IT and business process outsourcing, showcasing India's global competitiveness.
- 2. High-Value Manufacturing and Comparative Advantage:** India focuses on exporting high-value goods such as **pharmaceuticals, automobiles, and engineering components**. For instance, **over one-third of US pharmaceuticals** are manufactured in India. Simultaneously, imports of crude oil, electronics, and machinery align with the principle of comparative advantage, allowing India to leverage global efficiency.
- 3. Domestic Demand and Economic Development:** The trade deficit reflects India's strong domestic demand, with increased imports of machinery and technology supporting initiatives like **'Make in India'** and bolstering infrastructure and industrial growth.
- 4. Capital Inflows and Forex Reserves:** India balances its trade deficit with foreign investments, recording **USD 86.3 billion (FY24)** in capital inflows and maintaining a current account deficit of **0.7% of GDP (USD 23.2 billion)**. With forex reserves around **USD 658 billion**, India ensures financial stability and resilience to economic shocks.
- 5. Strong Domestic Consumption as a Growth Driver:** A trade deficit also reflects strong domestic consumption, signifying growing incomes and industrial expansion. This supports long-term development and increased economic activity.

Challenges Associated with India's Trade Deficit:

- 1. Balance of Payments (BoP) Vulnerability:** Persistent trade deficits strain the BoP, especially during external shocks. The **1991 BoP crisis**, triggered by high trade deficits and low reserves, required sweeping economic reforms.
- 2. External Shocks and Global Dependencies:** India's heavy reliance on crude oil imports makes it vulnerable to global price fluctuations. For instance, the **Russia-Ukraine war** in 2022 caused oil prices to rise sharply, contributing to a trade deficit of **USD 23.8 billion in June 2022**.
- 3. Currency Depreciation:** A widening trade deficit increases demand for foreign currency, weakening the rupee. In **November 2024**, the rupee depreciated to a record low of **84.3950 against the US dollar**, exacerbating import costs and inflation.
- 4. Dependence on Foreign Capital:** Financing the trade deficit through foreign investments exposes India to global volatilities. Geopolitical tensions, such as with China, have disrupted FDI inflows, highlighting the risks of relying on external financing.
- 5. Impact on Domestic Industries:** High imports challenge domestic industries by increasing competition from cheaper foreign goods. For example, the Indian steel industry has sought protective measures against low-cost imports, which threatened local production and employment.

Way Forward:

- **Enhance Export Competitiveness:** India must boost high-value exports, such as pharmaceuticals, engineering goods, and automobile components, while negotiating favorable **Free Trade Agreements (FTAs)** with key partners.

- **Reduce Import Dependency:** Promoting domestic production in critical sectors, such as electronics and renewable energy, can reduce reliance on imports and foster industrial self-sufficiency.
- **Build Resilience to External Shocks:** Developing strategic reserves for crude oil and diversifying trade partnerships can mitigate risks associated with global price volatility and geopolitical disruptions.
- **Strengthen Domestic Industries:** Supporting local industries through R&D incentives and infrastructure improvements will help domestic manufacturers compete with foreign goods.
- **Maintain Fiscal and Monetary Stability:** Aligning fiscal policies with trade needs and ensuring adequate forex reserves can provide stability, safeguarding against global economic uncertainties.

India's trade deficit is not a sign of weakness but a reflection of its strategic economic priorities, leveraging comparative advantages and driving domestic growth. Moving forward, India must focus on reducing import dependency, enhancing exports, and building resilience to global economic shocks. These steps will ensure that the trade deficit supports sustainable economic growth and strengthens India's position in the global economy.



30. WIFI TECHNOLOGY IN INDIA

IMPACT ANALYSIS

SYLLABUS:

GS3 > Science and Technology >> WiFi Technology

REFERENCE NEWS:

Earlier in November, the PlayStation 5 Pro console was released in key markets around the world, but no announcement was made regarding India. Sony said, "PS5 Pro will not be available in some countries (which presently includes India) where 6GHz wireless band used in IEEE 802.11be (Wi-Fi 7) has not yet been allowed."

INDIA'S WIFI TECHNOLOGY:

India currently utilizes **WiFi 6** and is gradually moving towards **WiFi 6E** and **WiFi 7** technologies, though the 6GHz spectrum required for WiFi 6E has not yet been delicensed. Most broadband routers in India still operate on the **2.4GHz** and **5GHz** frequency bands, supporting devices with WiFi 4, WiFi 5, and WiFi 6 standards.

