

**Balalatha's****CSB IAS ACADEMY****THE ROAD MAP TO MUSSOORIE...****Dear Aspirants,**

Welcome to the October edition of CSB IAS ACADEMY 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 India's position in the **Global Hunger Index 2024** and explore the governance and societal implications of **regulating religious institutions**. The debate on the **right to die with dignity** is explored through its ethical, legal, and societal dimensions. We commemorate a decade of the **Swachh Bharat Mission**, analyzing its impact and ongoing challenges, alongside a discussion on the demographic shifts due to **ageing populations in South India**.

Economically, we discuss the **middle-income trap** and its relevance to developing nations, alongside the **Global Digital Compact**, which proposes reshaping global internet governance. We also celebrate the tenth anniversary of the **Make in India** initiative, evaluating its effects on India's industrial and technological sectors.

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!**Team CSB IAS ACADEMY**

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GENERAL STUDIES I

1. COAL MINING IN INDIA AND TRANSITIONING AWAY FROM COAL

IMPACT ANALYSIS

SYLLABUS:

GS 1 > Resource geography

REFERENCE NEWS:

- India, the second-largest coal producer globally, faces a significant challenge in transitioning away from coal as part of its energy transition. A study by iForest (International Forum for Environment, Sustainability, and Technology) estimates that India will require over **\$1 trillion (Rs 84 lakh crore) over the next 30 years to phase out coal** while ensuring socio-economic stability in coal-dependent regions.

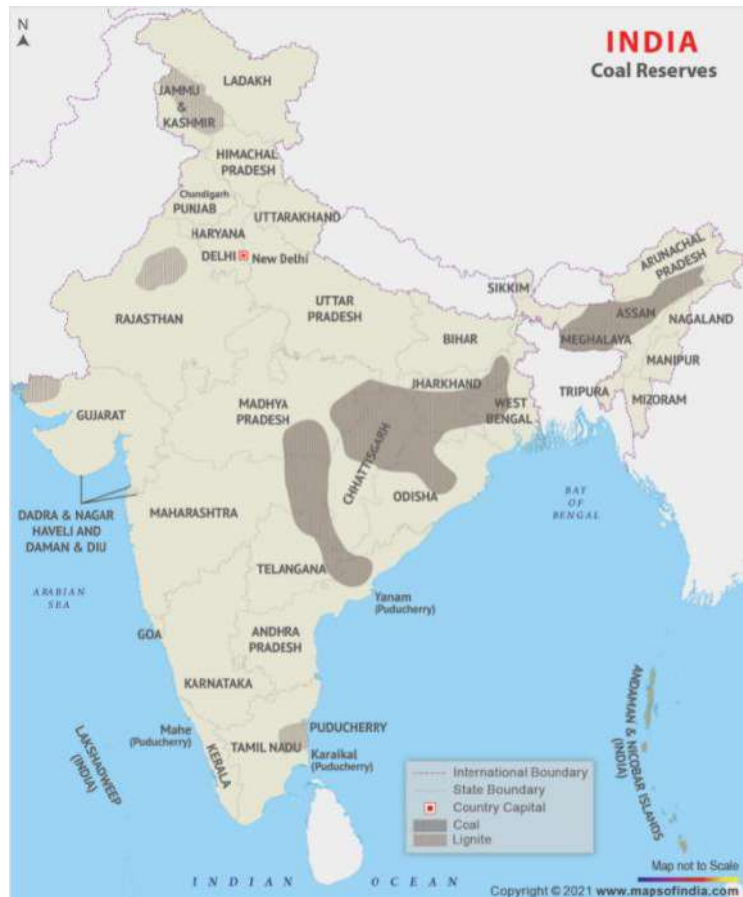
MORE ON NEWS:

- The **iForest study outlines** eight broad cost components, totaling \$1 trillion over 30 years.
- These include mine closures and repurposing, the retirement of coal plants and their conversion into sites for clean energy, labor skilling for green jobs, and economic diversification through the establishment of new businesses. Additionally, community support and resilience programs will be necessary to aid affected regions, while green energy investments will play a crucial role in replacing coal infrastructure. Revenue substitution for coal-dependent states and planning costs are also integral parts of this transition.
- Notably, about **48% of the total expenditure will be dedicated to green investments, focusing on building energy infrastructure to replace coal mines and coal-fired plants.**

INDIAN COAL:

- With a cumulative total of nearly **319.02 billion tonnes**, India has the **fourth largest reserve** of coal in the world.
- The Coal resources of India are available in older **Gondwana Formations of peninsular India** and younger **Tertiary formations of north-eastern region**. Gondwana coal accounts for 99 % of India's coal production.
- Types of coal found in India:

- **Anthracite:** It is the **highest grade of coal, containing 80-95 % carbon**. It is found in smaller quantity in regions of Jammu and Kashmir.
- **Bituminous:** It is a **medium grade of coal having 60 to 80% of carbon content**. Bituminous coal is the **most common type of coal** found in India: It is found in Jharkhand, Odisha, West Bengal, Chhattisgarh, and Madhya Pradesh.
- **Lignite:** It is the **lowest grade coal with 40 to 55% carbon content**. It is found in the regions of Rajasthan, Tamil Nadu, and Jammu & Kashmir.



Supply:

- India is the **second largest producer and consumer of coal after China**.
- As per the Ministry of Coal, the cumulative coal production (up to September 2023) has seen a quantum jump to **428.38 MT in FY' 23-24** compared to 382.16 MT during the same period in FY' 22-23, **with a growth of 12.09 %**.
- Top 5 States in terms of total coal reserves in India are **Jharkhand, Odisha, Chhattisgarh, West Bengal and Madhya Pradesh**.

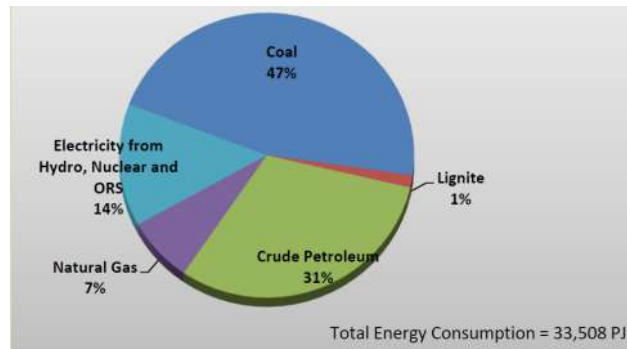
Demand:

- During FY 2021-22, the consumption of **energy from coal** and crude petroleum was the highest, **accounting for about 47%** and 31% of the total consumption, followed by electricity (from hydro, nuclear and other renewable energy sources) (14%), natural gas (7%) and lignite (1%), which indicates the dominance of coal in overall energy consumption in India. (Source: Energy Cell Monthly Report (Ministry Of Coal) September'2023)

SIGNIFICANCE OF COAL MINING FOR INDIA:

○ Energy Security:

- Coal is central to India's energy mix, accounting for **47 %** of the country's total energy consumption. With limited availability of other resources like oil and natural gas, coal remains a dependable source to meet India's rising energy demands driven by rapid industrialization and urbanization.



○ Employment Generation:

- India's coal mining sector is one of the largest employers in the country, particularly in states like Jharkhand, Odisha, Chhattisgarh, and West Bengal.
- For instance, public sector coal-producing entities alone employ **3,69,053 individuals**, while many more are employed in related sectors such as logistics, transportation, and thermal power plants (**PIB Press Release**).
- In regions heavily dependent on coal, such as **Bokaro** in Jharkhand, coal-related industries contribute to **54% of the district's domestic product** and employ over **1,39,000 workers** (**iForest Report**).

○ Economic Importance:

- India has the **fourth-largest coal reserves** globally, with **319.02 billion tonnes** in total (**Coal Ministry Data**). The economic significance of coal mining is enormous, as it is vital for India's energy-intensive industries such as steel, cement, and power generation.
- India's steel industry, which requires large amounts of coking coal, relies heavily on coal imports due to insufficient domestic reserves of high-quality coking coal. India imported **209 million tonnes of coal** in **FY21-22** (**Coal Import Report by Coal Ministry**), making coal a vital commodity in trade and industry.

○ Support for Key Industries:

- Coal serves as the primary fuel for thermal power plants, which produce around **70%** of India's electricity (**Ministry of Power Report**). It is also a crucial input for **steel and cement production**. The NPA crisis in the power sector has highlighted the importance of coal in maintaining the health of key

industries. Without reliable coal supplies, these industries face potential shutdowns, thereby affecting economic growth and energy security.

- **Regional Development:**

- Coal mining has contributed to the development of mineral-rich regions like **Jharkhand, Odisha, and Chhattisgarh**. These regions, however, also face the challenge of economic diversification as they remain dependent on coal-based revenues. In states like **Odisha**, coal mining supports infrastructure development, employment, and contributes to local economies through District Mineral Foundations (DMFs) and **Corporate Social Responsibility (CSR) funds (iForest Report)**.

WHY INDIA NEEDS TO PHASE OUT COAL?

- **Climate Change Commitments:**

- India is committed to achieving **net-zero emissions by 2070**. Coal is a major contributor to greenhouse gas emissions, which drive climate change. Reducing coal use is critical for meeting **Paris Agreement** goals and limiting **global temperature rise to 1.5°C (UNFCCC Report)**. Coal combustion accounts for a significant portion of India's carbon emissions, and global aversion to coal due to its environmental impact pressures India to phase it out.

- **Environmental and Health Impacts:**

- Coal mining causes extensive environmental degradation.
- For instance, the **Global Energy Monitor (GEM) Report** reveals that coal mines under development in India could **displace 87,630 families, destroy 22,686 hectares of agricultural land, and consume 168,041 kilolitres of water daily**.
- Additionally, air and water pollution from coal mining and burning contribute to serious health problems, such as **respiratory issues, cardiovascular diseases, and premature deaths**. The World Health Organization (WHO) highlights that coal-related pollution significantly contributes to mortality rates in coal-dependent regions.

- **Economic Unsustainability:**

- The coal sector is increasingly economically unviable. Renewable energy, particularly solar and wind, is becoming cheaper, making coal less competitive (**International Renewable Energy Agency Report**).
- Moreover, India imported **209 million tonnes** of coal in **FY21-22**, adding to the financial burden (**Ministry of Coal Data**). Coal mines in India operate at **only two-thirds of their capacity**, and some large mines use as little as **1%** of their potential (**Global Energy Monitor Analysis**). Such inefficiencies raise costs and limit coal's long-term viability.

- **Technological and Logistical Challenges:**

- The lack of advanced technology in India's coal sector results in inefficient operations, especially in underground mines, where **87% remain semi- or non-mechanized (Ministry of Coal Report)**. Coal resources are **concentrated in a few states**, requiring significant logistical efforts to transport coal across the country. High transportation costs, combined with environmental and regulatory hurdles, further reduce coal's competitiveness.
- **Social and Human Rights Concerns:**
 - Coal mining disproportionately affects tribal and rural communities. The **GEM report** indicates that developing coal mines could displace **165 villages**. In addition, illegal mining practices, such as **rat-hole mining in Meghalaya**, involve child labor and exploit vulnerable populations. Although banned by the **National Green Tribunal (NGT) in 2014**, these illegal practices continue to operate, posing severe risks to human rights and worker safety.
- **Global Financial Pressure:**
 - International financial institutions are increasingly **withdrawing support for coal projects** due to environmental risks. Countries like South Africa have secured **\$8.5 billion** in international funding under their **Just Energy Transition Investment Plan (JET-IP)** to phase out coal and develop renewable energy (**JET-IP Report, South Africa**). India risks losing global financial support if it continues to prioritize coal over clean energy.

CHALLENGES ASSOCIATED WITH PHASING OUT COAL IN INDIA

- **Heavy Reliance on Coal for Energy:**
 - **Primary Energy Source:** Coal currently accounts for over **47% of India's energy mix**, making it the backbone of the power sector. The country's energy infrastructure is heavily dependent on coal-fired plants, which will require substantial investment and time to shift towards renewable alternatives.
 - **Base Load Supply:** Coal-fired plants provide a stable base load supply, essential for meeting India's rising energy demand. Renewable energy sources, like solar and wind, are intermittent and cannot yet fully replace coal's reliability without extensive grid upgrades.
- **Economic Considerations:**
 - **Coal Industry Employment:** The coal industry directly and indirectly employs millions of people, especially in coal-producing states like **Jharkhand, Chhattisgarh, Odisha, West Bengal, and Madhya Pradesh**. Phasing out coal would cause significant job losses, particularly in regions where coal mining is a major source of livelihood.
 - **Revenue Loss for States:** States like Jharkhand and Odisha rely heavily on coal-related revenues through royalties, taxes, and profits from coal

operations. Transitioning away from coal would create fiscal stress for these state governments, impacting their development budgets.

- **Cost of Transition:** Transitioning to renewables will require substantial investments in new infrastructure, technology, and training. This transition will be expensive, and India will need international financial support to ensure an equitable shift towards cleaner energy.
- **Logistical and Technological Challenges:**
 - **Inadequate Infrastructure for Renewables:** India's current power grid is not adequately equipped to handle large-scale renewable energy. It would need significant upgrades to manage the variability of solar and wind energy, requiring improved storage solutions like **battery technologies**.
 - **Technology Gaps in Mining:** Indian coal mining operations, particularly underground mining, lack modern technology, making it hard to increase productivity from existing reserves while transitioning to new energy sources.
- **Coking Coal Import Dependency:**
 - **Steel Industry Dependency:** India imports a large portion of its **coking coal** for steel production, which cannot easily be substituted by renewable energy sources. This adds to the challenge as phasing out coal while securing enough resources for industries like steel becomes a critical hurdle.
- **NPA Crisis in Power Sector:**
 - **Struggling Power Sector:** India's power sector is grappling with **non-performing assets (NPAs)** due to underperforming coal-fired power plants. Investments in transitioning to renewables while addressing existing financial stress on coal plants will put additional strain on the economy.
- **Environmental and Social Impact:**
 - **Land and Water Usage:** Coal mining and thermal power plants consume vast amounts of **land** and **water**, leading to displacement of people and agricultural destruction. However, closing these mines and plants without a proper transition plan could leave communities vulnerable without alternative livelihoods.
 - **Resistance from Affected Communities:** Any phase-out strategy will likely face resistance from affected coal-mining communities, who depend on the industry for their livelihoods. Social unrest could arise if alternative employment is not provided.
- **Global Climate Commitments:**
 - **Balancing Growth and Climate Goals:** India is under international pressure to reduce emissions and meet climate commitments under the **Paris Agreement**. However, given India's developmental needs and economic growth objectives, balancing climate goals with domestic energy security will be a difficult task.
- **Competition from Other Energy Sources:**

- **Renewable Energy Integration:** While India has made substantial progress in developing renewable energy (solar, wind), these sources are not yet sufficient to fully replace coal. The intermittency of renewables and the lack of adequate energy storage technologies remain major hurdles to scaling up renewable energy to meet India's vast energy needs.
- **Geopolitical Considerations:**
 - **Dependence on Coal-Rich States:** India has vast reserves of coal (319 billion tonnes), especially in the **Gondwana formations**, which ensures energy security without dependence on foreign imports. Transitioning away from coal could make India more dependent on imported fuels like natural gas or rare minerals used in renewable energy infrastructure, affecting its energy sovereignty.

International Examples of Just Transition

- **South Africa's Just Energy Transition Investment Plans (JET-IP):** South Africa requires \$98 billion over 20 years, with \$8.5 billion provided between 2023-2027. This funding comes from the UK, France, Germany, the US, and other international partners, mainly for green energy investments.
- **Germany's Coal Phase-Out Plan:** Germany has enacted legislation to phase out coal by 2038, allocating over \$55 billion to close mines, shut down coal plants, and support coal-dependent regions.

WAY FORWARD:

- **Invest in Renewable Energy Infrastructure:** Strengthen investments in solar, wind, and hydroelectric power to ensure a stable and reliable energy supply.
- **Reskilling and Job Creation:** Implement large-scale training programs to transition coal workers to green jobs, particularly in renewable energy sectors.
- **Just Transition Framework:** Ensure a "just transition" for coal-dependent regions by providing community support, economic diversification, and resilience programs.
- **Technological Upgradation:** Invest in modernizing mining technology and upgrading the grid to better integrate renewable energy sources.
- **International Cooperation:** Leverage international funding, similar to South Africa's JET-IP, for financial and technological support during the transition.
- **Policy Reforms:** Establish regulatory frameworks to incentivize renewable energy adoption and manage the gradual retirement of coal plants.

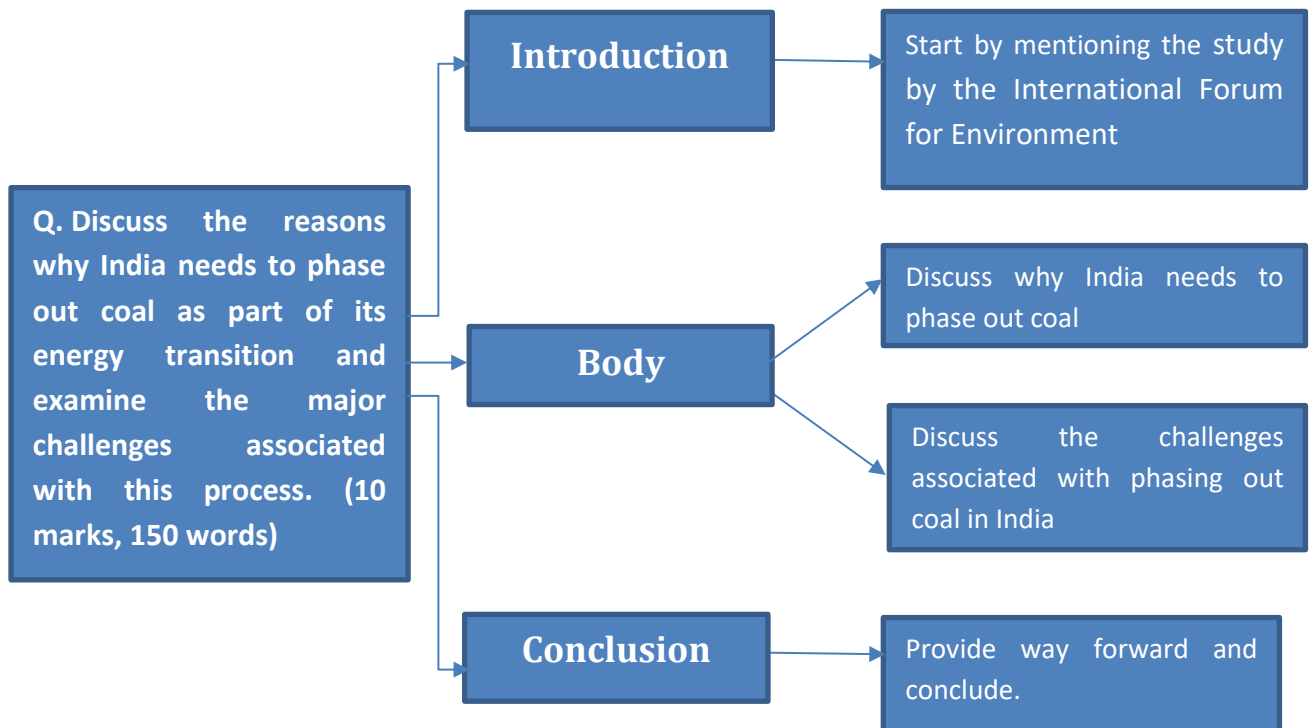
CONCLUSION:

- Phasing out coal in India is a complex but necessary step to meet climate goals and move towards sustainable energy. The transition requires a balance between addressing economic challenges, creating alternative livelihoods, and investing in renewable energy. A comprehensive and inclusive approach, backed by international cooperation and domestic reforms, is essential for ensuring a just and effective energy transition.

PRACTICE QUESTION

Q. Discuss the reasons why India needs to phase out coal as part of its energy transition and examine the major challenges associated with this process. (10 marks, 150 words)

APPROACH



MODEL ANSWER

India, the second-largest coal producer globally, faces a significant challenge in transitioning away from coal as part of its energy transition efforts. According to a study by the **International Forum for Environment, Sustainability, and Technology (iForest)**, India will require over **\$1 trillion (Rs 84 lakh crore)** over the next 30 years to phase out coal while ensuring socio-economic stability in coal-dependent regions. This transition is crucial for meeting India's climate commitments and aligning with global trends, but it presents significant economic, social, and logistical challenges.

Why India Needs to Phase Out Coal

1. **Climate Change Commitment:** India has committed to achieving **net-zero emissions by 2070**, as part of its obligations under the **Paris Agreement**. Coal, which contributes significantly to greenhouse gas emissions, is a major impediment to these commitments. Phasing out coal is necessary to limit global temperature rise to **1.5°C**, as emphasized in the **UNFCCC Report**.

2. **Environmental and Health Concerns:** Coal mining and combustion cause extensive environmental damage and health risks. The **Global Energy Monitor (GEM) Report** states that coal mines under development in India could displace **87,630 families**, destroy **22,686 hectares** of agricultural land, and consume **168,041 kilolitres** of water daily. Additionally, air and water pollution from coal burning contributes to respiratory and cardiovascular diseases, significantly impacting public health, as highlighted by the **World Health Organization (WHO)**.
3. **Economic Unsustainability:** Renewable energy sources such as solar and wind are becoming increasingly competitive, making coal less economically viable. According to the **International Renewable Energy Agency (IRENA)**, the costs of renewable energy have declined significantly, rendering coal plants less competitive and financially unsustainable in the long term.
4. **Import Dependency:** Despite being a major producer, India imports **209 million tonnes** of coal (FY21-22), particularly high-quality coking coal for its steel industry (**Coal Ministry Data**). This heavy reliance on imports poses a financial burden and undermines India's energy security, further necessitating a transition to cleaner energy alternatives.
5. **Global Financial Pressure:** International financial institutions are increasingly withdrawing support for coal projects due to environmental risks. For instance, South Africa has secured **\$8.5 billion** in international funding under their **Just Energy Transition Investment Plan (JET-IP)** to phase out coal and develop renewable energy. India risks losing global financial support if it continues to prioritize coal over clean energy.

Challenges Associated with Phasing Out Coal in India

1. **Heavy Reliance on Coal for Energy:** Coal currently accounts for **47%** of India's energy mix, making it central to the country's energy security. Shifting away from coal requires substantial investment in renewable infrastructure and base-load management to ensure energy stability (**Ministry of Coal Report**).
2. **Employment and Socio-Economic Impact:** The coal sector is a major employer in states like Jharkhand, Odisha, and Chhattisgarh. Public sector coal-producing entities alone employ **3,69,053** individuals, and many more are engaged in logistics, transportation, and power sectors (**PIB Press Release**). Phasing out coal without a robust employment transition plan would lead to widespread job losses and social unrest.
3. **Revenue Loss for Coal-Dependent States:** States like Jharkhand and Odisha rely heavily on coal-related revenues. A decline in coal production could lead to a fiscal

crisis, impacting state budgets and local development programs, particularly in coal-rich districts.

4. **Logistical and Technological Hurdles:** India's current power grid is not equipped to handle large-scale renewable energy integration. Significant investments are required to modernize the grid and develop energy storage solutions to manage the intermittency of renewables.
5. **NPA Crisis in the Power Sector:** Many coal-fired power plants are already under financial stress, contributing to the non-performing assets (NPAs) in the power sector. Additional investments in renewables without addressing existing financial issues will put further strain on the economy.

Way Forward

- **Invest in Renewable Energy Infrastructure:** Increase investments in solar, wind, and hydroelectric power to ensure a reliable energy supply and meet rising energy demands.
- **Reskilling and Job Creation:** Implement reskilling programs for coal workers and promote new employment opportunities in green energy sectors.
- **Establish a Just Transition Framework:** Develop region-specific transition plans that focus on economic diversification, social protection, and sustainable development.
- **Strengthen International Partnerships:** Seek international support and funding, similar to South Africa's **JET-IP**, to finance the transition and ensure a just transition.
- **Policy Reforms:** Establish regulatory frameworks to promote renewable energy adoption and facilitate the gradual retirement of coal plants.

Phasing out coal in India is a complex but necessary step to meet climate goals and move towards a sustainable energy future. This transition requires a balance between addressing economic challenges, creating alternative livelihoods, and investing in renewable energy infrastructure. By adopting a comprehensive and inclusive approach, backed by international cooperation and domestic reforms, India can ensure a just and effective energy transition that aligns with its long-term development goals.

2. CHILD MARRIAGE

IMPACT ANALYSIS

SYLLABUS:

GS 1 > Indian Society

REFERENCE NEWS:

Stating that marriages fixed in the minority of a child have the effect of violating their “free choice” and “childhood”, the Supreme Court asked Parliament to consider banning child betrothals by amending the Prohibition of Child Marriage Act (PCMA), 2006.

A three-judge bench presided by Chief Justice of India D Y Chandrachud said “international law such as the **Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)** stipulates against betrothals of minors”.

“Marriages fixed in the minority of a child also have the effect of violating their **rights to free choice, autonomy, agency and childhood**. It takes away from them their choice of partner and life paths before they mature and form the ability to assert their agency,” said the bench, also comprising Justices J B Pardiwala and Manoj Misra.

CHILD MARRIAGES IN INDIA:

Child marriage, according to UNICEF, is defined as a marriage of a girl or boy before the age of 18 and refers to both formal marriages and informal unions in which children under the age of 18 live with a partner as if married.

- Child marriage ends childhood.
- It negatively influences children’s **rights to education, health and protection**.
- Child marriage violates children’s rights and places them at high risk of violence, exploitation, and abuse. Child marriage affects both girls and boys, but it affects girls disproportionately.
- According to the **National Family Health Survey (NFHS-5)**, **23.3%** of women aged 20-24 years were married before the legal age of 18, a decline from **26.8%** in NFHS-4.
- Rural areas report a **higher rate** of child marriages than urban ones, reflecting deeper socio-economic and educational disparities.
- **West Bengal** and **Bihar** have the highest prevalence of child marriages, with **40-42%** of women married before 18.
- **Kerala** and **Punjab** report lower figures, around **7-10%**.
- According to data from UNICEF, the total number of girls married in childhood stands at 12 million per year.

- The 2030 UN Sustainable Development Goals aim to eliminate all harmful practices, such as child, early and forced marriage and female genital mutilations, under goal 5.
- **The Prohibition of Child Marriage Act, 2006** criminalizes child marriage, setting the minimum marriageable age at **18 years for girls** and **21 years for boys**.
- In **2021**, the Union government proposed to raise the legal age of marriage for women from **18 to 21**, but the law has yet to be passed.
- **Seema vs. Ashwani Kumar (2022)**: A landmark case from Haryana, where the Punjab & Haryana High Court ruled that child marriages are legally voidable (not automatically void) unless annulled by one of the parties within two years of attaining majority.

CAUSES OF PREVALENCE OF CHILD MARRIAGES IN INDIA:

- **Poverty and Economic Constraints:** NFHS-5 (2019-21) shows child marriage is more prevalent in economically weaker sections, with poverty being a key driver in **rural India**. Poor families marry off daughters young to reduce dowry, as older girls often require a larger dowry. Early marriage is seen as a way to reduce the financial burden of raising a girl.
 - In **Bihar** and **Rajasthan**, parents marry daughters early to avoid spending on long-term education and future dowries.
- **Patriarchy and Social Norms:** Girls are married early to protect family "honour" and prevent pre-marital relationships or sexual activity which is a control over female sexuality. In many communities, child marriage is a deeply ingrained cultural practice, passed across generations, thus have a wider acceptance.
 - **The Devadasi System in Tamil Nadu:** In southern districts, girls were married off under outdated customs like the **Devadasi** system, contributing to both child marriage and human trafficking.
- **Lack of Access to Education:** NFHS-5 reports that girls with **no education** are **6 times more likely to marry before 18** compared to those with secondary or higher education. It also reports an increased school dropout ratio among girl children. Poor infrastructure, early puberty, and lack of secondary education force many girls out of school, increasing the likelihood of marriage.
- **Gender Inequality:** In male-dominated societies, girls are often treated as liabilities, and early marriage removes the "burden" from the family.
- **Customs and Traditions:** Mass weddings or rituals during specific festivals normalize early marriages.
 - The **Akha Teej festival** in Rajasthan is often associated with mass child weddings. Even though authorities have tried to crack down on it, clandestine ceremonies persist.

- **Impact of Natural Disasters and Pandemics: Economic Insecurity** during crises pushes families to arrange early marriages to reduce household expenses. A report by **ChildLine India** found a 17% increase in child marriage cases reported during the pandemic.
 - During the **COVID-19 pandemic**, school closures and loss of family income led to a sharp rise in child marriages. **UNICEF** and local NGOs reported that many girls in **Odisha** and **West Bengal** were married off due to parents' financial insecurity.
- **Weak Law Enforcement:** Families are often unaware of the **Prohibition of Child Marriage Act (2006)**, or local authorities turn a blind eye to the practice.
 - In **West Bengal**, despite laws, child marriages are common due to poor enforcement, with only a fraction of cases being reported to authorities.

CHALLENGES OF PERSISTING CHILD MARRIAGES IN INDIA:

- **Health Issues for Young Mothers: Early Pregnancies** increases the risks of **maternal mortality, malnutrition, and infant mortality**. UNICEF reports that **India contributes 15%** to the global maternal deaths, and child brides are twice as likely to die during childbirth.
 - According to the **NFHS-5 (2019-21)**, **7.9%** of girls aged 15-19 years were already mothers or pregnant during the survey period. Recently, 10 infants died at Murshidabad Medical College and Hospital in a span of 24 hours. The hospital authorities said the majority of the children were born with extremely low birth weight.
- **Educational Setbacks:** Girls married early are usually forced to discontinue education, limiting their chances of employment and financial independence.
 - The **UNESCO 2021 report** notes that 40% of Indian girls who marry drop out of school before completing secondary education.
- **Economic Disadvantages and Gender Inequality:** Early marriages hinder young women from acquiring skills or education, reducing their employability and keeping them economically dependent. India's overall female labour participation rate is only **23.3%** (World Bank, 2021), partly because of early marriages curtailing career opportunities.
 - In **Bihar** and **Rajasthan**, where child marriages are rampant, female labor force participation rates are among the **lowest in India**.
- **Domestic Violence and Marital Abuse:** Child brides are more likely to face **domestic violence** and have little agency to leave abusive marriages.
 - NFHS-5 found that **31% of married women aged 18-29** who were married before 18 reported experiencing **physical, sexual, or emotional violence** by their spouses.

- **Legal and Governance Issues:** Although the **Prohibition of Child Marriage Act (2006)** criminalizes child marriage, enforcement is weak, especially in rural areas. The **National Commission for Protection of Child Rights (NCPCR)** reported that **only 23% of child marriage cases** registered in 2020-21 resulted in action or conviction.
 - In **West Bengal**, despite having the **Kanyashree scheme** to prevent child marriage, the state records a **40.7% prevalence rate** for child brides, indicating the challenges of implementation.
- **Social Norms and Resistance to Change:** In many communities, child marriage is linked to tradition, honour, and religious beliefs, making it difficult to eradicate.
 - In **Rajasthan's Bhil tribe**, girls are often married off at infancy in a group wedding called **Aata Sata**.
- **Impact on Future Generations: Inter-generational Poverty Cycle** implies early marriage traps families in poverty, as uneducated mothers are less likely to prioritize education for their children.
 - Studies by **UNICEF** in rural Uttar Pradesh and Bihar reveal that children of child brides are more likely to be malnourished and receive less education, perpetuating the cycle of poverty.

WAY FORWARD TO THE PERSISTING ISSUE OF CHILD MARRIAGE IN INDIA:

- **Strengthening Law Enforcement and Awareness Campaigns:** Increase awareness about the legal age of marriage, the consequences of child marriage, and available legal protections. Establish **community-based child protection committees** to monitor and report child marriages. Ensure mandatory registration of marriages to prevent underage unions.
 - Karnataka declared child marriage a cognizable offense in 2017, empowering police to take immediate action. This resulted in a significant reduction in child marriages in the state. Tamil Nadu successfully uses village child marriage prohibition officers to prevent underage marriages at the grassroots level.
- **Promoting Girls' Education:** Ensure girls stay in school by providing scholarships, transport, and free school supplies. Introduce **gender-sensitive school curricula** to address social norms that contribute to early marriage. Create bridge programs to bring back dropouts into formal education systems.
 - Kanyashree Scheme (West Bengal) offers conditional cash transfers to girls who stay unmarried and complete their education until 18 years. The scheme has helped reduce child marriage rates in the state. Madhya Pradesh's Ladli Laxmi Yojana provides incentives for families to invest in their daughters' education.

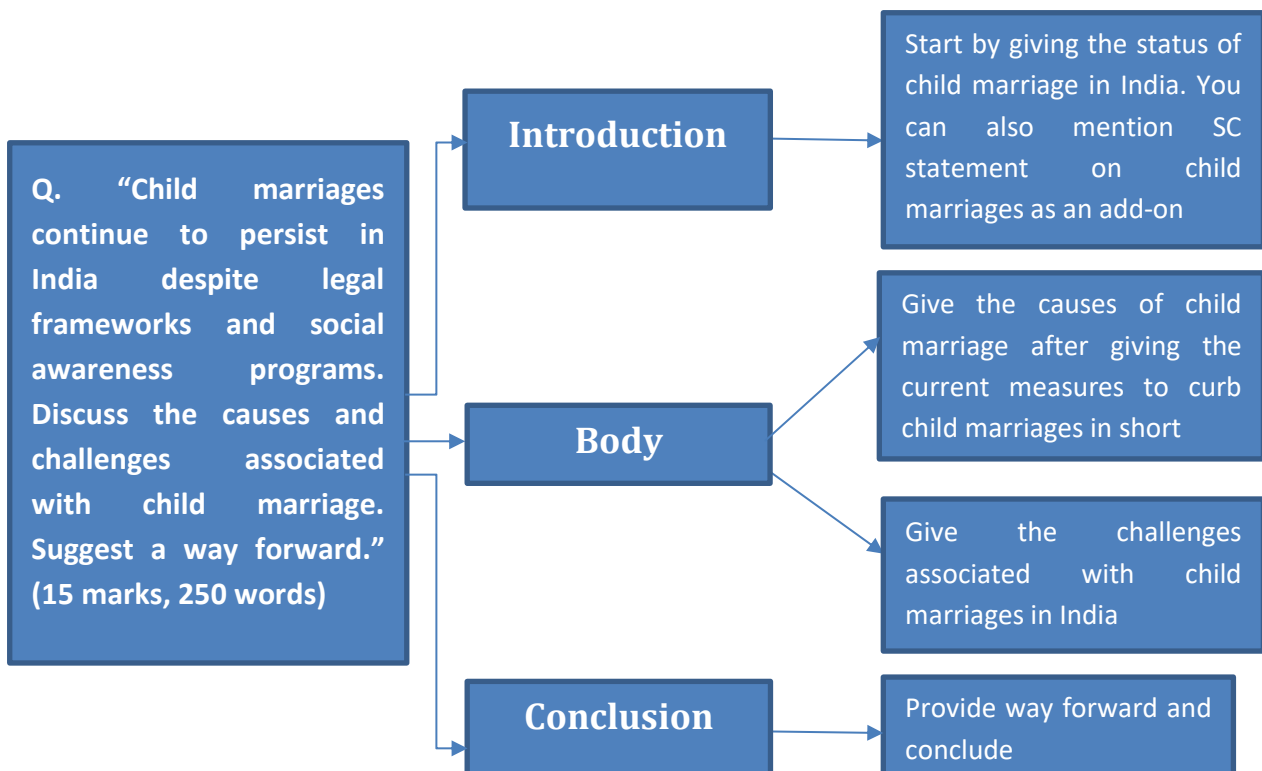
- Bangladesh launched stipend programs for secondary education to reduce dropouts and delay marriages. The program has shown promising results in rural regions.
- **Economic Empowerment of Girls and Families:** Provide livelihood training and job opportunities for adolescent girls to make them financially independent. Introduce family income-support schemes to ease financial pressures that drive early marriages. Promote self-help groups (SHGs) and microfinance programs to empower women economically.
 - Andhra Pradesh and Telangana's self-help group model (DWCRA) has helped women earn livelihoods, reducing the need for early marriage as a survival strategy. Odisha's Mission Shakti promotes women's entrepreneurship and economic independence, influencing the perception of girls as assets rather than burdens.
 - Ethiopia's Berhane Hewan Program provides financial incentives to families who delay their daughters' marriage and keep them in school. It also trains young girls in life skills and financial literacy.
- **Engaging with Communities and Changing Social Norms:** Work with community leaders, religious heads, and parents to challenge norms around early marriage. Promote awareness campaigns about the benefits of delaying marriage and fostering gender equality. Encourage role models and success stories of women who married late and achieved economic independence.
 - In Rajasthan, the government collaborates with community organizations during the Akha Teej festival to raise awareness and prevent child marriages. Bihar's cycle program for girls provides bicycles to promote secondary education and shift community attitudes toward educating daughters.
 - Zambia's "Let Girls Lead" program involves youth advocacy groups and community leaders to promote behaviour change, significantly reducing child marriage rates.
- **Using Technology for Monitoring and Reporting:** Use mobile apps and helplines to report child marriage cases in real time. Track at-risk children through data-driven dashboards for proactive intervention by local authorities.
 - ChildLine 1098 helpline in India offers immediate support and intervention for children at risk of early marriage. Rajasthan's RajSangam App allows officials to monitor and report suspected child marriages before they happen.

- **Policy Interventions and Incentivization:** Integrate child marriage prevention into national education, health, and family welfare policies. Provide conditional cash transfers or pensions to families who delay their daughter's marriage until 21 years of age. Ensure legal reforms, such as making child marriages void ab initio (automatically invalid) instead of voidable.
- Indonesia reformed its marriage laws by raising the legal age of marriage to 19 for both boys and girls, aligning with international standards. Kenya integrates child marriage prevention into its national gender policy, focusing on education and reproductive health.

PRACTICE QUESTION

Q. "Child marriages continue to persist in India despite legal frameworks and social awareness programs. Discuss the causes and challenges associated with child marriage. Suggest a way forward." (15 marks, 250 words)

APPROACH



MODEL ANSWER

Child marriage, as defined by **UNICEF**, refers to the union of a boy or girl below the age of 18. Despite efforts to eradicate this practice, **23.3% of Indian women aged 20-24 years were married before 18** (NFHS-5, 2019-21). Although the **Prohibition of Child Marriage Act**,

2006 criminalizes such marriages, the practice remains widespread, particularly in rural India. This phenomenon deprives children of their rights, especially young girls, exposing them to health risks, educational setbacks, and domestic violence.

CAUSES OF CHILD MARRIAGE IN INDIA

1. **Poverty and Economic Constraints:** Poor families marry off daughters early to reduce **dowry burdens** or escape the cost of long-term education.
 - Bihar and Rajasthan witness high child marriage rates as families consider it an economic strategy.
2. **Patriarchy and Social Norms:** Control over female sexuality and societal pressure to protect family "honour" lead to early marriages.
 - In Rajasthan's **Bhil tribe**, the custom of **Aata Sata** normalizes child marriages.
3. **Lack of Access to Education:** Girls who drop out of school are more likely to marry early due to a lack of future prospects.
 - In Odisha, the **absence of secondary schools** increases the likelihood of teenage marriages. NFHS-5 data shows girls with **no education are six times more likely** to marry before 18 than those with higher education.
4. **Weak Law Enforcement:** Although the **Prohibition of Child Marriage Act (PCMA), 2006** exists, local authorities often **fail to enforce it** effectively.
 - Despite schemes like **Kanyashree** in West Bengal, the state still reports a high prevalence of child marriages (40.7%).

CHALLENGES OF CHILD MARRIAGE

1. **Health Issues for Young Mothers:** **Early pregnancies** increase the risk of maternal mortality and malnutrition.
 - India accounts for **15% of global maternal deaths**, with child brides being twice as likely to die during childbirth.
2. **Educational Setbacks:** Child brides usually drop out of school, curtailing their chances of economic independence.
 - According to UNESCO (2021), **40% of child brides** in India drop out before completing secondary education.
3. **Economic and Social Disadvantages:** Early marriage keeps women dependent, limiting their participation in the labour market.

- India's female labour force participation stands at **23.3%** (World Bank, 2021), with child marriage being a major obstacle.
- 4. **Domestic Violence and Lack of Agency:** Child brides are more vulnerable to **domestic violence** and abuse.
 - NFHS-5 reports that **31% of women married before 18** faced physical or emotional violence from their spouses.
- 5. **Intergenerational Cycle of Poverty:** Children born to uneducated and young mothers are more likely to face **malnutrition** and drop out of school, continuing the cycle of poverty.

WAY FORWARD:

1. **Strengthening Law Enforcement and Awareness:** Empower local authorities to **monitor and prevent child marriages** with community support.
 - **Karnataka** declared child marriage a **cognizable offense** in 2017, leading to stronger enforcement and fewer cases.
2. **Promoting Girls' Education:** **Conditional cash transfers** to families of unmarried girls and school scholarships can delay marriages.
 - **West Bengal's Kanyashree Scheme** offers cash incentives to girls who remain unmarried until 18.
3. **Economic Empowerment of Families and Girls:** Promote **livelihood training** and **microfinance** to make girls financially independent.
 - **Odisha's Mission Shakti** encourages women to become entrepreneurs, reducing the perception of girls as financial burdens.

Changing Social Norms through Community Engagement: Work with **religious leaders and parents** to shift community attitudes toward delaying marriage.

- In Rajasthan, the government collaborates with NGOs during the **Akha Teej festival** to prevent mass child marriage.
- 4. **Leveraging Technology for Prevention and Reporting:** Use **mobile apps and helplines** to monitor and report child marriage cases.
 - **ChildLine 1098** provides real-time support and intervention. Rajasthan's **RajSangam App** helps authorities track potential child marriages.