- **WiFi 6 (802.11ax):** Introduced in India around 2020, it operates on both 2.4GHz and 5GHz bands, offering higher speeds, better performance in dense environments, and lower latency compared to previous generations.
- **WiFi 6E:** Although globally available, its adoption in India is hindered due to the **6GHz spectrum** being reserved for **ISRO's satellite use** and ongoing debates over its allocation for telecom and WiFi.
- **WiFi 7 (802.11be):** Expected to be the next frontier, capable of operating on 2.4GHz, 5GHz, and 6GHz bands. Even without 6GHz, WiFi 7's efficiency improvements are possible, offering faster speeds through better spectrum management.

EVOLUTION OF WIFI TECHNOLOGY IN INDIA:

- **Early 2000s – WiFi 1, 2, and 3 (802.11b/g/n):** The Government of India **delicensed** the **2.4GHz** band for indoor use, making WiFi commercially viable. WiFi networks became popular in public places, homes, and offices with speeds ranging from **11 Mbps (802.11b)** to **54 Mbps (802.11g)**.
- **2010 – WiFi 4 (802.11n):** Operated on both **2.4GHz** and **5GHz** bands, offering speeds up to **600 Mbps**. This marked the first major expansion into dual-band WiFi, improving range and reducing interference.
- **2013 – WiFi 5 (802.11ac):** Focused solely on the **5GHz** band, offering faster speeds up to **3.5 Gbps**. WiFi 5 became the standard for home broadband networks and mobile devices, significantly improving HD streaming and gaming experiences.
- **2020 – WiFi 6 (802.11ax):** Introduced to improve efficiency, speed, and latency in dense environments, with speeds up to **9.6 Gbps**. Adopted widely by Internet Service Providers (ISPs) for home broadband and enterprise networks, enhancing the smart device ecosystem.
- **2021 Onwards – WiFi 6E Debate: 6GHz spectrum** introduced for WiFi globally, but India reserved it for **satellite communications**. Ongoing debate on whether to allocate the band for **telecom operators** (for **5G/6G**) or for WiFi, with possible compromises involving splitting the spectrum.
- **Future – WiFi 7 (802.11be):** Expected to operate across all three bands (**2.4GHz, 5GHz, 6GHz**) with theoretical speeds exceeding **30 Gbps**. Although regulatory hurdles exist, WiFi 7 technology will likely influence the evolution of wireless broadband in India, offering better performance even without 6GHz.

PROSPECTS OF PRESENT WIFI TECHNOLOGY IN INDIA:

WiFi technology in India is rapidly evolving, driven by increasing demand for high-speed internet, smart devices, IoT (Internet of Things) adoption, and government initiatives like **Digital India** and **Smart Cities Mission**.

- **Expanding High-Speed Internet Access:** As WiFi 6 becomes more prevalent, it is expected to improve internet speed and network efficiency in homes, offices, and public spaces. WiFi 6 can deliver speeds up to **9.6 Gbps**, significantly faster than WiFi 5's **3.5 Gbps**, and handle higher device density, crucial for India's growing internet user base.
- **Public WiFi Expansion:** The government's **PM-WANI (Prime Minister's WiFi Access Network Interface)** scheme aims to provide affordable and accessible public WiFi across the country.
 - As of 2023, **2.5 lakh public WiFi hotspots** have been deployed under PM-WANI, with a target to increase this number significantly, particularly in rural and underserved areas.
- **Smart Cities and IoT Growth:** WiFi technology plays a crucial role in India's **Smart Cities Mission**, connecting IoT devices for smart utilities, traffic management, and public safety.
 - The Indian IoT market is expected to reach **\$20 billion by 2025**, with WiFi networks acting as the backbone for connecting IoT devices across industries such as healthcare, manufacturing, and agriculture.
- **Corporate and Industrial Demand:** Enterprises are increasingly adopting WiFi 6 for its low latency, higher speed, and better performance in dense environments. This demand is driven by the rise of hybrid work models, cloud computing, and digital transformation.
 - According to a report by **NASSCOM**, India's enterprise WiFi market is projected to grow at a CAGR of **14%** from 2023 to 2028, driven by increasing digitalization across sectors.
- **Complementary Role with 5G:** WiFi and 5G technologies are expected to coexist, with WiFi providing high-speed indoor connectivity and 5G handling outdoor, mobile, and wide-area network coverage.
 - By 2025, India's WiFi market is expected to complement **5G networks**, ensuring affordable high-speed internet for both fixed and mobile users.