Child marriage remains a complex challenge rooted in **poverty, social norms, and weak law enforcement**. However, **comprehensive efforts** focusing on **education, economic**

empowerment, legal reforms, and community participation have shown promising results. By scaling successful models from **Karnataka, West Bengal, and Odisha** and learning from **Bangladesh and Ethiopia**, India can take significant steps toward **eradicating child marriage**. Empowering girls through **education and livelihood opportunities** will not only eliminate this harmful practice but also foster **gender equality** and sustainable development.

3. CLASSICAL LANGUAGE

IMPACT ANALYSIS

SYLLABUS:

GS 1 > Art and Culture > Indian Languages

REFERENCE NEWS:

The Union Cabinet extended the “classical language” tag to Marathi, Pali, Prakrit, Assamese, and Bengali. Tamil, Sanskrit, Telugu, Kannada, Malayalam, and Odia already enjoy this status. The Union Cabinet’s decision to accord classical language status to five new languages, including Marathi and Bengali, came after a key provision, which mandated that a language must have original literary tradition, was dropped.

CLASSICAL LANGUAGES IN INDIA:

Classical Languages serve as a custodian of Bharat's profound and ancient cultural heritage, embodying the essence of each community's historical and cultural milestones. The concept of “Classical Languages” in India was formalized in 2004 to preserve and promote languages with ancient origins, rich traditions, and a substantial body of classical literature.

Criteria for Declaring a Classical Language: The Government of India, through the Ministry of Culture, has set specific criteria for a language to be granted classical status:

- **Antiquity:** The language must have an early history spanning over **1500-2000 years**.
- **Rich Literary Tradition:** The language should have a vast and rich body of ancient literature that has a significant influence on subsequent cultures and traditions.
- **Distinctiveness:** The classical language should be distinct from modern languages and must show that the literary tradition is independent of contemporary spoken forms and is original.
- **Heritage Value:** The language should have significant cultural, historical, and literary value, contributing to the civilizational growth of the region.

BENEFITS OF CLASSICAL LANGUAGE STATUS:

- **Establishment of Centres for Excellence:** The government provides financial support for establishing **Classical Language Research Centres**. These centres focus on the **preservation, promotion, and development** of the language through academic and literary activities.

- The **Central Institute of Classical Tamil** was established in Chennai following Tamil's recognition as a Classical Language.
- **Grants for Research and Development:** Classical languages receive special grants from the government to promote **research and documentation** of ancient texts. These grants are aimed at conducting **philological studies, manuscript preservation, and language research**.
 - The Ministry of Education takes steps to promote classical languages. Such as, three central universities were established in 2020 through an Act of Parliament for the promotion of the Sanskrit language.
- **Cultural Promotion and Preservation: Cultural festivals, conferences, and seminars** are organized at national and international levels to highlight the importance of the classical language and its literature. These events help in **raising awareness** and encouraging **cultural preservation**.
 - The **Sanskrit Commission** was set up to promote Sanskrit studies, and various state governments organize **Tamil classical language festivals** to celebrate its cultural significance.
- **Translation and Publication of Classical Works:** The government supports projects to **translate classical texts into modern languages** to make the literature accessible to a wider audience. This initiative is important for promoting knowledge of ancient philosophical, religious, and scientific works.
 - **Thirukkural**, an ancient Tamil text, has been translated into multiple languages to make its moral teachings accessible globally.
- **Awards and Recognition:** Prestigious awards and honours are instituted to recognize individuals and scholars who have contributed to the **study, preservation, and promotion** of classical languages. These awards encourage research and highlight the significance of the language.
 - The **President's Certificate of Honour** is awarded to scholars who have made outstanding contributions to the promotion of Classical Sanskrit, Tamil, Telugu, Kannada, and other classical languages.
- **Inclusion in Educational Curricula:** Classical languages gain prominence in **school and university curricula**, ensuring that younger generations learn and appreciate the language's historical and cultural value.
 - Universities offer **degree programs, diplomas, and courses** in classical languages, promoting in-depth study and academic engagement.

DIFFERENCE IN 8th SCHEDULE LANGUAGE AND CLASSICAL LANGUAGE:

CRITERIA	8TH SCHEDULE LANGUAGES	CLASSICAL LANGUAGES
Purpose and Focus	<p>The languages included in the Eighth Schedule of the Indian Constitution are primarily recognized for administrative and official purposes.</p> <p>These languages are given constitutional protection and are used in official communication, government functions, education, and public services.</p> <p>The primary aim is to ensure that linguistic groups are represented and have their language rights protected in governance and public life.</p>	<p>Classical language status is an honorary recognition granted by the Government of India to languages that have ancient origins and rich literary traditions.</p> <p>The focus is on cultural, historical, and literary significance, and it aims to promote the preservation of ancient texts, traditions, and linguistic research.</p> <p>The emphasis is on academic promotion, research, and cultural heritage, rather than contemporary use in administration or governance.</p>
Constitutional Basis	<p>The Eighth Schedule is part of the Indian Constitution (Articles 343-351), which lists the official languages recognized for government use.</p> <p>Initially, there were 14 languages in the Eighth Schedule when the Constitution was adopted in 1950. The inclusion of languages in the Eighth Schedule can be modified through constitutional amendments.</p>	<p>Classical languages are recognized by the Government of India based on specific criteria but are not part of the Constitution. The Ministry of Culture is responsible for granting this status.</p> <p>There is no explicit mention of Classical languages in the Constitution, and their recognition does not involve constitutional amendments.</p>
Criteria for Inclusion	<p>There is no formal, publicly stated criterion for the inclusion of languages in the Eighth Schedule. The decision to include a language is political and is often based on demands from linguistic communities for recognition, linguistic rights, and representation.</p> <p>Factors like geographical prevalence,</p>	<p>To qualify as a Classical language, the language must meet specific criteria, such as:</p> <p>Antiquity of over 1500-2000 years, presence of ancient literary texts with high historical and cultural values, the existence of an independent literary tradition, distinct from other modern</p>

	<p>number of speakers, and historical/cultural significance often influence the inclusion process.</p>	<p>languages and the language is not a spoken vernacular in its classical form.</p>
Benefits and Implications	<p>Official Status: Languages in the Eighth Schedule are given official status and can be used for government communication, parliamentary debates, education, court proceedings, and official documents.</p> <p>Use in Competitive Exams: Candidates appearing for national-level exams like the UPSC Civil Services can opt for any of the 22 languages in the Eighth Schedule as a medium of examination or to write their optional papers.</p> <p>Representation in Government: The Eighth Schedule ensures that linguistic communities get official recognition and have access to governance in their language.</p> <p>Development through Government Programs: Special programs and schemes are created to promote and develop these languages, ensuring their growth in modern contexts.</p>	<p>Cultural Promotion and Research</p> <p>Special Grants: Classical languages receive special financial grants to promote linguistic studies, cultural events, and scholarly work.</p> <p>Heritage Preservation: The status ensures the preservation of the cultural and literary heritage of ancient languages. Public Awareness and Celebrations: Cultural festivals and academic conferences are organized to increase public awareness of the significance of Classical languages.</p>
Languages present	<p>There are 22 languages listed in the Eighth Schedule of the Constitution:</p> <p>Assamese, Bengali, Bodo, Dogri, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Maithili, Malayalam, Manipuri, Marathi, Nepali, Odia, Punjabi, Sanskrit, Santali, Sindhi, Tamil, Telugu and Urdu.</p>	<p>Currently 6 classical languages Tamil, Sanskrit, Kannada, Telegu, Malayalam and Odia. The new addition includes Marathi, Pali, Prakrit, Assamese and Bengali.</p>

ISSUES SURROUNDING CLASSICAL LANGUAGE STATUS:

- **Political and Regional Demands for Recognition:** The recognition of Classical Language status has become highly **politicized**. This has led to regional competitions between linguistic groups and the perception that **linguistic favoritism** plays a role in the decision-making process.
 - The demand for **Maithali by Bihar** to be granted classical status has also been raised recently. Marathi language got the status in the wake of upcoming Maharashtra state assembly elections
 - One nation One script initiatives by Government will instil fear of loss of language heritage among public.
- **Non-consideration of a Criteria for Recognition:** The criteria of original literary tradition was dropped this time while adding five new classical languages. The Linguistic Expert Committee discussed and understood that it was 'very difficult to prove or disprove (original literary tradition) as all ancient languages borrowed from each other' said the Linguistics Expert committee member.
- **Overlapping Status with Scheduled Languages:** Some languages, like **Tamil, Sanskrit, Kannada, Telugu, Malayalam, and Odia**, enjoy both **Classical Language status** and **Scheduled Language status** (under the Eighth Schedule of the Constitution). This overlap can lead to **ambiguity in terms of focus and resource allocation**.
 - **Sanskrit** is both a classical and scheduled language, but it is no longer widely spoken. Some argue that more attention should be given to languages in active use, while others believe Sanskrit's literary and cultural legacy justifies special treatment.
- **Lack of Adequate Implementation:** Although the Classical Language status comes with promises of grants, research centres, and scholarships, in many cases, the **implementation of these benefits has been slow** or inadequate. Despite the status, the infrastructure and financial resources required to promote these languages effectively are often lacking.
 - Even after Tamil was declared a Classical Language in 2004, it took several years to establish the **Central Institute of Classical Tamil** in Chennai, and the funds for research have often been criticized as insufficient.
- **Perception of Inequality Among Different Language Groups:** The process of granting Classical Language status has, in some cases, created a **sense of inequality** among different linguistic communities.
 - Communities speaking **Tulu**, a language with a rich history and literature, have been advocating for Classical Language and scheduled language status but have not yet succeeded.

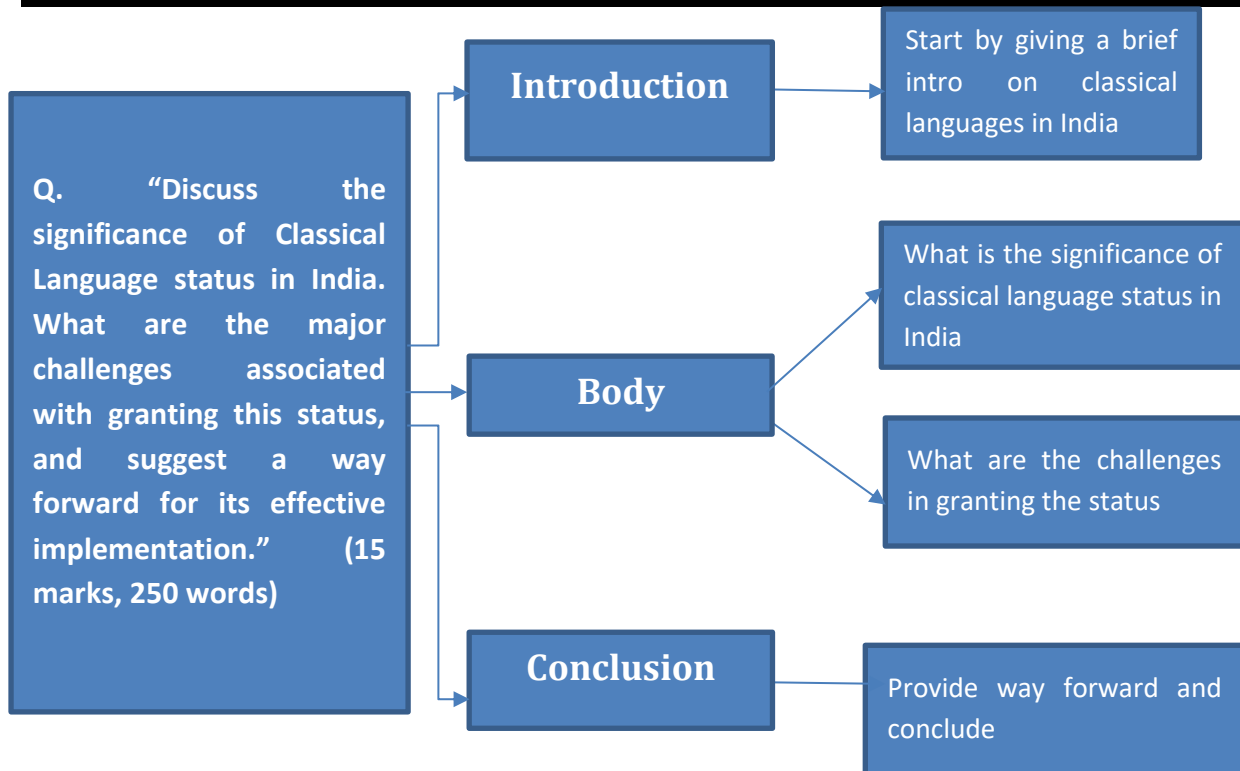
WAY FORWARD:

- **Establishing an Independent Expert Body:** Create an independent commission or linguistic authority composed of scholars, linguists, historians, and cultural experts. This body should be free from political influence and tasked with evaluating languages for Classical Language status based on transparent, objective criteria. Currently, the process is administered by the Ministry of Culture, which may be influenced by political considerations.
- **Clear and Consistent Criteria for Recognition:** The government should refine and publicize the criteria for granting Classical Language status, ensuring that it is consistent and standardized. This would eliminate the ambiguity and subjective interpretation of the current criteria, reducing the scope for political manipulation.
- **Objective, Data-Driven Evaluation of Languages:** Employ data-driven evaluations of languages, using historical, philological, and literary evidence to determine their classical status. Use a combination of archaeological findings, inscriptions, ancient manuscripts, and linguistic studies to provide a scientific basis for the recognition of languages.
- **Decentralized Language Preservation Initiatives:** Empower state governments, universities, and cultural institutions to take a leading role in preserving and promoting endangered or classical languages. The central government can provide funding and frameworks, but language preservation efforts should be decentralized to better reflect the needs of individual linguistic communities.
- **Increased Funding for Language Conservation:** Allocate dedicated, increased funding to both classical and endangered language preservation projects, with a focus on modern technology for conservation. The government should create a Language Preservation Fund to support the digitization of manuscripts, development of educational tools, and research on ancient languages.
- **Promote Languages Beyond Classical Status:** Establish a National Language Promotion Policy that offers support for regional languages, not just classical ones. This could include grants for modern literature, cultural festivals, and the preservation of endangered languages through education and media.
- **National Language Day and Cultural Events:** Celebrate a National Language Day where all languages—classical, scheduled, and regional—are promoted through cultural festivals, exhibitions, and conferences. The government can organize festivals, seminars, and competitions on this day, involving scholars, artists, writers, and students to showcase the cultural and literary richness of India's languages.
- **Language Technology Development:** Invest in the development of language technology that supports both Classical and endangered languages. Tools like machine translation, digital dictionaries, and language learning apps can help make ancient languages accessible to modern audiences. These were done to tribal languages like Ho using radio telecasts.

PRACTICE QUESTION

Q. "Discuss the significance of Classical Language status in India. What are the major challenges associated with granting this status, and suggest a way forward for its effective implementation." (15 marks, 250 words)

APPROACH



MODEL ANSWERSS

India's rich linguistic heritage is preserved and promoted through the recognition of **Classical Languages**. This status is granted to languages with **ancient origins, rich literary traditions, and historical significance**. It aims to conserve and promote these languages for their cultural, historical, and literary value.

SIGNIFICANCE OF CLASSICAL LANGUAGE STATUS:

1. **Cultural and Heritage Preservation:** Classical Languages serve as custodians of India's **ancient cultural heritage**. They embody the essence of historical, philosophical, and religious milestones that shaped Indian civilization.
 - **Sanskrit** and **Tamil** hold immense significance for their literary contributions, influencing modern Indian philosophy, religion, and scientific thought.

2. **Promotion of Scholarly Research:** Classical Language status ensures the **establishment of research centers** and universities dedicated to the study and preservation of ancient texts, facilitating **academic inquiry** into India's literary and cultural history.
 - The **Central Institute of Classical Tamil** in Chennai promotes research on classical Tamil texts and history.
3. **Translation and Accessibility:** The status encourages the **translation and publication** of ancient texts into modern languages, making them accessible to a wider audience and preserving their knowledge for future generations.
 - Ancient texts like **Thirukkural** in Tamil have been translated into several languages, helping spread its moral teachings globally.
4. **Cultural Promotion through Festivals and Awards:** Classical Languages are promoted through **cultural festivals, awards, and seminars**, raising public awareness and engagement with these ancient traditions.
 - The **Sanskrit Commission** promotes Sanskrit studies through state-sponsored programs and festivals.

CHALLENGES ASSOCIATED WITH CLASSICAL LANGUAGE STATUS:

1. **Politicization of the Process:** The recognition of Classical Language status has become **highly politicized**, with demands from regional groups for inclusion. Political favoritism and **regional competition** often play a role in the decision-making process, undermining the **objectivity** of the criteria.
 - The recent recognition of **Marathi** as a Classical Language was perceived as politically motivated, occurring in the context of upcoming elections in Maharashtra
2. **Ambiguity in Criteria for Recognition:** The criteria for granting Classical Language status, such as **original literary tradition**, were recently dropped, leading to questions about the **standardization and consistency** of the evaluation process.
 - The Linguistic Expert Committee admitted that proving the "originality" of literary traditions was difficult, as ancient languages borrowed from each other
3. **Overlapping Status with Scheduled Languages:** Some languages, like **Tamil, Kannada, and Sanskrit**, enjoy both Classical and Scheduled Language status, leading to ambiguity in **resource allocation** and focus. While these languages receive special grants, their practical usage is limited, as they are no longer widely spoken in their classical forms

4. **Inadequate Implementation:** Despite the recognition, the **promised grants, research centers, and scholarships** for Classical Languages are often delayed or insufficient. The infrastructure needed to promote these languages effectively is often lacking.
 - Even after Tamil received Classical status in 2004, the establishment of the **Central Institute of Classical Tamil** faced long delays
5. **Perceptions of Inequality:** The recognition process has created a sense of **inequality among linguistic communities**, with some languages receiving classical status, while others with rich literary traditions, such as **Tulu** and **Maithili**, remain excluded. This fuels dissatisfaction and demands for recognition

WAY FORWARD FOR EFFECTIVE IMPLEMENTATION:

1. **Establish an Independent Expert Body:** An independent commission, composed of **linguists, historians, and cultural scholars**, should be created to evaluate languages for Classical status. This body should operate **free from political influence** to ensure an **objective and transparent** process.
2. **Clear and Consistent Criteria:** The criteria for recognition should be **refined and standardized**, focusing on **antiquity, distinct literary tradition, and historical value**. This would remove ambiguity and prevent **subjective interpretation**.
3. **Decentralized Preservation Efforts:** Empower **state governments and universities** to take a leading role in preserving and promoting Classical and endangered languages, with **financial support from the central government**. This would allow local communities to be more engaged in the preservation of their linguistic heritage.
4. **National Language Promotion Day:** Celebrate a **National Language Promotion Day** to highlight the importance of all Indian languages, including Classical, Scheduled, and endangered languages. This would raise **public awareness** and foster a sense of pride in India's linguistic diversity.
5. **Leverage Technology for Preservation:** Invest in **language technology development**, including **machine translation, digital archives, and language learning apps**, to make Classical languages more accessible to modern audiences.

Classical Language status is vital for preserving India's rich linguistic and cultural heritage. However, the process of granting this status must be **objective, transparent, and free from political influence**. By adopting measures such as the creation of an **independent linguistic body, clear criteria, and adequate funding**, India can ensure the effective promotion and conservation of its Classical Languages, while also encouraging the preservation of its entire linguistic diversity.

GENERAL STUDIES II

4. REGULATION OF RELIGIOUS INSTITUTIONS IN INDIA

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Constitution > Right to Religion

REFERENCE NEWS:

As the Supreme Court hears petitions seeking a court-monitored probe into the alleged adulteration of the ghee in Lord Venkateswara's laddu prasadam, Hindu organisations have revived their demand to free temples from government control.

The Vishwa Hindu Parishad (VHP) has announced a nationwide campaign, and Andhra Pradesh Deputy Chief Minister has called for a "Sanatana Dharma Rakshana Board" to look into all issues relating to temples.

RIGHT OF RELIGIOUS DENOMINATIONS IN INDIA:

Article 25(2) permits the state to regulate or restrict any secular activity associated with religious practice, and also enables the state to make laws for social welfare and reform.

Article 26: Freedom to Manage Religious Affairs: grants religious denominations the freedom to:

- Establish and maintain institutions for religious and charitable purposes.
- Manage their own affairs in matters of religion.
- Own and acquire property.
- Administer such property in accordance with law.

This freedom is also subject to public order, morality, and health.

PRESENT STATUS OF REGULATION OF RELIGIOUS INSTITUTIONS IN INDIA:

- Muslims and Christians manage their places of worship and religious institutions through boards or trusts run by the community.
- In the case of many Hindu, Sikh, Jain, and Buddhist places of worship, however, the government exercises considerable control. Hindu temples form the majority of the around 30 lakh places of worship in India (2011 census).
- States draw their power to enact such legislation from **Article 25(2)** of the Constitution, under which a government can make laws "regulating or restricting any economic, financial, political or other secular activity which may be associated with religious practice", and "providing for social welfare and reform or the throwing

open of Hindu religious institutions of a public character to all classes and sections of Hindus”.

- Religious endowments and institutions are in List III (**Concurrent List**) of the **Seventh Schedule**, which means both the Centre and states can legislate on the subject.
 - Temples in Tamil Nadu are managed by the state’s Hindu Religious and Charitable Endowments (HR&CE) department.
 - The AP government controls and appoints the head of the Tirumala Tirupati Devasthanams (TTD), which runs the Tirupati Temple.
 - Several states including Tamil Nadu, Karnataka, Andhra Pradesh, Telangana, Kerala, Maharashtra, Odisha, Himachal Pradesh, Bihar, Madhya Pradesh, and Rajasthan have enacted laws that give the government the power to administer temples, their incomes and expenditures.
 - **Waqf Act, 1995** regulates Muslim waqf properties (endowments) and establishes Waqf Boards to oversee their functioning.
 - **Sikh Gurdwaras Act, 1925** governs the management of gurdwaras in Punjab, Haryana, Himachal Pradesh, and the Union Territory of Chandigarh.
 - **Places of Worship (Special Provisions) Act, 1991** prohibits the conversion of any place of worship and mandates that the religious character of a place of worship as it stood on August 15, 1947, must be maintained.

HOW DID HINDU TEMPLES COME UNDER GOVERNMENT CONTROL?

- In the medieval period, invaders repeatedly attacked and pillaged India’s fabulously wealthy temples.
- The colonial rulers sought to control them — and between 1810 and 1817, the East India Company enacted a series of laws in the presidencies of Bengal, Madras, and Bombay, giving themselves the right to interfere in the administration of temples, purportedly to prevent the misappropriation of their income and endowments.
- In 1863, the British enacted the Religious Endowments Act, which handed over control of temples to committees set up under the Act. However, the government retained considerable influence through judicial jurisdiction, the extension of the Civil Procedure Code and Official Trustees Act to temples, and the Charitable and Religious Trusts Act, 1920.
- After Independence, the 1925 Madras Hindu Religious Endowments Act became the blueprint for various states to enact their own laws to administer temples.
- **Hindu Religious Endowments Commission** declared that government control over temples was essential to prevent maladministration.
- States use a part of the income from offerings and donations at large temples for the administration and upkeep of those and smaller temples, and for welfare activities that may or may not be connected to the temple — such as running hospitals, orphanages, or schools/ colleges that provide secular education.

ARGUMENTS IN FAVOUR OF STATE REGULATION OF TEMPLES:

Preventing Mismanagement and Corruption

- The **Padmanabhaswamy Temple** in Kerala, one of the richest temples in the world, came under scrutiny when treasure worth billions of dollars was discovered in its vaults in 2011. In 2020, the Supreme Court allowed the Travancore royal family to continue managing the temple, but under court-ordered supervision, highlighting the need for regulation to safeguard the temple's vast assets.

Ensuring Accountability and Transparency: State control ensures that temple funds and resources are used for the benefit of the community.

- The **Tirupati Tirumala Devasthanams (TTD)**, which manages one of the richest temples in the world, is overseen by the Andhra Pradesh government. In the financial year 2022-23, TTD's annual budget was over ₹3,100 crore, with significant portions allocated to charitable activities, including hospitals, educational institutions, and social welfare programs.

Preserving Public Interest: Temples often hold land and properties that have been donated for the benefit of the public. Without state regulation, these properties could be misappropriated by private individuals or organizations.

- In Tamil Nadu, the **Hindu Religious and Charitable Endowments (HR&CE) Department** manages over 40,000 temples, ensuring that temple lands and properties are not misused. Between 2012 and 2020, Tamil Nadu's HR&CE Department recovered over 50,000 acres of encroached temple land, showing the effectiveness of state regulation in protecting temple properties.

Preventing Religious Exploitation: State regulation can prevent the exploitation of religious sentiments for personal or political gain.

- The Supreme Court has intervened in cases where religious leaders have been found exploiting temples for personal gain, as seen in the **Nithyananda** case in Karnataka, where a self-proclaimed godman was accused of misusing temple funds and exploiting followers.

Protecting Cultural Heritage: Many temples in India are ancient structures with significant cultural, historical, and architectural value. State regulation helps ensure that these temples are preserved and maintained as heritage sites.

- The **Brihadeeswarar Temple** in Tamil Nadu, a UNESCO World Heritage site, is managed by the state under the HR&CE Act. The **Archaeological Survey of India (ASI)** and state departments work together to maintain and protect several temples

of historical importance, ensuring their structural integrity and preservation for future generations.

Distribution of Wealth for Public Welfare

- TTD operates the **Sri Venkateswara Institute of Medical Sciences (SVIMS)** and numerous educational institutions, providing affordable healthcare and education to the public, particularly in underprivileged regions.

Ensuring Fair Representation and Inclusivity: State regulation helps ensure that temple management is more inclusive and representative, rather than being monopolized by certain caste or sect groups.

- The **Sabarimala Temple** controversy highlighted the role of the state in ensuring equal access to temples. The Supreme Court's 2018 decision to allow women of all ages to enter the temple was a landmark ruling for gender equality in temple management. The **Kerala Devaswom Board**, which manages temples in Kerala, has played a key role in ensuring equal representation of different communities in temple management and decision-making.

Preventing Political Exploitation of Religious Institutions

- The regulation of temples in **Andhra Pradesh** and **Tamil Nadu** is seen as a way to prevent religious institutions from being used for political campaigning or influencing voters during elections. The **Election Commission of India** regularly issues directives to ensure that religious institutions are not misused for political gains, reinforcing the need for regulatory oversight to preserve secularism.

ARGUMENTS AGAINST REGULATION OF TEMPLES BY STATE:

Violation of Religious Autonomy: State control over temples infringes upon the fundamental right of religious communities to manage their own religious institutions, as guaranteed under Article 26 of the Constitution, which allows every religious denomination the freedom to manage its own affairs in matters of religion.

- The Chidambaram Nataraja Temple in Tamil Nadu is a prominent case where temple priests (Dikshitaras) opposed state intervention. In 2009, the Supreme Court upheld their right to manage the temple without state interference, citing that the state cannot infringe upon the religious community's autonomy.

Discriminatory Regulation: Unequal Treatment of Hindu Temples: State regulation of temples primarily targets Hindu religious institutions, while mosques, churches, and gurdwaras are largely left under the management of their respective religious communities. This unequal treatment raises concerns of discrimination against Hindus.

Corruption and Mismanagement by State Agencies: State-appointed officials managing temple affairs are often accused of inefficiency, corruption, and mismanagement.

- In a 2017 report, the Comptroller and Auditor General of India (CAG) criticized Tamil Nadu's HR&CE Department for poor accounting practices, loss of revenue from temple lands, and failure to recover encroached lands, showcasing the inefficiency in state management.

Politicization of Temple Resources: State control can lead to the politicization of temple wealth and resources, where political parties use temple funds for populist or non-religious purposes, diverting resources meant for religious or charitable activities.

- In 2021, questions were raised in the Andhra Pradesh Assembly about the diversion of TTD funds to secular causes, highlighting concerns over the misuse of temple wealth for political purposes and government infrastructure projects.

Economic Impact on Local Communities: Temples play a central role in the local economy, providing employment and sustaining artisans, priests, and local vendors. State regulation often leads to centralized control, reducing the role of local communities and impacting their livelihoods.

- In Karnataka, the Muzrai Department manages many temples. There have been complaints that state control has led to a reduction in financial resources for temple priests and local temple workers, affecting their income and overall economic condition.

Administrative Inefficiency: Government bureaucracy can slow down decision-making processes, making temple administration inefficient. Important religious decisions related to rituals, festivals, and temple renovations may get delayed due to bureaucratic red tape, negatively impacting temple activities.

- In the case of the Brihadeeswarar Temple in Tamil Nadu, delays in renovation and maintenance work due to administrative inefficiencies were highlighted as a result of government control. The HR&CE Department was criticized for its inability to maintain the temple's infrastructure on time.

Centralization of Temple Funds: Under state control, funds from various temples are often centralized and pooled together, which leads to the neglect of smaller temples that may not generate significant revenue. Funds collected from wealthy temples are often diverted to state projects or other temples, leading to inequitable distribution.

- In Tamil Nadu, it has been reported that funds from large temples like Madurai Meenakshi Temple and Ranganathaswamy Temple are diverted to support the administration of smaller temples under the HR&CE Department, leaving larger temples with fewer resources for their own maintenance and religious activities.

WAY FORWARD:

Decentralization and Community-Based Management: Temples should be managed by religious and local community bodies rather than centralized state control. Community boards or temple trusts could be created, composed of a combination of religious leaders, devotees, and independent trustees with state oversight and audit.

- The **Chidambaram Nataraja Temple** case demonstrates that community-based management can be effective when religious leaders or local stakeholders are directly involved.

Uniform Law for All Religious Institutions: A uniform law should be enacted to regulate the financial and secular activities of all religious institutions (temples, mosques, churches, etc.) equally, ensuring consistency across different religions.

Autonomy with Stringent Accountability Mechanisms: Temples should be granted autonomy in managing their religious affairs, but with robust accountability mechanisms in place.

- The **Travancore royal family's management of the Padmanabhaswamy Temple** is a model where religious autonomy has been preserved, but the temple's financial affairs are subject to court-ordered supervision and transparency rules.

Enhanced Role of Devotees in Temple Management: Devotees should have a greater say in the management of temples, especially in decision-making regarding religious practices, festivals, and the allocation of temple funds for public welfare activities.

- In some prominent temples like the **Tirupati Tirumala Devasthanams (TTD)**, devotees are represented on the trust boards and are consulted on key decisions. This increases the accountability of temple management and makes it more responsive to the needs of the devotees.

Technology for Transparency and Efficiency: Temples should adopt modern technology to improve transparency and efficiency in managing donations, conducting audits, and ensuring proper maintenance of temple properties.

- The **Tirupati Tirumala Devasthanams (TTD)** has adopted online donation platforms, electronic auditing, and modern systems for crowd management, allowing for greater transparency and accountability.

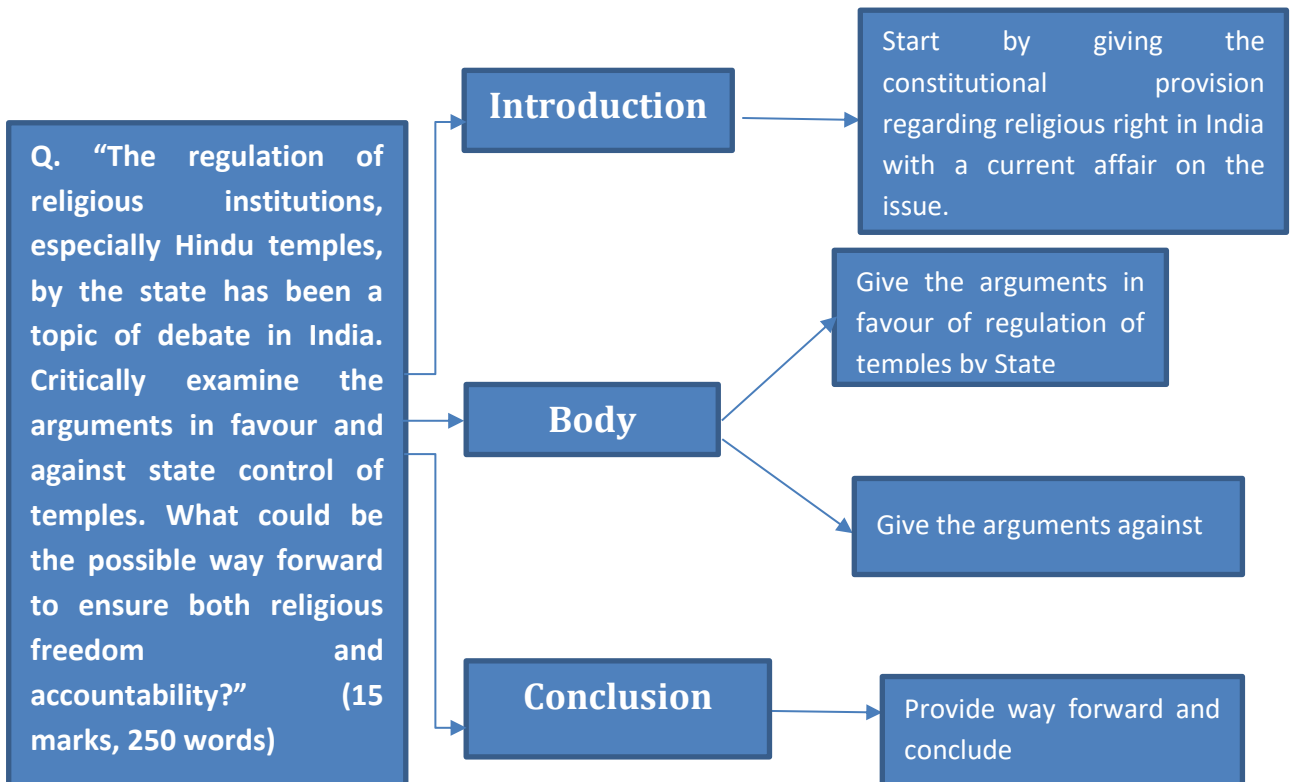
Clear Delineation of Secular and Religious Functions: A clear separation between secular and religious functions in temple management should be established. The state can regulate secular activities (such as the use of temple lands, financial donations, public welfare projects), but religious practices and rituals should remain under the control of religious authorities.

- The **Sabarimala Temple** case highlighted the importance of delineating secular and religious functions. While the state could intervene in secular aspects like infrastructure and safety, the management of religious rituals and traditions should be left to temple authorities.

PRACTICE QUESTION

Q. “The regulation of religious institutions, especially Hindu temples, by the state has been a topic of debate in India. Critically examine the arguments in favor and against state control of temples. What could be the possible way forward to ensure both religious freedom and accountability?” (15 marks, 250 words)

APPROACH



MODEL ANSWER

The regulation of religious institutions, particularly Hindu temples, has its roots in colonial-era policies and continues post-independence. Article 25(2) of the Indian Constitution permits the state to regulate secular activities associated with religion. However, this state control has sparked debates about religious autonomy, discrimination, and inefficiency in temple administration. While some argue that state intervention prevents mismanagement, others see it as an infringement on religious freedoms.

ARGUMENTS IN FAVOUR OF STATE REGULATION:

1. **Preventing Mismanagement and Corruption:** Temples, especially those managing vast wealth, are prone to mismanagement. State oversight ensures transparency and accountability. For example, the discovery of treasures worth billions in the **Padmanabhaswamy Temple** led to Supreme Court-supervised temple management, showcasing the need for regulation.
2. **Ensuring Accountability and Transparency:** Government control ensures that temple funds are used for community welfare. For instance, the **Tirupati Tirumala Devasthanams (TTD)**, with a budget exceeding ₹3,100 crore, allocates significant funds to healthcare, education, and social welfare programs.
3. **Protecting Public Interest:** Many temples hold vast amounts of land and property. State control protects these assets from being misappropriated. The **Tamil Nadu HR&CE Department** has recovered over 50,000 acres of encroached temple land between 2012 and 2020.
4. **Preventing Exploitation of Religious Sentiments:** State regulation can prevent the exploitation of religious sentiments by unscrupulous individuals. For example, the **Nithyananda case** in Karnataka, where a self-proclaimed godman exploited temple funds, was stopped due to state oversight.
5. **Preserving Cultural Heritage:** Many temples are historical landmarks. State involvement, such as with the **Brihadeeswarar Temple** in Tamil Nadu, a UNESCO World Heritage site, ensures their preservation.

ARGUMENTS AGAINST STATE REGULATION:

1. **Violation of Religious Autonomy:** Article 26 of the Indian Constitution grants religious communities the right to manage their own affairs. State control is seen as an infringement on this right, as exemplified in the **Chidambaram Nataraja Temple** case, where the Supreme Court upheld the temple's right to self-management without government interference.
2. **Discriminatory Regulation:** State regulation disproportionately affects Hindu temples, while mosques, churches, and gurdwaras remain largely free from state control. This unequal treatment raises concerns of discrimination against Hindus.
3. **Corruption and Inefficiency in State Management:** State agencies managing temples are often accused of inefficiency and corruption. For example, the **CAG report of 2017** criticized the Tamil Nadu HR&CE Department for mismanagement, failure to recover encroached land, and poor accounting practices.

4. **Politicization of Temple Resources:** There are concerns about the politicization of temple wealth. For instance, questions were raised in 2021 about the diversion of **TTD funds** for government infrastructure projects, sparking concerns over the misuse of temple funds for non-religious purposes.
5. **Negative Economic Impact on Local Communities:** Temples support local economies by providing employment and sustenance to priests, artisans, and vendors. State control, however, centralizes temple management, reducing local involvement and negatively affecting livelihoods, as seen in Karnataka's **Muzrai Department**-managed temples.

WAY FORWARD:

1. **Decentralization and Community-Based Management:** Temples should be managed by community boards or trusts composed of religious leaders, devotees, and independent trustees. The **Chidambaram Nataraja Temple** case demonstrates that effective community-based management is possible with minimal state interference.
2. **Uniform Law for All Religious Institutions:** To ensure equal treatment across religions, a uniform law should be enacted to regulate the financial and secular activities of all religious institutions (temples, mosques, churches). This would prevent the perception of bias and ensure consistency in governance.
3. **Autonomy with Accountability:** Temples should be granted autonomy in religious matters, but with robust accountability mechanisms in place. The **Padmanabhaswamy Temple** model, where the Travancore royal family manages the temple with court-ordered financial supervision, provides a good balance between autonomy and accountability.
4. **Clear Separation of Secular and Religious Functions:** There should be a clear delineation between secular and religious functions in temple management. While the state may regulate secular activities like finances and public welfare, religious rituals and practices should be left to religious authorities.
5. **Use of Technology for Transparency:** Temples should adopt modern technologies to improve transparency in donations, audits, and property management. For example, **TTD** uses electronic auditing and online donation platforms to ensure accountability.

State regulation of temples is a delicate issue balancing between accountability and religious freedom. While there are valid concerns about mismanagement, excessive state control infringes upon religious autonomy. A balanced approach involving decentralized management, uniform laws, and clear distinctions between secular and religious functions would ensure that both religious freedom and accountability are respected.

5. RIGHT TO DIE WITH DIGNITY

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Polity

REFERENCE NEWS:

- Recently, the Ministry of Health and Family Welfare released draft **Guidelines for the Withdrawal of Life Support in Terminally Ill Patients**, based on the Supreme Court's 2018 and 2023 judgments, which recognized the **right to die with dignity under Article 21 of the Indian Constitution**. The guidelines aim to operationalize this right and provide a clear framework for healthcare providers.

MORE ON NEWS:

The guidelines lay out the following mechanisms to be implemented by state governments and hospitals:

- **Primary and Secondary Medical Boards:**
 - Hospitals must establish Primary and Secondary Medical Boards.
 - The Primary Medical Board, consisting of the treating doctor and two experts, determines when life-sustaining treatment is no longer beneficial.
 - The Secondary Medical Board, appointed by the district Chief Medical Officer, will confirm or reject the Primary Board's decision.
- **Definition of Withholding/Withdrawing Life-Sustaining Treatment:**
 - Withholding or withdrawing life-sustaining treatment refers to discontinuing medical interventions (such as ventilators and feeding tubes) that no longer benefit a terminally ill patient and may prolong their suffering.
 - These treatments artificially replace essential bodily functions, and their discontinuation allows the patient's illness to take its natural course while providing comfort care.
- **Medical procedure for withholding or withdrawing life-sustaining treatment (laid down by the SC and reaffirmed by the guidelines):**
 - The process involves multiple levels of assessment:
 - **Primary Medical Board:** Assesses the patient's condition and recommends whether to withhold/withdraw life-sustaining treatment.
 - **Secondary Medical Board:** Reviews and validates the decision of the Primary Board.
 - **Informed Consent:** Surrogate decision-makers (anyone whom the person trusts, from family to neighbours, who can make decisions on

behalf of the person if they lose decision-making capacity) or individuals named in the living will must consent to the withholding or withdrawal of treatment.

- **Judicial Notification:** The hospital must notify the local judicial magistrate of the decision.

Doctors are not expected to "play God." The decision to withdraw or withhold treatment involves **shared decision-making** between the healthcare team, patient, and family, ensuring legal and ethical responsibility.

RIGHT TO DIE WITH DIGNITY

- The **right to die with dignity** refers to the legal and ethical recognition of a terminally ill patient's right to refuse life-sustaining medical treatment, which may include interventions such as ventilators, feeding tubes, and other measures that artificially prolong life.
- This right allows patients to choose not to continue with treatments that no longer improve their condition or that prolong suffering.
- The Supreme Court of India, in the **Common Cause vs Union of India (2018)** case, recognized this right under **Article 21** (Right to life and personal liberty) of the Indian Constitution, affirming that the right to live with dignity also encompasses the right to die with dignity. The Court held that individuals have the right to refuse medical treatment, including the withdrawal of life support, through an **advance medical directive (living will) or by informed refusal**.

a. Informed Refusal: This occurs when a patient with decision-making capacity actively refuses life-sustaining treatment after being fully informed about the medical consequences of such refusal. The decision is made voluntarily by the patient.

b. Advance Medical Directive (Living Will): A living will is a legal document created by an individual when they are of sound mind, specifying their preferences for medical treatment if they become incapable of making decisions in the future. It outlines their wishes regarding the withdrawal of life-sustaining treatment under certain conditions, such as terminal illness or irreversible coma.

c. Determination by the Treating Physician (in the absence of a living will):

- If there is no advance medical directive, the treating physician can determine whether to withdraw life-sustaining treatment based on the following conditions:
 1. **No reasonable medical probability of recovery** from a terminal or end-stage condition, or from a persistent vegetative state.
 2. **Further medical intervention** would only artificially prolong the dying process, rather than improve the patient's condition.