CHALLENGES OF PRESENT WIFI TECHNOLOGY:

- **6GHz Spectrum Allocation Delay:** The 6GHz spectrum, essential for advanced WiFi 6E and WiFi 7 technologies, is yet to be delicensed in India. It remains allocated to **ISRO** for satellite use, leading to a delay in adopting faster, next-generation WiFi technologies.
 - India lags behind countries like the U.S. and the U.K., where the 6GHz spectrum is already available for WiFi, limiting high-speed internet adoption.
- **Spectrum Sharing Conflict:** There is an ongoing conflict between **telecom operators** and **tech companies** over the use of the 6GHz spectrum. Telecom providers want it for 5G/6G, while tech companies push for WiFi allocation. This regulatory uncertainty slows technological advancements.
- **Signal Range Limitations:** WiFi performance in India often suffers from inconsistent coverage, particularly in large or densely constructed buildings.
 - **2.4GHz Band:** Has better range but limited bandwidth, leading to slower speeds in crowded areas.
 - **5GHz Band:** Provides faster speeds but has a shorter range and struggles to penetrate walls, resulting in poor indoor connectivity.
- **Network Congestion:** In urban areas, WiFi networks experience heavy congestion due to overlapping channels, leading to frequent disconnections and slower internet speeds, especially in apartment complexes with multiple routers operating on similar frequencies.
- **Cost of Deployment:** The cost of deploying high-speed broadband infrastructure, particularly fiber-optic networks necessary for WiFi 6, is significant. Many Internet Service Providers (ISPs) struggle to extend these services to remote and rural areas.
 - While cities like Delhi and Mumbai benefit from fiber broadband, rural areas in states like Bihar and Jharkhand still rely on slower, less reliable connections.
- **Lack of Public WiFi Infrastructure:** Although the **PM-WANI** initiative aims to increase public WiFi access, the deployment of hotspots is slow, especially in rural and economically weaker regions, due to logistical and financial challenges.

- **Weak Encryption and Security Standards:** Many WiFi networks, especially in public spaces, use outdated security protocols (e.g., **WPA/WPA2**), making them vulnerable to cyberattacks such as **data interception, hacking, and phishing**.
 - Cybersecurity incidents in public WiFi zones have led to data breaches, with inadequate safeguards in public places like railway stations and cafes.
- **Lack of Awareness and Protection:** Many users are unaware of best practices for securing their home networks, such as using strong passwords and updating firmware, increasing the risk of unauthorized access.
- **Older Devices Incompatibility:** WiFi 6 and future WiFi 7 routers are not fully compatible with older devices that support only WiFi 4 (802.11n) or WiFi 5 (802.11ac). This creates performance bottlenecks, preventing users from fully utilizing high-speed networks.
- **Slow Adoption of New Standards:** The rollout of new WiFi technologies is slow due to the high cost of routers and limited consumer awareness. ISPs are hesitant to upgrade existing networks unless there is significant demand, delaying advancements in internet speeds.
- **Limited Bandwidth in Peak Hours:** During peak usage times, WiFi networks often experience bandwidth throttling, leading to slower speeds and poor user experience. This is especially common in shared networks in educational institutions, offices, and public WiFi hotspots.
- **Data Caps by ISPs:** Many ISPs impose **data caps** on broadband plans, limiting the amount of high-speed data available. This discourages heavy internet usage, particularly for streaming, online gaming, and large file downloads, hampering digital adoption.
- **Slow Policy Implementation:** India's regulatory framework for WiFi technology adoption, particularly regarding spectrum allocation and public WiFi deployment, faces bureaucratic delays. This slows down the rollout of advanced WiFi technologies and infrastructure development.
 - The ongoing delay in delicensing the **6GHz spectrum** has prevented India from fully adopting **WiFi 6E** technology, despite its global availability since 2021.
- **Fragmented ISP Market:** The market is fragmented with numerous small ISPs operating alongside major players, leading to **inconsistent** service quality and slower adoption of uniform technological standards.
- **Power Supply Issues in Rural Areas:** Frequent power outages in rural and semi-urban areas affect the stability of WiFi networks, leading to intermittent connectivity.
- **Environmental Factors:** Extreme weather conditions, such as monsoons, can damage broadband infrastructure, particularly in rural areas where maintenance capabilities are limited.