In all cases, the decision is subject to review and approval by medical boards and surrogate decision-makers, ensuring a thorough process that respects the patient's dignity and legal rights.

IN THE SUPREME COURT

2011: *Aruna Shanbaug v. Union of India* recognised that life-sustaining treatment could legally be withheld/ withdrawn even from persons without decision-making capacity.

2018: *Common Cause v. Union of India* recognised the right to die with dignity as a fundamental right under Article 21 of the Constitution



of India, and legalised the use of advance medical directives or 'living wills'.

2023: *Common Cause v. Union of India* simplified the process for making living wills and withholding/ withdrawing life-sustaining treatment by removing bureaucratic hurdles.

Euthanasia and Misconceptions

- **Euthanasia** refers to the intentional killing of a terminally ill patient for their benefit, typically carried out by a physician. In India, euthanasia is often confused with the withholding or withdrawal of life-sustaining treatment.
- The term **passive euthanasia** has led to misconceptions. In fact, withholding or withdrawing treatment, as clarified by the Indian Council of Medical Research (ICMR), is distinct from euthanasia and involves providing palliative care.

SIGNIFICANCE OF THE NEW GUIDELINES FOR WITHDRAWAL OF LIFE SUPPORT OR RIGHT TO DIE WITH DIGNITY:

- **Legalization of Withholding/Withdrawing Life Support:**
 - The guidelines give a clear **legal framework** for the withdrawal of life-sustaining treatment, ensuring that this process is not considered illegal, as it was often misconstrued in the past. This clarity addresses the confusion surrounding **passive euthanasia**, which is frequently misunderstood.
 - By framing the process under a legal and ethical structure, the guidelines help distinguish between **euthanasia** and the cessation of futile treatment, protecting patients' rights and offering clarity to healthcare professionals.
- **Operationalizing the Right to Die with Dignity:**
 - The right to die with dignity, as affirmed by the Supreme Court in the **Common Cause vs Union of India (2018)** case, is now operational through these guidelines.
 - By defining procedures, such as the creation of **Primary and Secondary Medical Boards**, the guidelines offer a step-by-step process to assess whether life-sustaining treatment should be withdrawn. This ensures that patients' **autonomy** and informed choices are respected when they are no longer capable of making decisions themselves.
- **Protection for Medical Professionals:**
 - One of the most important aspects of the guidelines is the legal protection they provide to **medical professionals**. Doctors can now **follow a clear process** for withdrawing life-sustaining treatment, based on ethical and legal principles, without fear of prosecution.

- This **reduces the risk of litigation** and enables physicians to make medically sound decisions while safeguarding patient dignity.
- **Support for Families and Surrogate Decision-Maker:**
 - The guidelines ensure that families and surrogate decision-makers are actively involved in end-of-life decisions through a **shared decision-making process**.
 - This involvement ensures that the wishes of the patient, if documented through a **living will**, are respected, and in the absence of such a directive, family members are empowered to make decisions in consultation with medical boards. The process allows families to be better supported and informed, thus reducing emotional distress during difficult times.
- **Recognition of Patient Autonomy:**
 - By reinforcing the importance of **advance medical directives** or **living wills**, the guidelines place a strong emphasis on patient autonomy. This allows individuals to express their wishes about end-of-life care in advance, ensuring that their rights are upheld even if they lose decision-making capacity in the future.
 - This is a crucial step in recognizing the individual's control over their own body and medical treatment, **ensuring that personal dignity is maintained until the end of life**.
- **Focus on Ethical Healthcare:**
 - The guidelines also help to **normalize the discussion** around end-of-life care, reducing the stigma associated with death and medical decisions surrounding it.
 - By providing a clear, ethical framework for doctors, patients, and families, these guidelines encourage a more compassionate and respectful approach to handling terminal illnesses. They pave the way for better **palliative care**, **focusing on reducing suffering rather than prolonging life at all costs**.

CHALLENGES AND CONCERNS:

- **Challenges in Establishing Medical Boards:**
 - The need for forming Primary and Secondary Medical Boards for each case introduces logistical hurdles, particularly for smaller hospitals with fewer resources. These facilities may struggle to gather the required expertise and infrastructure, causing delays in the decision-making process and prolonging patient suffering
- **Absence of a Specific Legislative Framework:**
 - Although the guidelines provide a procedural framework, the lack of dedicated legislation on the right to die with dignity leads to legal ambiguity. This could result in uneven implementation across hospitals and states, as institutions may fear legal repercussions or misinterpret the guidelines

- **Cultural Misunderstanding of Treatment Cessation:**
 - The term "**passive euthanasia**" is still widely misunderstood, causing **confusion between euthanasia and the withdrawal of life-sustaining treatment**. This misunderstanding may lead to cultural resistance, as many individuals mistakenly equate the withdrawal of futile medical interventions with ending life prematurely
- **Complexity in Creating Advance Directives:**
 - The process for drafting a living will remains complicated, involving multiple legal steps such as documentation, witnessing, and notarization. This complexity can discourage many people from preparing such directives, leaving families and medical professionals without clear guidance on the patient's end-of-life preferences
- **Delays in Approval Processes:**
 - The **multi-layered procedure** requiring review by medical boards, consent from family members or surrogates, and judicial notification can lead to unnecessary delays in the withdrawal of life-sustaining treatment. Such delays contradict the objective of ensuring a dignified death, **prolonging the patient's suffering**
- **Emotional and Ethical Burdens on Families and Doctors:**
 - The emphasis on **shared decision-making** places significant emotional pressure on both families and healthcare providers. Families may experience guilt or emotional strain when consenting to the withdrawal of life support, while physicians may face ethical dilemmas balancing professional judgment and patient autonomy
- **Risk of Exploitation and Misuse:**
 - There is a genuine risk that the guidelines could be misused, especially in situations where vulnerable patients may be coerced into signing advance directives. Without strict oversight, the guidelines could be exploited for financial or personal gain, necessitating robust mechanisms to ensure decisions serve the patient's best interests
- **Inadequate Palliative Care Infrastructure:**
 - The **transition from life-sustaining treatment to palliative care** is central to these guidelines, but **India's palliative care services remain underdeveloped**. Without sufficient resources for managing pain and providing emotional support, many patients may not receive adequate care, undermining the very purpose of these guidelines

WAY FORWARD

- **Strengthening Legal Framework:** A dedicated **legislative act** on the right to die with dignity can provide more clarity and uniformity across states, addressing the legal uncertainties currently faced by hospitals and medical professionals.

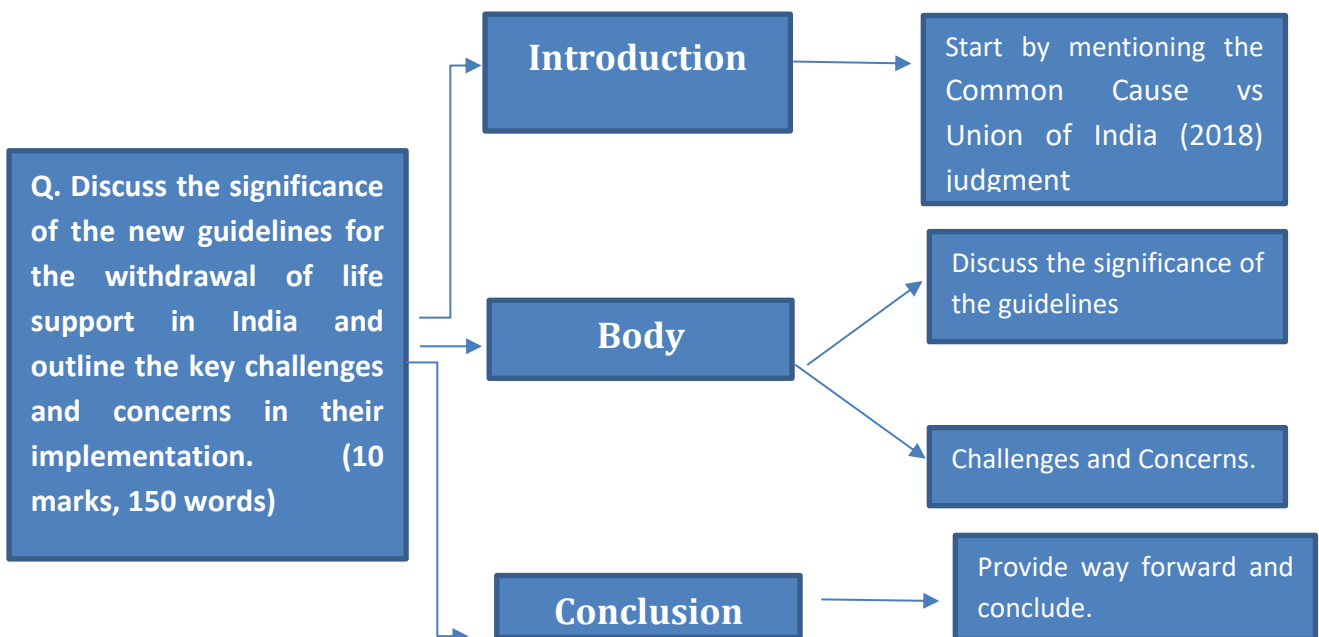
- **Awareness and Education:** Public campaigns should focus on **increasing awareness** about living wills, advance directives, and the ethical distinction between euthanasia and life-support withdrawal. This will reduce misconceptions and help normalize end-of-life discussions.
- **Simplifying Procedures:** The process of drafting a living will and setting up medical boards could be simplified by introducing **digital platforms** and making legal assistance easily accessible, especially in rural areas.
- **Strengthening Palliative Care:** Investing in **palliative care infrastructure** is essential to ensure that patients receive compassionate care. Government initiatives and public-private partnerships could help build more accessible palliative care services.
- **Regulatory Oversight:** Implementing **strict oversight** mechanisms to prevent misuse of the guidelines and ensuring decisions are made in the best interest of the patient is critical. This includes periodic audits and establishing grievance redressal mechanisms.

CONCLUSION: The new guidelines on the withdrawal of life support are a significant step towards ensuring the **right to die with dignity** in India. While they provide much-needed legal and ethical clarity, challenges remain in terms of implementation, awareness, and infrastructure. By addressing these challenges through stronger legislation, public education, and improved palliative care, India can create a more compassionate and ethically sound framework for end-of-life care.

PRACTICE QUESTION

Q. Discuss the significance of the new guidelines for the withdrawal of life support in India and outline the key challenges and concerns in their implementation. (10 marks, 150 words)

APPROACH



MODEL ANSWER

The Supreme Court of India, in its **Common Cause vs Union of India (2018)** judgment, affirmed the **right to die with dignity** as part of the **right to life** under **Article 21** of the Constitution. The Ministry of Health and Family Welfare has recently released draft guidelines to operationalize this right, based on the Supreme Court's judgments in **2018** and **2023**. These guidelines outline the procedures for the **withdrawal of life support** for terminally ill patients, providing a legal framework for healthcare providers.

Significance of the Guidelines

- **Legalization of Withdrawing Life Support:** The guidelines provide a **clear legal framework** for withdrawing life-sustaining treatment, addressing the confusion surrounding **passive euthanasia** and ensuring the process is no longer misconstrued as illegal.
- **Operationalizing the Right to Die with Dignity:** By outlining the establishment of **Primary and Secondary Medical Boards** to assess the patient's condition, the guidelines ensure that patients' **autonomy** and **informed choices** are respected even when they lose decision-making capacity.
- **Protection for Medical Professionals:** These guidelines offer **legal protection** to doctors, allowing them to make ethical and sound medical decisions without fear of prosecution or litigation. This clarity encourages physicians to follow proper procedures when withdrawing life support.
- **Involvement of Families and Surrogate Decision-Makers:** The guidelines emphasize **shared decision-making** between families, surrogate decision-makers, and medical boards, ensuring the wishes of the patient are respected while providing emotional support to the families.
- **Recognition of Patient Autonomy:** The guidelines reinforce the importance of **advance medical directives** or **living wills**, empowering individuals to make decisions about their end-of-life care in advance, safeguarding their **personal dignity** until the end.

Challenges and Concerns

- **Logistical Issues in Medical Board Formation:** Smaller hospitals may face challenges in forming the required **Primary and Secondary Medical Boards**, as the setup requires significant resources and expertise, causing potential delays in decision-making and prolonging patient suffering.
- **Absence of Specific Legislation:** The lack of a **dedicated law** on the right to die with dignity creates **legal ambiguity**, leading to inconsistent implementation of the guidelines across hospitals and states.
- **Cultural Misunderstanding of Withdrawal of Treatment:** The term "**passive euthanasia**" is still widely misunderstood, leading to **cultural resistance**. Many

individuals wrongly associate the withdrawal of life-sustaining treatment with euthanasia, which could hinder acceptance of the guidelines.

- **Complexity in Drafting Advance Directives:** The procedure for creating **living wills** is complex, involving multiple legal steps, such as notarization and documentation, which may discourage individuals from preparing these directives.
- **Delays Due to Multi-Layered Approval Process:** The guidelines' requirement for approvals from multiple medical boards, family members, and judicial notifications can lead to unnecessary delays, contradicting the objective of ensuring a **dignified death**.
- **Emotional Burden on Families and Doctors:** The **shared decision-making** process can be emotionally taxing on both families and healthcare providers. Families may feel guilt, and doctors may face **ethical dilemmas** balancing medical judgment with patient autonomy.
- **Inadequate Palliative Care:** The transition to **palliative care** remains underdeveloped in India. Without adequate pain management and emotional support, patients may suffer unnecessarily, undermining the purpose of the guidelines.

Way Forward:

- **Dedicated Legislation:** A specific law on the right to die with dignity will help provide clarity and uniformity across states.
- **Public Awareness:** Campaigns should focus on educating people about the ethical distinction between **euthanasia** and **withdrawing life support**.
- **Simplification of Procedures:** Streamlining the process of creating **living wills** through digital platforms can make advance directives more accessible.
- **Investment in Palliative Care:** Strengthening palliative care infrastructure to ensure compassionate end-of-life care.

The new guidelines mark a major step towards respecting the **right to die with dignity** in India. However, challenges related to **logistics, legal clarity, and cultural misconceptions** must be addressed to ensure smooth implementation. Strengthening the **legal framework**, improving **public awareness**, and **investing in palliative care** will ensure that these guidelines achieve their intended purpose, creating a compassionate and ethical framework for end-of-life care.

6. NATIONAL COMMISSION FOR PROTECTION OF CHILD RIGHTS

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Statutory bodies > Child Rights

REFERENCE NEWS:

NCPCR chairperson Priyank Kanoongo emphasised the need to find “Indian solutions to Indian problems and not follow European models,” for solving children’s issues, a philosophy he believes was his biggest challenge during his tenure as the chairperson of the apex child rights body.

NCPCR:

- The National Commission for Protection of Child Rights (NCPCR) is a **statutory body** under the Ministry of Women and Child Development, established in 2007 under the **Commissions for Protection of Child Rights (CPCR) Act, 2005**.
- It works to protect, promote, and defend the rights of children in India, with a focus on ensuring their survival, development, and participation as enshrined under the United Nations Convention on the Rights of the Child (UNCRC) and Indian laws.
- It monitor the implementation of child protection laws such as the **Right to Education Act, 2009, Protection of Children from Sexual Offences (POCSO) Act, 2012, and Juvenile Justice Act, 2015**.
- NCPCR has a **Chairperson** who is a person with experience in child rights or related areas and **six members**, including **at least two women**, with expertise in fields such as education, child health, child psychology, juvenile justice and elimination of child labour or children in distress.
- The Chairperson shall be appointed on the recommendation of the three members’ committee constituted by the Central government under the chairmanship of Minister of Education.
- The members are appointed by the Central Government. The **central government** may by order remove the chairperson or any other member from office if:
 - Is adjudged insolvent
 - Engages during his term of office in any paid employment outside the duties of his office
 - Refuses to act or becomes incapable of acting
 - Is of unsound mind and stands so declared by a competent court

- Has so abused his office as to render his continuance in office detrimental to the public interest
- Is convicted and sentenced to imprisonment for an offense, which in the opinion of the central government, involves moral turpitude

FUNCTIONS AND RESPONSIBILITIES:

- **Addressing Violations of Child Rights:** Take suo moto cognizance of violations of children's rights and intervene in cases involving abuse, trafficking, or exploitation. They investigate violations of child rights and recommend legal proceedings in appropriate cases.
 - The NCPCR has issued guidelines for the assessment of child suspects in heinous offenses to determine whether a child should be treated as a minor or not in criminal cases which come under the "heinous" offences category of the Juvenile Justice Act ,2015.
- **Handling Complaints:** The NCPCR receives and investigates complaints from individuals or groups regarding violations of child rights across the country.
- **Advisory Role to Government:** Provide recommendations to the Central and State Governments on policies, laws, and programs related to child welfare. They report annually and at other intervals to the Central Government on effectiveness of these safeguards.
- **Monitoring Institutions and Facilities:** Oversee child care institutions, schools, juvenile homes, and observation centres to ensure compliance with child protection norms. They inspect institutions where children are detained or reside.
 - National Commission for Protection of Child Rights (NCPCR) declared the mica mines of Jharkhand 'child labour-free' at an event in **Koderma, Jharkhand**. NCPCR chairperson announced this as the first-ever successful endeavour to cleanse a supply chain of child labour in mica mining.
- **Advocacy and Awareness:** Conduct research, awareness campaigns, and capacity-building programs to promote child rights and sensitize the public about child welfare issues. They examine and review existing safeguards for the protection of child rights and recommend measures for their effective implementation.
 - Taking note of the lack of advanced ambulances equipped with medical emergency facilities and life support systems to cater to the special needs of neonates and infants, NCPCR has asked health ministry to implement draft guidelines on the operationalisation of such ambulances.

- The Commission has been mandated under Section 31 of the Right of Children to Free and Compulsory Education (RTE) Act, 2009 to examine and review the safeguards of the rights provided under the Act and to recommend measures for its effective implementation.
 - NCPCR has recently told the Supreme Court Madrasahs are "unsuitable" places for children to receive "proper education" and the education imparted there is "not comprehensive" and is against the provisions of the Right to Education Act.
- It has been mandated under POCSO Act, 2012 to monitor the designation of Special Courts by State Governments, to monitor the formulation of the guidelines described in section 39 of the Act.
 - POCSO e-box by NCPCR is an online complaint system that allows children to report sexual abuse to NCPCR.
 - Child-Friendly Courts to ensure effective implementation of POCSO through child-friendly courts and special protection units.
- It also has been charged with the monitoring of Child Care Institutions (CCIs) and was instructed to carry out a Social audit of the same by the Supreme Court.
 - Baal Swaraj portal for rescue and rehabilitation of children in need of care and protection. Collaborates with law enforcement agencies to combat child trafficking and ensures the rehabilitation of rescued children.

CHALLENGES FACED BY NCPCR:

- **Limited Enforcement Powers:** The NCPCR has **recommendatory powers**, but it lacks **authority to enforce** its decisions. It depends on **other authorities** for action, leading to delays in addressing violations.
 - NCPCR can only advise state governments on child protection matters; it does not have the power to directly intervene in the enforcement of the **POCSO Act** or **Right to Education (RTE) Act**.
- **Inadequate Manpower and Financial Constraints:** The NCPCR suffers from **insufficient staff** and **budgetary limitations**, affecting its ability to monitor child rights violations effectively.
 - In 2019, the **Standing Committee on Human Resource Development** reported that NCPCR's budget allocation was **inadequate** for its expanding responsibilities. This limits the NCPCR's ability to conduct **frequent inspections** of child care institutions and effectively manage complaints.