WAY FORWARD WITHOUT COMPROMISING SECURITY AND TECH ADVANCEMENT:

- **Dual-Use Spectrum Model:** India can adopt a **hybrid spectrum allocation** approach, similar to Australia, by delicensing a portion of the **6GHz band** for WiFi while reserving another portion for telecom and satellite services.
 - Allocate lower portions (e.g., 5.925–6.425 GHz) for WiFi to support technological growth while keeping upper portions for **5G/6G** and satellite communications.
- **Regulatory Roadmap:** The government should establish a **clear timeline** for spectrum allocation, with phased implementation that allows for testing and feedback, ensuring that national security concerns are addressed before full-scale deployment.
 - A multi-stakeholder **Spectrum Task Force** involving ISRO, Department of Telecommunications (DoT), and tech companies can oversee this process.
- **Adopting Advanced Encryption Standards:** Mandate the use of **WPA3 encryption** or higher for all new WiFi deployments, enhancing network security by protecting against **man-in-the-middle attacks** and unauthorized access.
 - WPA3 offers improved security over WPA2, including **individualized encryption** for each user session, crucial for public WiFi networks.

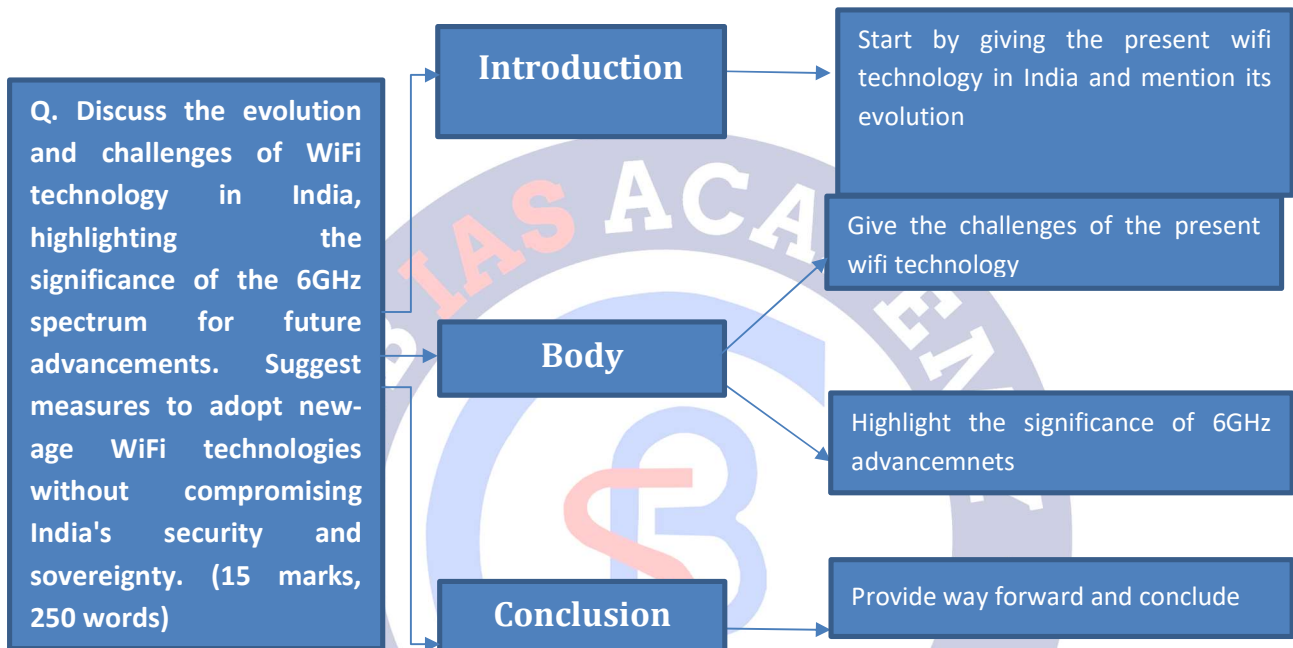
- **National Cybersecurity Policy Implementation:** Implement and regularly update the **National Cyber Security Strategy** to address threats from advanced WiFi technologies. This should include guidelines for securing public WiFi, IoT devices, and critical infrastructure networks.
 - Establish a **WiFi Security Monitoring Unit** under **CERT-In** (Indian Computer Emergency Response Team) to monitor, detect, and respond to WiFi-related cyber threats in real time.
- **Local Data Storage Mandate:** Enforce **data localization** for WiFi service providers, ensuring that user data is stored and processed within India, reducing vulnerabilities from cross-border data transfers and improving control over sensitive information.
 - Telecom operators and ISPs offering public WiFi services should adhere to data localization guidelines under the **Personal Data Protection Act**.
- **Encouraging Local Manufacturing and R&D:** Incentivize the development of **indigenous WiFi routers** and related hardware through schemes like **PLI (Production Linked Incentive)** to reduce dependency on foreign equipment and ensure greater control over supply chains.
 - Collaboration between ISRO and private tech companies to create **customized WiFi solutions** for rural and remote areas, ensuring security and reliability.
- **Open Source Software Adoption:** Encourage the development and deployment of **open-source WiFi management software** that can be audited for security vulnerabilities, reducing reliance on proprietary foreign technologies.
- **Collaborative WiFi Networks:** Establish **public-private partnerships (PPPs)** involving telecom operators, tech giants, and government agencies to deploy secure and high-speed public WiFi networks across India.
- **WiFi Skill Development Programs:** Launch **WiFi security training programs** for government officials, ISPs, and public institutions to enhance their understanding of advanced security protocols and the responsible use of emerging technologies.
 - Partner with institutions like **IITs** and **NASSCOM** to create certification programs focusing on WiFi security and network management.
- **Mandatory Security Certification:** Implement a **mandatory certification program** for all WiFi equipment and devices entering the Indian market, requiring them to meet specific security and performance benchmarks.
 - Introduce a **"Secure WiFi Certified"** label for routers and devices approved by Indian authorities, similar to **BIS (Bureau of Indian Standards)** certification.
- **International Cybersecurity Collaboration:** Collaborate with global cybersecurity organizations while maintaining strict control over India's critical infrastructure. Joint efforts can enhance threat intelligence sharing without compromising sovereignty.
 - Participate in international forums like the **International Telecommunication Union (ITU)** to influence global WiFi standards while safeguarding national interests.
- **Protecting Sovereignty in Trade Agreements:** Ensure that international trade agreements involving technology transfer or spectrum allocation respect India's sovereign rights over its telecommunications infrastructure.
- **Last-Mile Connectivity Solutions:** Implement secure WiFi solutions in rural areas by deploying **mesh networks** that enhance connectivity while ensuring data encryption and minimal interference.
 - Use **low-cost, solar-powered WiFi routers** with secure configurations in villages and remote regions, ensuring reliable and safe internet access.
- **AI-Driven Threat Detection:** Use **Artificial Intelligence (AI)** to monitor WiFi networks for anomalies, unauthorized access, and emerging threats. AI algorithms can quickly detect and neutralize cyberattacks in real-time.

- **Blockchain for Secure Authentication:** Implement **blockchain-based authentication systems** for WiFi networks to prevent identity theft and unauthorized access by ensuring a transparent, tamper-proof record of network activities.

PRACTICE QUESTION

Q. Discuss the evolution and challenges of WiFi technology in India, highlighting the significance of the 6GHz spectrum for future advancements. Suggest measures to adopt new-age WiFi technologies without compromising India's security and sovereignty. (15 marks, 250 words)

APPROACH



MODEL ANSWER

WiFi technology in India has evolved significantly since its introduction in the early 2000s, transforming how Indians access the internet. However, the adoption of new-age technologies like **WiFi 6E** and **WiFi 7** faces hurdles due to regulatory and infrastructural challenges, particularly around the allocation of the **6GHz spectrum**. With increasing demand for high-speed connectivity driven by the **Digital India** and **Smart Cities Mission**, India stands at a critical juncture where balancing technological advancement with national security and sovereignty is essential

EVOLUTION OF WIFI TECHNOLOGY IN INDIA

1. **Early 2000s – WiFi 1, 2, and 3 (802.11b/g/n):** Delicensing of the **2.4GHz band** made WiFi commercially viable for public and private use, offering speeds between **11 Mbps (802.11b)** and **54 Mbps (802.11g)**.
2. **2010 – WiFi 4 (802.11n):** Operated on **2.4GHz** and **5GHz** bands with speeds up to **600 Mbps**, improving range and reducing interference.
3. **2013 – WiFi 5 (802.11ac):** Focused on the **5GHz band**, offering speeds up to **3.5 Gbps**, enhancing streaming and gaming experiences.
4. **2020 – WiFi 6 (802.11ax):** Increased efficiency and speed, operating on both **2.4GHz** and **5GHz** bands, delivering speeds up to **9.6 Gbps**.