- **Overlapping Jurisdiction with State Commissions (SCPCRs):** There are **coordination issues** between the NCPCR and the **State Commissions for Protection of Child Rights (SCPCRs)**, leading to **duplication** of efforts or neglect of responsibilities.
 - In many cases, SCPCRs fail to act promptly on cases referred by NCPCR, delaying justice for children. A report by **HAQ: Centre for Child Rights** highlighted inconsistent coordination between national and state commissions as a bottleneck.
- **Inadequate Monitoring and Follow-up Mechanisms:** Due to limited resources, the NCPCR struggles with **regular monitoring** of child care institutions and schools for compliance with the **RTE Act** and **Juvenile Justice Act**.
 - Several child care institutions in Tamil Nadu were found operating without proper registration, despite NCPCR's mandate to monitor such facilities. In 2018, **84% of child care institutions** audited by NCPCR did not meet the required standards under the JJ Act.
- **Delays in Handling Complaints:** The commission is often overwhelmed with **complaints** regarding child abuse, trafficking, and denial of education, leading to **delays** in redressal.
 - According to NCPCR's annual report, more than **10,000 complaints** were pending for investigation as of 2021, slowing the process of justice delivery.
- **Lack of Awareness and Public Engagement:** Many citizens, especially in **rural areas**, are unaware of the NCPCR's role and functions, limiting its ability to reach vulnerable children.
 - During the **COVID-19 pandemic**, many orphaned children were found begging on the streets, but few complaints were registered with NCPCR due to lack of public awareness.
- **Political and Bureaucratic Interference:** The commission's **independence** is sometimes compromised due to political and bureaucratic interference, affecting its ability to act impartially.
 - Instances have been reported where child rights violations related to **politically sensitive cases** were underplayed or ignored by local authorities, limiting the NCPCR's impact.
- **Inconsistent Implementation of Child Protection Laws:** Although NCPCR is mandated to monitor the implementation of laws like the **POCSO Act** and the **RTE Act**, poor coordination with **law enforcement agencies** and **schools** affects compliance.

- In 2022, NCPCR identified **5,000+ schools** across India that were violating provisions of the RTE Act, but many schools remained non-compliant even after notices were issued.

WAY FORWARD:

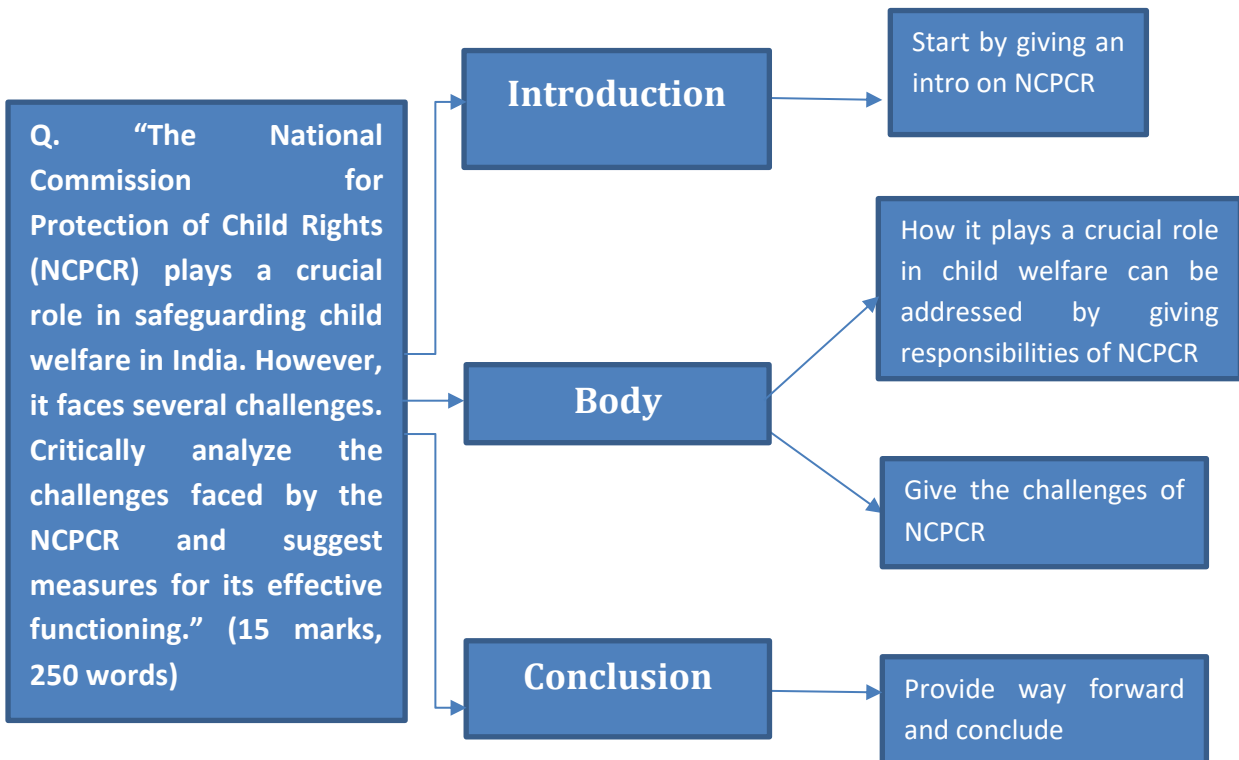
- **Strengthen the Legal and Enforcement Powers of NCPCR:** The Justice Verma Committee (2013) recommended granting more enforcement powers to NCPCR to implement child protection laws more effectively. The Parliamentary Standing Committee on Education (2021) urged for amending the CPCR Act, 2005 to give NCPCR penal powers.
- **Improve Coordination between NCPCR and SCPCRs:** The HAQ: Centre for Child Rights report suggested the creation of joint task forces between NCPCR and State Commissions for effective monitoring of child rights.
 - Australia's National Child Protection Framework has a centralized child protection framework with clearly defined roles for state and federal agencies, improving coordination across jurisdictions.
- **Adequate Funding and Resource Allocation:** The Standing Committee on Human Resource Development (2019) emphasized the need for higher budget allocations for NCPCR, given the expanding scope of its responsibilities.
 - Norway's Child Welfare System allocates 3-4% of its GDP to child welfare services, ensuring sufficient resources for child protection efforts.
- **Establish a Centralized Data and Monitoring System:** The CAG Report (2018) suggested developing a centralized digital platform for real-time monitoring of child rights cases across the country.
 - The Federal Railroad Administration (FRA) in the US uses a real-time data platform for monitoring safety incidents, enabling effective policy responses.
- **Focus on Training and Capacity Building:** The Justice P.N. Bhagwati Committee suggested capacity-building programs for NCPCR staff and regular training sessions for law enforcement agencies handling child protection cases.
 - UK's National Child Protection Training Program offers continuous professional development (CPD) for social workers and child protection officers, ensuring they stay updated on the latest practices.
- **Strengthen Awareness and Public Engagement:** The National Policy for Children (2013) emphasized the need for public awareness campaigns to sensitize citizens about children's rights and the role of NCPCR.

- Sweden’s Child Helpline Model runs child-friendly helplines and awareness programs, empowering children and parents to report violations proactively.
- **Enhance Monitoring of Child Care Institutions and Schools:** The Madhav Chavan Committee recommended regular audits of child care homes and RTE compliance monitoring in schools to ensure child safety and well-being.
 - Germany’s Kinder- und Jugendhilfe Framework mandates periodic inspections of childcare institutions and provides annual audit reports to ensure compliance with child safety norms.
- **Address Gaps in Redressal Mechanisms:** The Parliamentary Committee on Women and Child Development (2021) urged faster redressal of complaints related to child rights violations and recommended setting up regional NCPCR offices for improved access.

PRACTICE QUESTION

Q. “The National Commission for Protection of Child Rights (NCPCR) plays a crucial role in safeguarding child welfare in India. However, it faces several challenges. Critically analyze the challenges faced by the NCPCR and suggest measures for its effective functioning.” (15 marks, 250 words).

APPROACH



MODEL ANSWER

The **NCPCR** was established in **2007** under the **Commissions for Protection of Child Rights (CPCR) Act, 2005** to protect and promote **children's rights** across India. Strengthening the NCPCR is crucial to ensure compliance with child protection laws and international conventions like the **UNCRC**.

FUNCTIONS AND RESPONSIBILITIES:

- **Addressing Violations of Child Rights:** The NCPCR has issued guidelines for the assessment of child suspects in heinous offenses to determine whether a child should be treated as a minor or not in criminal cases which come under the "heinous" offences category of the Juvenile Justice Act ,2015.
- **Monitoring Institutions and Facilities:** National Commission for Protection of Child Rights (NCPCR) declared the mica mines of Jharkhand 'child labour-free' at an event in **Koderma, Jharkhand**. NCPCR chairperson announced this as the first-ever successful endeavour to cleanse a supply chain of child labour in mica mining.
- The Commission has been mandated under Section 31 of the Right of Children to Free and Compulsory Education (RTE) Act, 2009 to examine and review the safeguards of the rights provided under the Act and to recommend measures for its effective implementation.
 - NCPCR has recently told the Supreme Court Madrasahs are "unsuitable" places for children to receive "proper education" and the education imparted there is "not comprehensive" and is against the provisions of the Right to Education Act.
- It has been mandated under POCSO Act, 2012 to monitor the designation of Special Courts by State Governments, to monitor the formulation of the guidelines described in section 39 of the Act.
- It also has been charged with the monitoring of Child Care Institutions (CCIs) and was instructed to carry out a Social audit of the same by the Supreme Court.

CHALLENGES FACED BY NCPCR:

1. **Limited Enforcement Powers:** NCPCR's role is **recommendatory**, lacking the power to directly **enforce decisions** or impose penalties, resulting in **delays** in addressing violations.
 - NCPCR can only advise state governments regarding violations under the **POCSO Act** or **RTE Act** but cannot intervene in their enforcement

2. **Inadequate Resources and Manpower:** Insufficient **staff and budgetary allocation** limit the commission's capacity to conduct inspections and handle complaints.
 - The **Standing Committee on Human Resource Development (2019)** reported that NCPCR's budget was inadequate for its growing responsibilities
3. **Coordination Issues with State Commissions (SCPCRs):** The overlapping jurisdiction between NCPCR and SCPCRs leads to **duplication of efforts** and delays in redressal.
 - In several instances, SCPCRs failed to act promptly on cases referred by NCPCR, affecting justice delivery for children
4. **Delays in Complaint Handling:** The commission is often overwhelmed with **complaints related to child abuse, trafficking, and denial of education**, leading to **backlogs**.
 - As of **2021**, more than **10,000 complaints** were pending with NCPCR for investigation
5. **Inconsistent Implementation of Child Protection Laws:** Despite its mandate, the NCPCR struggles with the **implementation of laws** like the **RTE Act** and **POCSO Act** due to poor coordination with law enforcement agencies and schools.
 - In **2022**, NCPCR identified **5,000+ schools** violating RTE provisions, but many remained non-compliant even after notices were issued

MEASURES FOR EFFECTIVE FUNCTIONING OF NCPCR:

1. **Strengthen Legal and Enforcement Powers:** The **Justice Verma Committee (2013)** recommended granting **penal powers** to NCPCR to ensure stricter implementation of child protection laws.
2. **Improve Coordination between NCPCR and SCPCRs:** **Australia's Child Protection Framework** has a centralized system that ensures **cooperation between federal and state agencies**.
3. **Adequate Funding and Human Resources:** The **Standing Committee on Human Resource Development (2019)** emphasized the need for **higher budget allocations**.
4. **Enhance Training and Capacity Building:** The **Justice P.N. Bhagwati Committee** suggested **capacity-building programs** for NCPCR staff.
5. **Regular Monitoring of Child Care Institutions:** The **Madhav Chavan Committee** recommended **regular audits** of child care homes and **compliance checks** under the RTE Act.

The NCPCR's role is essential in ensuring the protection and promotion of **children's rights**. However, addressing challenges related to **legal limitations, resource constraints, coordination issues, and awareness gaps** is critical for its effectiveness. By **enhancing enforcement powers, adopting best practices from other countries, and strengthening coordination with state commissions**, the NCPCR can play a more impactful role in securing the welfare of children across India.

7. GLOBAL HUNGER INDEX 2024

iMPACT ANALYSIS

SYLLABUS:

GS 2 > Social justice > Poverty and Hunger > Estimation of poverty

REFERENCE NEWS:

- Recently, the Global Hunger Index for 2024 places India at the 105th position among 127 countries with a 'serious' hunger level, indicating a score of 27.3.

ABOUT GLOBAL HUNGER INDEX (GHI):

- **Objective:** To comprehensively measure and track global, regional, and national hunger.
- **Published by:** Concern Worldwide and Welthungerhilfe
- **Significance:** The report attempts to “raise awareness of United Nations’ Sustainable Development Goal 2 (SDG 2) that endeavors to achieve ‘Zero Hunger’ by 2030.
- **Scores:** The GHI score is calculated on a 100-point scale reflecting the severity of hunger, where zero is the best score (no hunger) and 100 is the worst.
- The scoring system classifies hunger levels as follows:
 - Below 9.9: Low levels of hunger
 - 10-19.9: Moderate levels
 - **20-34.9: Serious levels**
 - 35-49.9: Alarming levels
 - Above 50: Extremely alarming levels
- The Global Hunger Index assesses hunger and malnutrition across countries using **four principal indicators:**
- **Undernourishment:** Measures the proportion of the population that is undernourished, indicating a lack of adequate caloric intake necessary for a healthy life.
- **Child Stunting:** Represents the percentage of children under the age of five who have a lower height for their age, signaling chronic undernutrition.
- **Child Wasting:** Tracks the percentage of children under the age of five who are underweight relative to their height, reflecting acute undernutrition.
- **Child Mortality:** Indicates the percentage of children who die before reaching their fifth birthday, often used as a broader indicator of the overall health and nutritional environment.

THE FINDINGS OF THE 2024 GLOBAL HUNGER INDEX (GHI):

- The **2024 Global Hunger Index (GHI)** reports a global score of **18.3**, categorized as **moderate**, representing only a marginal improvement from the **2016** score of **18.8**.
- The world remains significantly off-track from achieving the **Zero Hunger** target by **2030**, as many countries still face serious or alarming levels of hunger.
- In the 2024 Global Hunger Index (GHI), the **best-performing countries**, with very low hunger levels and **scores below 5**, include **Belarus, Bosnia & Herzegovina, Lithuania, Turkey, and Kuwait**. These nations have successfully implemented measures to reduce hunger and malnutrition, making them global leaders in food security and nutrition.
- On the other hand, the **worst performers in 2024** are **Somalia (GHI score: 44.1), Yemen (41.2), Chad (36.4), Madagascar (36.3), and the Democratic Republic of the Congo (34.9)**. These countries continue to face extreme hunger challenges due to factors such as **conflict, economic instability, and climate crises**.

Findings About India in the GHI 2024:

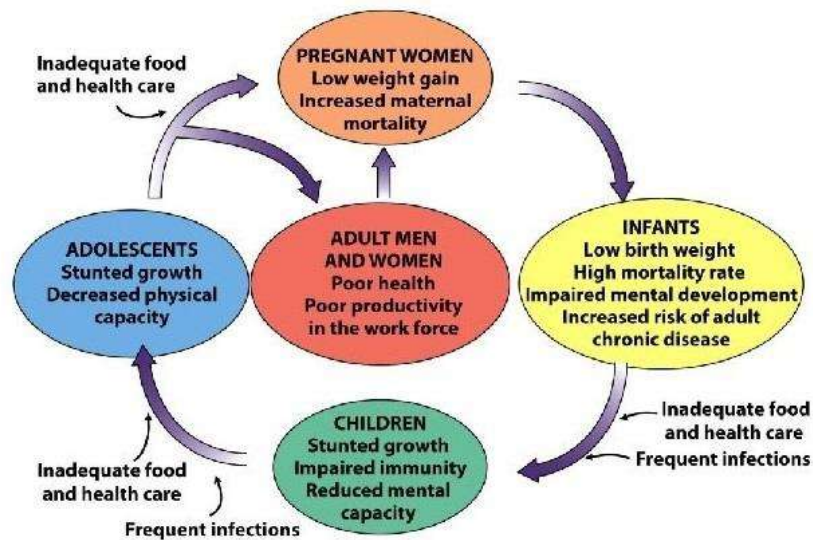
- India ranks **105th** out of **127** countries in the 2024 GHI, with a score of **27.3**, categorized as **serious**. Despite being previously classified as "alarming" in 2000 with a score of **38.4**, India has shown gradual improvement. However, it still lags behind its South Asian neighbors, such as **Bangladesh, Nepal, and Sri Lanka**, which are in the "**moderate**" category.
- **Undernourishment:** 13.7% of India's population is undernourished, indicating significant challenges in meeting basic dietary energy requirements.
- **Child Stunting:** High rates of stunting (35.5%) among children under five suggest long-term nutritional issues that aren't being adequately addressed.
- **Child Wasting:** **With the highest global rate of child wasting at 18.7%**, this highlights immediate nutritional deficiencies among Indian children.
- **Child Mortality:** The mortality rate of 2.9% for children under five underscores ongoing health and nutrition challenges.
- The GHI 2024 acknowledges India's efforts through various programs like the **National Food Security Act, Poshan Abhiyan, PM Garib Kalyan Yojna, and the National Mission for Natural Farming**.
- However, the index suggests that despite significant political will, there is considerable room for improvement, particularly in breaking the **cycle of intergenerational undernutrition** which is linked to the nutritional status of mothers and low birth weights.

CAUSES OF HUNGER IN INDIA

- **Declining agriculture output from small and marginal holdings:**

- Almost 50 million households in India are dependent on small and marginal holdings.
- However the agricultural productivity of these holdings is declining due to reduced soil fertility, fragmented lands and fluctuating market prices.
- **Declining income levels:**
 - The Periodic Labour Force Survey (PLFS) 2017-18 has revealed that rural unemployment stood is at 6.1 per cent, which is the highest since 1972-73.
 - These have adverse effects on the capacity to buy adequate food, especially when food prices have been on the rise.
- **Ineffective implementation of PDS scheme:**
 - PDS scheme is not functioning well in many states due to corruption and inclusion errors.
 - For instance, states like Bihar and Uttar Pradesh face significant leakage in food distribution, affecting the poorest sections of society.
- **Protein hunger:**
 - Pulses are a major panacea to address protein hunger. However, there is a lack of budgetary allocation for inclusion of pulses in PDS.
 - Also there is no inclusion of eggs in the mid-day meal menus of many states.
- **Micro-nutrient deficiency (hidden hunger):**
 - India faces a severe crisis in micro-nutrient deficiency due to poor dietary intakes, prevalence of diseases & non-fulfilment of increased micro-nutrient needs during pregnancy and lactation.
- **Gender Inequality and Nutritional Disparities:**
 - Gender-based disparities exacerbate the problem of hunger and malnutrition in India.
 - Women and girls often experience unequal access to food within households, receiving smaller portions or lower-quality diets.
 - This inequity, coupled with the demands of maternal and child care, exposes them to higher nutritional risks, leading to chronic undernutrition.
- **Intergenerational cycle of under-nutrition:**
 - Intergenerational undernutrition refers to the cycle where poor nutritional health is passed from one generation to the next, often due to inadequate maternal nutrition affecting fetal development and child health.

The Cycle of Undernutrition



- **Climate Change and Environmental Stressors:**
 - India is susceptible to climate change-related environmental stressors, such as changing weather patterns, extreme weather events, and natural disasters.
 - These factors can disrupt agricultural production, leading to crop failures and food scarcity.
- **Lack of Audit for Nutritional Programmes:**
 - Although a number of programs with improving nutrition as their main component are planned in the country, there is minimal or no nutritional audit mechanism at local governance level.

GOVT. INITIATIVES TO TACKLE HUNGER:

- **National Food Security Act (NFSA), 2013:** Provides subsidized food grains (5 kg per person per month) to about two-thirds of India's population through the Public Distribution System (PDS).
 - **One nation, One Ration card scheme:** 'One Nation One Ration Card' is a scheme implemented by the government providing for nation-wide portability of National Food Security Act benefits.
- **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY):** Additional 5 kg of free food grains per person for NFSA beneficiaries, introduced during the pandemic and extended multiple times.
- **Mid-Day Meal Scheme (MDMS):** Offers nutritious meals to schoolchildren in government schools to improve nutrition and attendance.
- **Poshan Abhiyaan:** Focuses on maternal and child nutrition through awareness, healthcare services, and supplements.
- **Integrated Child Development Services (ICDS):** Provides nutrition, healthcare, and education to children under six and their mothers via Anganwadi centers.
- **PM Garib Kalyan Rojgar Abhiyaan:** Provides employment and income security to ensure food access for vulnerable families.

- **Eat Right India Movement:** Promotes safe, nutritious food choices to combat malnutrition.
- **Pradhan Mantri Matru Vandana Yojana (PMMVY):** Offers financial support to pregnant and lactating women to improve their health and nutrition.
- **Antyodaya Anna Yojana (AAY):** Provides 35 kg of food grains per month to the poorest families at subsidized rates.
- **Pradhan Mantri Poshan Shakti Nirman (PM POSHAN):** Continues the Mid-Day Meal scheme with improved nutritional standards through fortified foods.