5. **2021 Onwards – WiFi 6E Debate:** Introduction of the **6GHz spectrum** globally for WiFi 6E, but India reserved it for **ISRO's satellite use**, creating a debate between telecom operators and tech companies over its allocation.
6. **Future – WiFi 7 (802.11be):** Expected to operate on **2.4GHz, 5GHz, and 6GHz** bands with speeds exceeding **30 Gbps**, offering better performance even without the 6GHz spectrum.

CHALLENGES IN ADOPTING ADVANCED WIFI TECHNOLOGIES

1. **6GHz Spectrum Allocation Delay:** The 6GHz band is yet to be delicensed for WiFi in India, limiting the adoption of **WiFi 6E** and **WiFi 7**, despite global advancements.
2. **Spectrum Sharing Conflict:** Ongoing disputes between **telecom operators** and **tech companies** over the allocation of the 6GHz band for either **5G/6G** or WiFi.
3. **Network Congestion and Coverage Issues:** Overlapping WiFi channels in urban areas cause frequent disconnections and slower speeds.
 - o **2.4GHz Band:** Better range but limited bandwidth.
 - o **5GHz Band:** Faster speeds but struggles with wall penetration.
4. **Security and Privacy Concerns:** Many networks still use outdated **WPA/WPA2** protocols, increasing vulnerability to cyberattacks.
5. **High Infrastructure Costs:** Deploying high-speed broadband, especially in rural areas, is expensive, limiting widespread adoption.

SIGNIFICANCE OF 6GHz ADVANCMENTS:

1. **Faster Internet Speeds:** The **6GHz band** enables **WiFi 6E** and **WiFi 7** technologies, offering speeds up to **9.6 Gbps** and beyond, essential for **smart homes, remote work, online education, and HD streaming**.
2. **Enhanced Network Efficiency:** With more channels and reduced interference, 6GHz supports **dense environments** like offices, campuses, and public spaces, improving performance and reliability in crowded networks.
3. **Boosting Digital Initiatives:** Essential for **Digital India** and **Smart Cities** programs by enabling seamless IoT connectivity for **traffic management, public safety, and smart utilities**.
4. **Economic Growth and Innovation:** Opens opportunities for **startups** and **tech companies** in **AI, IoT, cloud computing, and smart manufacturing**, fostering a **digital economy**.
5. **Global Competitiveness:** Aligns India with countries already using 6GHz, ensuring competitiveness in **5G/6G integration, advanced WiFi solutions, and tech exports**.
6. **Bridging the Digital Divide:** With **high-capacity public WiFi** and rural connectivity improvements, it enhances **internet access** for underserved areas, supporting **inclusive growth**.

WAY FORWARD: ADOPTING NEW-AGE WIFI TECHNOLOGIES SECURELY

1. **Balanced Spectrum Allocation:** Adopt a **dual-use spectrum model**, delicensing part of the 6GHz band for WiFi while reserving the rest for **telecom and satellite services**.
2. **Strengthening Cybersecurity Frameworks: Mandate WPA3 Encryption:** Require all new WiFi deployments to use **WPA3** or higher for enhanced security. Establish a **WiFi Security Monitoring Unit** under **CERT-In** to monitor threats and respond in real-time.
3. **Incentivizing Indigenous R&D and Manufacturing:** Encourage local development of WiFi routers and infrastructure through **Production Linked Incentive (PLI)** schemes.
4. **Public-Private Partnerships (PPPs):** Promote PPPs for deploying secure public WiFi, leveraging telecom operators and tech giants to extend high-speed connectivity across rural and urban India.
5. **Adopting Emerging Technologies: AI-Driven Threat Detection:** Use **Artificial Intelligence (AI)** to monitor WiFi networks for anomalies and cyberattacks. Implement blockchain for secure user authentication and data integrity.
6. **Data Localization and Sovereignty:** Enforce **data localization** for WiFi providers under the **Personal Data Protection Act**, ensuring sensitive user data remains within India.

India's adoption of advanced WiFi technologies, such as **WiFi 6E** and **WiFi 7**, presents significant opportunities for economic growth, digital inclusion, and technological leadership. A robust regulatory framework, combined with local innovation and international collaboration, will enable India to harness the full potential of next-generation WiFi, driving its vision of a **digitally empowered society**



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