WAY FORWARD:

- **Sustainable Agriculture Practices:** Implement farming methods that improve soil health and reduce chemical use, ensuring long-term sustainability. For example, **Sikkim Organic Mission** focuses on organic farming to protect soil fertility and reduce environmental damage.
- **Rural Employment Generation:** Create jobs in rural areas to reduce unemployment and boost incomes. For example, the **Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA)** ensures job opportunities in rural India.
- **Technology-Driven PDS Reforms:** Use technology like biometric authentication to improve the efficiency of food distribution and reduce corruption. For example, **Rajasthan's Bhamashah Yojana** uses biometric verification to ensure the right beneficiaries receive food.
- **Nutrition-Specific Programs:** Address dietary deficiencies in vulnerable groups through targeted programs. For example, '**Take-Home Ration**' program by the Ministry of Women and Child Development, provides nutrient-rich food packages to pregnant and lactating women, focusing on their unique nutritional needs to combat malnutrition.
- **Mobile Nutritional Clinics:** Offer health assessments, dietary counseling, and supplementary feeding to underserved areas. For example, **mobile nutrition clinics** visit remote regions to deliver essential nutrition services.
- **Women's Self-Help Groups:** Promote women's economic empowerment through collective efforts. For example, **Kudumbashree in Kerala** helps women improve financial independence and gender equality.
- **Climate-Resilient Agriculture:** Encourage farming practices and crops that withstand climate change. For example, promoting drought-resistant crops ensures food security despite adverse weather conditions.
- **Education and Awareness Campaigns:** Conduct educational campaigns to raise awareness about nutrition and sustainable farming. For example, the **Swasth Bharat Yatra** campaign promotes healthy eating and informed food choices.
- **Food Banks and Anti-Waste Initiatives:** Establish food banks to collect surplus food and distribute it to those in need. For example, **Feeding India** redistributes excess food from restaurants and events to minimize food waste.

- **International Collaboration:** Work with international organizations to improve food security. For example, India collaborates with the **World Food Programme (WFP)** and **UNICEF** to access expertise and resources during food crises.

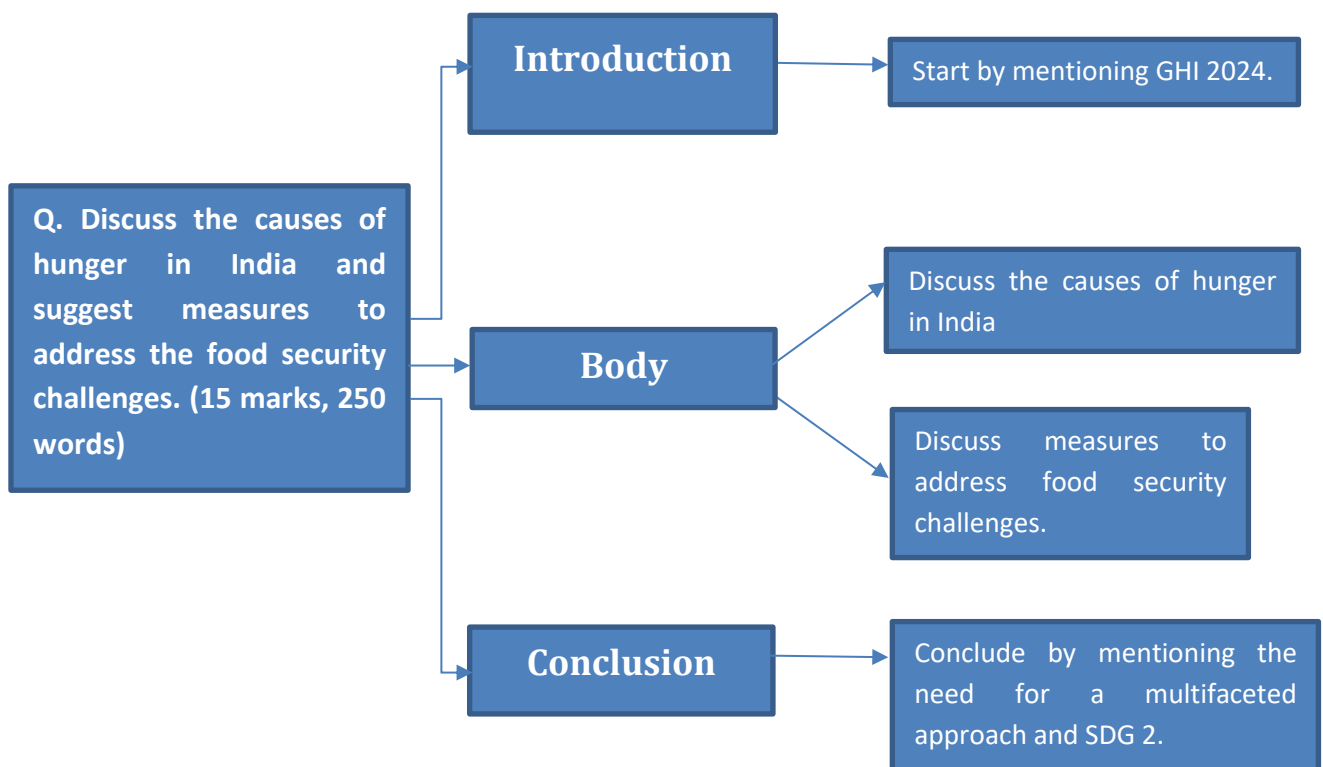
CONCLUSION:

To address hunger in India and globally, future solutions must leverage technology, sustainability, and inclusivity. Precision farming, AI, and blockchain can enhance agricultural productivity and food distribution efficiency, while biotechnology can develop nutrient-rich, climate-resilient crops. Empowering women and promoting gender equality are essential for breaking the cycle of malnutrition. Global collaboration and innovative practices like urban farming can accelerate progress toward achieving Zero Hunger by 2030. By embracing transformative actions, India can ensure a hunger-free future where every citizen has access to nutritious food, fostering a healthier, more productive society.

PRACTICE QUESTION

Q. Discuss the causes of hunger in India and suggest measures to address the food security challenges. (15 marks, 250 words)

MODEL ANSWER



MODEL ANSWER

India's position in the Global Hunger Index (GHI) 2024, ranking 105th out of 127 countries with a serious hunger score of 27.3, highlights the pressing issue of hunger in the country. Despite progress from the year 2000, when India was classified as "alarming," significant challenges remain, particularly in undernourishment, child stunting, and wasting.

Causes of Hunger in India

1. Declining Agricultural Output:

- Almost 50 million households in India rely on small and marginal land holdings. Due to declining soil fertility, fragmented lands, and volatile market prices, agricultural productivity has reduced, limiting access to food and income.
- Example: Farmers dependent on rain-fed agriculture face frequent crop failures due to erratic rainfall, exacerbated by climate change.

2. Rural Unemployment and Poverty:

- As per the Periodic Labour Force Survey (PLFS) 2017-18, rural unemployment stands at 6.1%, its highest since 1972-73. This reduction in purchasing power makes it difficult for families to afford adequate nutrition, especially amidst rising food prices.

3. Inefficiencies in the Public Distribution System (PDS):

- Corruption, inclusion errors, and inefficient delivery mechanisms in many states reduce the effectiveness of the PDS, which is designed to provide food grains to vulnerable populations.
- Example: States like Bihar and Uttar Pradesh face significant leakage in food distribution, affecting the poorest sections of society.

4. Protein and Micronutrient Deficiencies:

- Protein hunger is a significant issue, as pulses, a key source of protein, are often missing from PDS allocations. Additionally, many states do not include eggs in mid-day meal menus, reducing access to essential nutrients.
- India's hidden hunger, or micronutrient deficiency, is driven by poor diets, diseases, and a lack of focused nutritional programs, particularly for pregnant women and children.

5. Gender Inequality and Nutritional Disparities:

- Women and girls often receive less food than men in households, compounding their risk of malnutrition. This contributes to intergenerational undernutrition, where undernourished mothers give birth to underweight babies, continuing the cycle of poor health and hunger.

6. Impact of Climate Change:

- Climate change exacerbates food insecurity by affecting agricultural productivity through changing weather patterns, extreme events, and natural disasters. Droughts, floods, and unpredictable monsoons disrupt food production and availability.
- Example: The floods in Assam in 2022 devastated crops, leading to food shortages and a spike in hunger levels in the region.

Measures to Address Food Security Challenges:

1. Sustainable Agriculture Practices:

- Implementing environmentally friendly farming techniques, like those promoted in the Sikkim Organic Mission, can enhance long-term food security by improving soil fertility and reducing environmental degradation.

2. Strengthening Social Security Programs:

- Programs like the National Food Security Act (NFSA) and Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) should be continuously strengthened to provide sufficient and nutritious food to vulnerable populations, especially in rural areas.

3. Targeted Nutrition-Specific Interventions:

- Initiatives like Poshan Abhiyaan and Integrated Child Development Services (ICDS) should focus on addressing child wasting and stunting. For example, the "Take-Home Ration" program provides nutrient-rich food packages to pregnant and lactating women.

4. Technological Reforms in PDS:

- States should adopt technology-driven reforms like Rajasthan's Bhamashah Yojana, which uses biometric authentication to ensure that only eligible beneficiaries receive food subsidies, reducing corruption and improving efficiency.

Government initiatives:

1. National Food Security Act (NFSA), 2013
2. Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)
3. Mid-Day Meal Scheme (MDMS)
4. Poshan Abhiyaan (National Nutrition Mission)
5. Integrated Child Development Services (ICDS)
6. PM Garib Kalyan Rojgar Abhiyaan
7. Eat Right India Movement
8. Pradhan Mantri Matru Vandana Yojana (PMMVY)
9. Antyodaya Anna Yojana (AAY)
10. Pradhan Mantri Poshan Shakti Nirman (PM POSHAN)
11. One Nation One Ration Card (ONORC)

5. Promotion of Climate-Resilient Crops:

- Encouraging the cultivation of drought-resistant crops can mitigate the impact of climate change on food production and ensure food availability even in adverse weather conditions.

6. International Collaboration:

- India can benefit from partnerships with international organizations like the World Food Programme (WFP) and UNICEF to leverage global expertise and resources in combating hunger during crises.

India's **GHI 2024 ranking** highlights ongoing hunger and food insecurity challenges, despite several government initiatives. A **multifaceted approach**—including sustainable agricultural practices, targeted nutrition programs, technology-driven reforms, and climate-resilient solutions—is crucial to ensuring food security. Achieving this is vital for meeting **SDG 2**, which aims to eliminate hunger by **2030**.

8. MANUAL SCAVENGING

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Social Justice > Vulnerable & Backward sections

REFERENCE NEWS:

- In a comprehensive government study conducted by the Ministry of Social Justice and Empowerment under its NAMASTE programme, data gathered from over 3,000 urban local bodies across 29 states and union territories reveal that **91.9%** of the 38,000 workers profiled so far belong to **Scheduled Caste (SC), Scheduled Tribe (ST), or Other Backward Class (OBC) communities**. These workers are predominantly engaged in the hazardous cleaning of sewers and septic tanks, highlighting ongoing socio-economic disparities.

The NAMASTE programme, launched in 2023-24, aims to mechanize all sewer work to prevent deaths from hazardous cleaning. This initiative replaces the earlier Self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS).

The detailed demographic composition of the sanitation workforce is as follows:

- **Scheduled Caste (SC):** 68.9%
- **Other Backward Classes (OBC):** 14.7%
- **Scheduled Tribe (ST):** 8.3%
- **General Category:** 8%

MANUAL SCAVENGING IN INDIA:

- According to the UN India, manual scavenging refers to “**the practice of manual cleaning, disposing, or handling of the human excreta, in any manner, from dry latrines and sewers.**”
- In 1993, India banned the employment of people as manual scavengers. In 2013, the **Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act** put an end to the practice in any form.
- However, the National Commission for Safai Karamcharis (NCSK)’s latest annual report (2019-20) noted that the practice is still continuing in both rural and urban areas.
- As per the Socio Economic and Caste Census 2011 (SECC-2011) data of manual scavengers, there were **1.82 Lakh manual scavengers in the rural areas** of the country.
- However, according to a parliament response from December 2021, a total of **58,098 manual scavengers** have been identified as per the criteria laid down in the 2013 act.

- The government asserts that no new manual scavengers have been identified since 2018, following the redefinition in the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act.

WHY IT PERSISTS:

- **Caste and gender-based discriminations:**
 - Due to the prevalence of the caste system, such harmful tasks are mostly done by those belonging to the lower rung of the hierarchy particularly women. For instance, as per the recent study, around **92% of workers cleaning urban sewers, septic tanks are from SC, ST, OBC groups**
- **Poor policy implementation:**
 - Rehabilitation schemes such as one-time cash assistance, skill development training, and subsidies are provided to a smaller number of persons out of the identified manual scavengers.
 - For instance, as of 2019, the Self Employment Scheme for Liberation and Rehabilitation of Scavengers (SRMS), had **covered a mere 6 percent of Safai Karamcharis**.
- **Weak institutions:**
 - In the recent annual report of the National Commission for Safai Karamcharis (NCSK), the Chairperson admits that the organisation lacks the resources, and that the results over the years have not matched the expectation.
- **Lack of alternative opportunities:**
 - Lack of skill development coupled with poverty and social stigma against Safai Karamcharis have resulted in very few alternate employment opportunities for them. To make ends meet, these social groups continue to pursue manual scavenging.
- **Data deficiency:**
 - There is a huge issue with data related to various aspects of manual scavengers. Such discrepancies in data result in inefficient enforcement of legislations and schemes formulated for relief & rehabilitation of manual scavengers.
- **Institutionalization of the practice:**
 - Despite government outlawing the use of direct human labour in the cleaning of sewage, municipal corporations and government agencies have institutionalized the practice. For instance, SKA reports that in Railways there are 36,176 railway sewer cleaners.
- **COVID-induced vagaries:**
 - COVID-19 has pushed many into poverty and the vulnerable sections have turned to manual scavenging activities for livelihood.
 - The social exclusion got even more enhanced due to the stigma that surrounded sanitation workers involved in COVID-19 relief works.

- **Engineering challenges:**
 - Mechanised scavenging remains limited largely to urban areas of the country. Also, most of the sewers and septic tanks have engineering defects which means that after a point, machines cannot clean it.

IMPACT OF MANUAL SCAVENGING:

- **Violation of human rights:**
 - **Right to live with human dignity** is one of the most important rights which is embodied under Article 21. However, the persistence of manual scavenging violates this right.
- **Undermines social contract:**
 - The practice of manual scavenging poses several questions over equal access to protection offered by the Indian Constitution and the Indian judiciary guaranteeing rights to all its citizens.
- **Threat to life:**
 - Manual scavengers are exposed to gases such as hydrogen disulfide, ammonia, and methane. Long exposure to these lead to death by asphyxia.
 - **Between 2019 and 2023**, there have been at least **377 reported deaths** across India resulting from hazardous cleaning activities, as stated in government data tabled in the Indian Parliament.
- **Poor health outcomes:**
 - Manual scavengers are exposed to diseases like cholera, hepatitis, tuberculosis and typhoid, and physical harm due to dilapidated work environment. This, coupled with poor nutrition perpetuates the vicious cycle of poverty.
- **Perpetuation of social discrimination:**
 - Prevalence of manual scavenging perpetuates the discrimination and stigma against the people involved in them and restricts their scope to realize their true human potential.

MEASURES AGAINST MANUAL SCAVENGING:

I. LEGISLATIVE:

- **The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993:**
 - It criminalized the employment of manual scavengers to clean dry latrines.
- **The Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act, 2013:**
 - It was also passed with the objective to end manual scavenging. The 2013 Act also focused on the **rehabilitation of manual scavengers** and the introduction of **mechanization to prevent manual scavenging**.

- Under this Act, any person who engages an individual for manual scavenging is punishable with **imprisonment** up to two years and/or a **penalty of Rs. 1 lakh**.

II. INSTITUTIONAL:

- **National Commission for Safai Karamcharis (NCSK):**
 - The commission was set up in 1993 under the NCSK Act 1993 for a period of three years. Since the Act ceased to have effect from 2004, the tenure of the NCSK has been extended as a **non-statutory body** from time to time through resolutions.
 - Its objectives are to **investigate the conditions of Safai Karamcharis, investigate grievances with respect to the implementation of schemes and make recommendations** to the Central Government.
 - The Commission comprises one Chairman and four members, including a lady member and the Secretary along with other supporting staff.
- **National Safai Karamcharis Finance & Development Corporation (NSKFDC):**
 - NSKFDC is in operation since 1997, as an Apex Corporation for the all-round socio-economic upliftment of the Safai Karamcharis and their dependents throughout India, through various loan and non-loan based schemes.

III. POLICY:

- **NAMASTE Programme:**
 - The NAMASTE programme, initiated in 2023-24, aims to replace the older Self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS). It focuses on mechanizing all sewer and septic tank cleaning to mitigate the risks involved and effectively end the practice of manual scavenging under its previous definitions.
 - **Goals and Actions** Key components of the initiative include:
 - **Profiling Workers:** A nationwide effort to create a central database of sanitation workers.
 - **Safety Training and Equipment:** Providing essential training and equipment to enhance worker safety.
 - **Capital Subsidies:** Offering financial support to encourage workers to transition into 'sanipreneurs'—sanitation entrepreneurs. To date, capital subsidies amounting to ₹2.26 crore have benefited 191 workers, and another ₹10.6 crore has supported 413 sanitation workers or their dependants in starting sanitation-related projects.
- **Safaimitra Suraksha Challenge:**
 - On the occasion of World Toilet Day November 19, 2020 **Ministry of Housing and Urban Affairs (MoHUA)** launched the Safaimitra Suraksha Challenge-2021.
 - It is aimed at preventing hazardous cleaning of sewers and septic tanks and to promote mechanised cleaning.

- It also intends to thrust upon providing proper protective gears and equipment and identification of informal workers and thereby integrating them into formal mechanism.

IV. OTHERS:

- **Bezwada Wilson and Safai Karamchari Andolan:**
 - Bezwada Wilson, born in Karnataka to a community traditionally involved in manual scavenging, is a key figure in India's movement against this practice. As the National Convenor of the Safai Karmachari Andolan (SKA) since 1986, he has spearheaded efforts to abolish manual scavenging. He initiated a significant legal challenge in 1993, filing a Public Interest Litigation (PIL) that targeted violators of the 1993 Prohibition Act. Under his leadership, SKA has worked relentlessly as a watchdog, advocating for the demolition of dry latrines and aiding scavengers in finding alternative livelihoods.
- **Technological solution: Bandicoot robot**
 - The Bandicoot is a spider-shaped robotic machine that is engineered for cleaning any type of sewer manholes.
 - Developed by Genrobotics, the technology is currently used in Kerala, Tamil Nadu, Andhra Pradesh, Telangana, Gujarat, Haryana, Punjab, Assam, Maharashtra and Uttar Pradesh.

WAY FORWARD:

- **Enhanced Data Collection and Monitoring:** Establish a robust, transparent system for monitoring and reporting, utilizing modern technology and periodic audits. The Swachh Survekshan survey should be expanded to specifically identify and record instances of manual scavenging, ensuring accurate, real-time data that drives policy and rehabilitation efforts.
- **Adoption of Successful Models:** Promote and replicate successful sanitation models from across India and globally. Initiatives like Tamil Nadu's Namma Toilets and eco-friendly sanitation solutions from countries like South Africa should be adapted and implemented widely, enhancing public infrastructure and reducing reliance on manual scavenging.
- **Refocusing the Swachh Bharat Mission (SBM):** Redirect the focus of SBM towards creating sustainable employment opportunities for former manual scavengers. This involves expanding initiatives in solid waste management, promoting mass awareness through media campaigns, and supporting skill development and entrepreneurship in sanitation-related activities.
- **Legislative and Policy Strengthening:** Strengthen existing laws and policies with stricter enforcement and heavier penalties for violations. Ensure that local governments and private entities comply with the legal requirements to mechanize sanitation work, backed by judicial oversight and community monitoring.

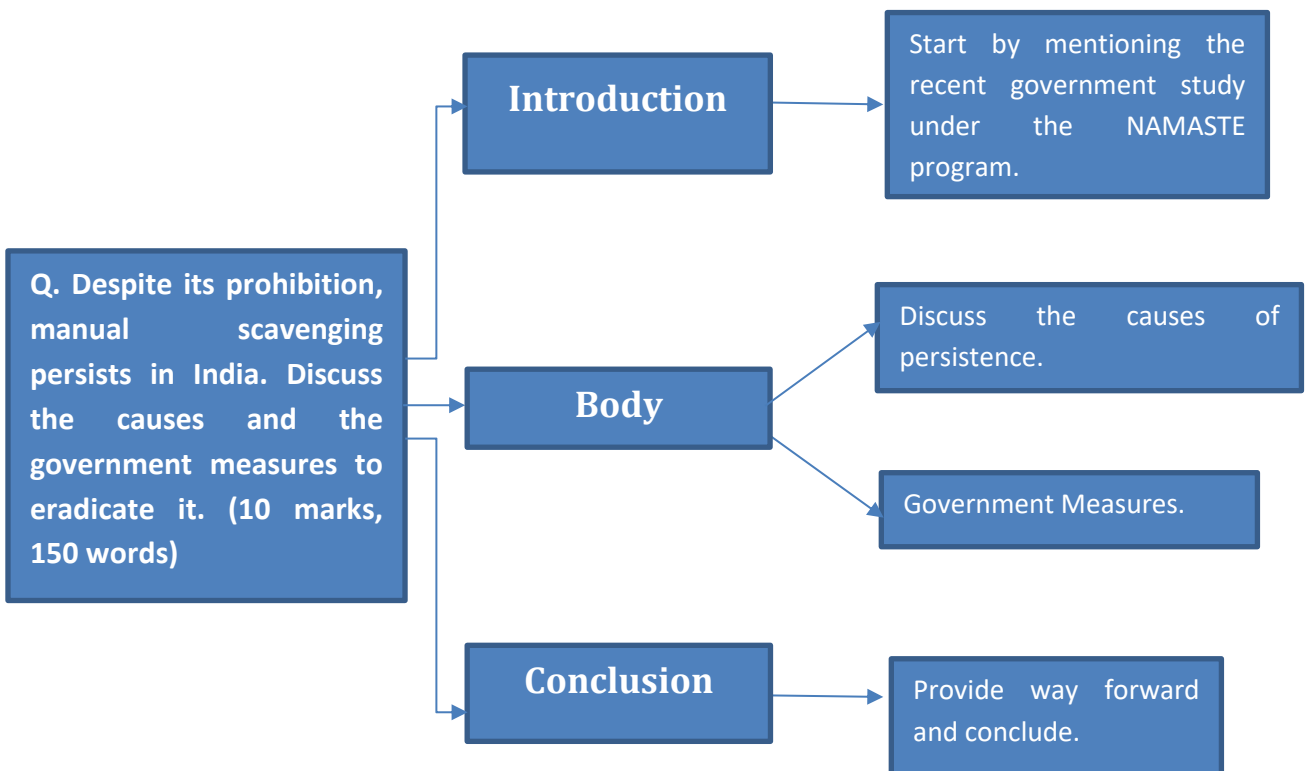
- **Support and Rehabilitation Programs:** Enhance support for manual scavengers transitioning out of the practice through comprehensive rehabilitation programs that offer educational, financial, and psychological support. Establish dedicated centers for skill training and legal aid to empower and uplift affected individuals and their families.
- **Community Engagement and Education:** Foster a national dialogue on the stigma associated with sanitation work, emphasizing the dignity of all labor. Educational campaigns should target both rural and urban populations to change perceptions and encourage respectful and equitable treatment of sanitation workers.

CONCLUSION: The persistence of manual scavenging in India starkly violates human rights. Despite laws and mechanization efforts laying groundwork for eradication, real change requires effective policy execution, community involvement, and strong support systems. Concentrated efforts on these fronts can not only end this inhumane practice but also secure a dignified future for the marginalized. With dedicated societal commitment, eradicating manual scavenging is achievable, supporting broader goals of equity and social justice.

PRACTICE QUESTION

Q. Despite its prohibition, manual scavenging persists in India. Discuss the causes and the government measures to eradicate it. (10 marks, 150 words)

APPROACH



MODEL ANSWER

A recent government study under the NAMASTE programme reveals that 91.9% of the 38,000 sanitation workers surveyed across 29 states and union territories belong to Scheduled Castes (SC), Scheduled Tribes (ST), or Other Backward Classes (OBC), underscoring significant socio-economic disparities. Despite legislative measures, manual scavenging persists, driven by deep-seated social and systemic challenges.

Causes of Persistence:

1. **Caste-Based Discrimination:** Predominantly, manual scavenging is carried out by individuals from SC, ST, and OBC communities, showcasing entrenched caste-based discrimination.
2. **Ineffective Policy Implementation:** Government programs like the earlier Self-Employment Scheme for Rehabilitation of Manual Scavengers have historically reached only a fraction of the affected population, with as low as 6% coverage among Safai Karamcharis.
3. **Economic Dependencies:** Many involved in manual scavenging lack alternative employment opportunities due to limited education and skills, compounded by the stigma associated with their caste and occupation.
4. **Resource Constraints in Oversight Bodies:** Institutions like the National Commission for Safai Karamcharis are often under-resourced, limiting their ability to effectively address grievances and enforce policies.
5. **Technological and Infrastructure Limitations:** Mechanical cleaning is still not feasible in all settings due to engineering challenges in sewer and septic tank designs, which often require human intervention.

Government Measures:

1. **Legal Frameworks:** The Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act, 2013, aims to eliminate manual scavenging with strict penalties for violations. However, enforcement remains uneven.
2. **Technological Adoption:** The introduction of technologies like the Bandicoot robot under the NAMASTE programme aims to mechanize the cleaning of sewers and septic tanks, reducing the need for human involvement.
3. **Capacity Building:** Initiatives like the Safaimitra Suraksha Challenge aim to equip workers with safety gear and proper training, targeting a reduction in fatalities from hazardous cleaning, which have totaled 377 deaths between 2019 and 2023.
4. **Financial and Rehabilitation Support:** Through capital subsidies and training, affected workers are encouraged to become 'sanipreneurs,' with significant funding supporting the start of sanitation-related businesses.

5. **Data and Monitoring Enhancement:** Efforts are being made to create comprehensive databases of sanitation workers to better tailor policies and interventions, ensuring no affected individual is overlooked.

Way Forward:

- **Enhance Data Accuracy and Accessibility:** Implement more rigorous data collection and monitoring systems to ensure all manual scavengers are identified and can access government support programs.
- **Expand Educational and Vocational Training:** Offer broader educational programs and vocational training to provide alternative livelihoods for those involved in manual scavenging.
- **Increase Public Awareness and Social Integration:** Conduct national awareness campaigns to destigmatize and integrate workers from marginalized communities, highlighting the dignity of all forms of labor.
- **Strengthen Policy Implementation and Accountability:** Establish clearer accountability mechanisms within governmental and institutional frameworks to ensure that policies and protections for manual scavengers are properly implemented.
- **Promote Public-Private Partnerships:** Encourage collaborations between the government, NGOs, and private sectors to innovate and implement scalable technological solutions that can replace manual scavenging

Manual scavenging in India persists due to entrenched social and systemic challenges. To eradicate this practice, it is essential to enforce existing laws rigorously, increase public awareness, and provide viable economic alternatives for affected communities. Focused efforts in these areas are crucial for upholding human dignity and achieving social equity.

9. PERSONS WITH DISABILITIES

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Social Justice >> Vulnerable sections

REFERENCE NEWS:

The government has enforced new amendments to the Rights of Persons with Disabilities (RPwD) rules, which aims to streamline the application process for disability certificates and **Unique Disability Identity (UDID) Cards** to improve accessibility and provide more efficient services for persons with disabilities.

Under the new rules, individuals with specified disabilities can apply for **disability certificates** and UDID cards through the UDID Portal, submitting applications to their district medical authorities or medical facilities where they are undergoing treatment.

The amendments also introduce color-coded UDID cards, signifying different levels of disability: White for disabilities below 40 per cent, Yellow for 40-79 per cent and Blue for those with 80 per cent or higher disability.

PERSONS WITH DISABILITIES IN INDIA:

- As per Census 2011, the number of Persons with Disabilities in the country is 2.68 crore , which is **2.21% of the total population** of the country.
- The **Rights of Persons with Disabilities (RPwD) Act, 2016**, replaced the PwD Act of 1995 to align with the UN Convention on the Rights of Persons with Disabilities (UNCRPD).
- It recognizes 21 disabilities, including physical, intellectual, mental, and neurological conditions (e.g., autism, dwarfism, acid attack survivors).
- **National Policy for Persons with Disabilities, 2006**, focuses on prevention of disabilities, rehabilitation, and the creation of accessible environments and promotes **community-based rehabilitation programs**.
- **Schemes:**
 - Accessible India Campaign (Sugamya Bharat Abhiyan): Aims to make public spaces and transport systems accessible.
 - PM-DAKSH: Divyang Skill Development and Rehabilitation Scheme

- Deendayal Disabled Rehabilitation Scheme
- National Fellowship for Students with Disabilities
- ADIP Scheme (Assistance to Disabled Persons): Provides aids and appliances.
- Unique Disability ID (UDID): Ensures targeted delivery of benefits.
- National Trust Act, 1999 provide for constitution of a body at the national level for the welfare of persons with autism, cerebral palsy, mental retardation and multiple disabilities.
- Rehabilitation Council of India,1992 regulates training and registration of professionals working in the field of disability rehabilitation.
- PwDs are eligible for subsidized loans under schemes like NHFDC (National Handicapped Finance and Development Corporation).

CHALLENGES FACED BY PwDs IN INDIA:

Accessibility Barriers

- **Inaccessible Public Spaces:** Only 5-7% of India's public buses are wheelchair-accessible, leaving many PwDs unable to use public transport independently and only 3% buildings are fully accessible causing an architectural apartheid.
 - A survey by the **Centre for Law and Policy Research (CLPR)** found that **75% of public buildings** in Bengaluru were not accessible to PwDs despite the Accessible India Campaign
- **Delays in the Accessible India Campaign:** Launched in 2015 to make public spaces and government websites accessible, the campaign has missed several deadlines. As of 2022, only **35% of targeted public buildings** had become accessible.

Educational Barriers

- **Low Enrolment and Dropouts:** PwDs have limited access to quality education due to **lack of inclusive infrastructure, assistive technologies**, and trained teachers. Schools often lack **ramps, braille materials, or sign language interpreters**, making it difficult for students with physical and sensory impairments to participate.
 - According to the **2019-20 UDISE+ report**, only **61% of children with disabilities** were enrolled in school. Many drop out due to the absence of accessible facilities and inclusive teaching practices. Approximately **45% of disabled people are illiterate**, and only 62.9% of disabled people aged 3 to 35 have ever attended regular schools.

Employment Challenges

- **Unemployment and Underemployment:** India has almost **3 crore people with disability (PwD)** of which around 1.3 crore is employable but only **34 lakh of them have been employed.**
 - The **ILO** reported that the employment rate for PwDs in India is **36%** compared to **60%** for people without disabilities. In 2019, the **Comptroller and Auditor General (CAG)** found that only **54% of reserved government job vacancies** for PwDs had been filled.
- **Private Sector Participation:** Many private companies are reluctant to hire PwDs, citing **low productivity and high accommodation costs.** A 2022 survey by the **Equal Opportunity Foundation** found that **70% of companies** still do not have inclusive hiring policies.

Healthcare and Rehabilitation Gaps

- **Inadequate Healthcare Access:** PwDs struggle to access basic healthcare due to **poor infrastructure, lack of trained personnel, and high costs** of specialized treatments.
 - A study by the **WHO** found that **nearly 50% of PwDs** in India cannot afford healthcare services or assistive devices like wheelchairs or hearing aids.
- **Limited Access to Mental Healthcare:** People with **mental illnesses and intellectual disabilities** often face **stigma**, making it difficult to access timely care. Mental health services account for only **0.16% of the national health budget.**

Social Stigma and Discrimination

- **Social Isolation:** PwDs face **stigma and negative attitudes** within families and communities. This leads to social exclusion, particularly for women with disabilities.
 - In many parts of India, children with disabilities are kept out of sight, and families hesitate to send them to school for fear of social ostracization.
- **Gender-Based Challenges:** **Women with disabilities** experience **dual discrimination** due to both gender bias and disability stigma.
 - A 2020 study by the **National Centre for Promotion of Employment for Disabled People (NCPEDP)** found that women with disabilities have **lower access to education and employment opportunities** than men with disabilities.

Political and Civic Participation Challenges

- **Voting Access Issues:** Although the **Election Commission of India (ECI)** has taken steps like braille-enabled ballot papers and ramps, many polling stations remain inaccessible.
 - In the 2019 Lok Sabha elections, several PwDs reported difficulties accessing polling booths and a lack of **transportation support** to reach them.
- **Limited Political Representation:** PwDs are underrepresented in **decision-making bodies**. There are few PwDs in **parliament or local governments**, which limits their ability to influence policies that affect them.

Delayed Implementation of Policies

- **Slow Progress on RPwD Act Provisions:** Although the **RPwD Act, 2016** expanded the scope of disabilities and ensured reservations, **implementation remains slow**.
 - State-level Disability Commissioners are often underfunded or lack adequate staff, hampering the monitoring of policy implementation. According to the **Ministry of Social Justice and Empowerment**, **only 11 out of 36 states and union territories** have fully implemented the RPwD Act provisions.

Financial Hardships and Social Security Gaps

- **Inadequate Social Security:** PwDs often face financial hardships due to **limited employment opportunities and insufficient social security programs**.
 - Disability pensions provided by state governments are **inconsistent** and often inadequate. In some states, the pension amount is as low as **INR 1,000 per month**, which is insufficient to meet basic needs.
- **Lack of Insurance Coverage:** Many PwDs are excluded from mainstream **health and life insurance policies**, either due to discriminatory clauses or high premiums.

Technological barriers

- The new frontier of exclusion occurs as India rapidly digitalizes. Report by the 2020 Web Accessibility Annual Report found that **98% of websites fail to comply with accessibility requirements** for People With Disability.

WAY FORWARD FOR AN ACCESSIBLE INDIA:

Strengthening Infrastructure and Universal Design Principles

- **Japan's Barrier-Free Law** mandates that public transport, buildings, and infrastructure follow **universal design principles**, benefiting all users, including the elderly and PwDs.
- **Sweden** ensures accessibility by integrating **design-for-all** principles into urban planning, making housing, parks, and transportation systems equally usable for everyone.

Inclusive Education and Skill Development

- **Finland** integrates children with disabilities into mainstream schools, providing **personalized learning plans** and well-trained teachers.
- **USA's Individuals with Disabilities Education Act (IDEA)** mandates that students with disabilities receive **free and appropriate public education (FAPE)** along with necessary support services.

Expanding Employment Opportunities and Corporate Responsibility

- **Germany** mandates companies with more than 20 employees to hire **at least 5% of PwDs**, with fines for non-compliance.
- **Australia** promotes employment of PwDs through the **Disability Employment Services (DES)**, providing wage subsidies and job coaches.

Improving Healthcare and Rehabilitation Services

- **Cuba** provides free, community-based rehabilitation services to all citizens, including PwDs.
- **Norway** offers **comprehensive health insurance**, covering specialized treatment and assistive devices for PwDs.

Enhancing Accessibility in Elections and Civic Participation

- **Canada** ensures that polling stations are accessible and offers **postal voting** options for PwDs.
- **South Africa** mandates that electoral information is provided in **braille, sign language, and easy-to-read formats**.

Addressing Social Stigma through Awareness Campaigns

- **UK's "Disability Confident" campaign** works with employers to reduce biases against PwDs and foster inclusion.
- **Kenya** engages in **community-level disability awareness programs**, empowering families and communities to support PwDs.

Strengthening Monitoring and Accountability

- **New Zealand** monitors its disability-related commitments by including **PwDs in advisory councils** and government planning bodies.

Expanding Social Protection and Financial Inclusion

- **Brazil** offers a **disability allowance** under its social protection program, ensuring that no PwD lives below the poverty line.
- **South Korea** has a **specialized insurance scheme** that covers the cost of assistive devices, treatments, and personal care services for PwDs.

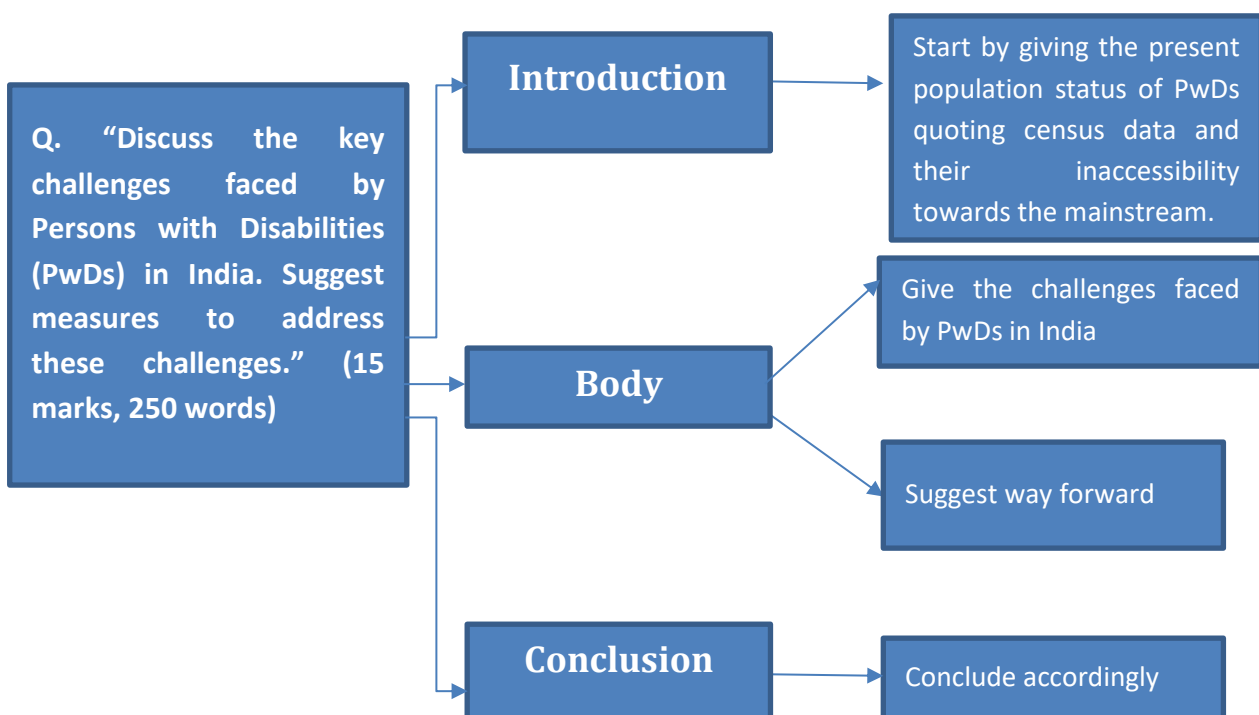
CONCLUSION:

Incheon Strategy to ‘Make the Right Real’ for PwDs in Asia and Pacific is a better inclusive and global move to accessible infrastructure and opportunities for all promoting SDGs. Also there is a need of change in perception as India moved from Viklang to Divyang by creating a universal design innovation hub, neuro adaptive learning platforms and use of AI to make an inclusive accessible India.

PRACTICE QUESTION

Q. “Discuss the key challenges faced by Persons with Disabilities (PwDs) in India. Suggest measures to address these challenges.” (15 marks, 250 words)

APPROACH



MODEL ANSWER

India, with approximately 2.68 crore PwDs (2.21% of the population as per the 2011 Census), has implemented the **Rights of Persons with Disabilities (RPwD) Act, 2016** and various policies to safeguard their rights. However, significant challenges persist in areas such as **accessibility, education, employment, healthcare, and social inclusion**.

CHALLENGES FACED BY PwDs IN INDIA:

1. Accessibility Barriers:

- **Inaccessible Public Spaces:** Only **5-7% of buses** are wheelchair-accessible, and only **3% of buildings** meet accessibility standards despite the Accessible India Campaign.
- **Technological Barriers:** **98% of websites** in India fail to comply with accessibility norms, excluding PwDs from digital spaces.

2. Educational Barriers:

- **Low Enrollment and High Dropout Rates:** Only **61% of children with disabilities** are enrolled in school, with many dropping out due to inadequate infrastructure like ramps and braille books.
- **Illiteracy:** Around **45% of PwDs** remain illiterate, hindering their socio-economic development.

3. Employment Issues:

- **Unemployment:** Despite 1.3 crore employable PwDs, only **34 lakh** are employed.
- **Private Sector Reluctance:** A survey found that **70% of companies** lack inclusive hiring policies.

4. Healthcare Gaps:

- **Limited Access to Care:** 50% of PwDs cannot afford healthcare services or assistive devices.
- **Mental Health Services:** Only **0.16%** of the national health budget is allocated to mental healthcare.

5. Social Stigma and Discrimination:

- PwDs, especially **women with disabilities**, face dual discrimination, leading to exclusion from education and employment.

MEASURES TO ADDRESS THESE CHALLENGES:

1. **Improving Accessibility: Japan's Barrier-Free Law** ensures universal design in public transport and spaces. India must **mandate accessibility** in all new infrastructure projects and **retrofit existing ones**.
2. **Inclusive Education and Skill Development: Finland** integrates children with disabilities into mainstream schools with **personalized learning plans**. India should train teachers in **inclusive education** and **develop vocational training programs** for PwDs.
3. **Employment Opportunities: Germany** mandates that companies with more than 20 employees hire at least **5% PwDs**. India should **incentivize private sector hiring** with tax benefits and provide **job coaches** like in **Australia**.
4. **Healthcare and Rehabilitation: Cuba's community-based rehabilitation** model can be replicated to provide affordable care in rural areas. **Telemedicine** services can bridge healthcare gaps.
5. **Social Awareness and Representation: UK's "Disability Confident" campaign** promotes inclusive workplaces. India must launch **awareness campaigns** to reduce stigma and foster **community-level inclusion** like **Kenya**.
6. **Strengthening Monitoring and Accountability: New Zealand** involves PwDs in advisory councils. India should **create independent monitoring bodies** and ensure **state-level implementation** of RPwD Act provisions.

India's vision of an inclusive society for PwDs requires stronger **enforcement of policies, societal awareness, and infrastructure development**. Learning from global best practices, India can **accelerate the Accessible India Campaign**, improve **healthcare and education**, and promote **private sector inclusion**. The goal must align with the **Incheon Strategy** and the **UN SDGs**, ensuring that no one is left behind.

10. FOOD FORTIFICATION

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Social justice > Poverty and Hunger > Nutrition

IN NEWS:

- Recently, the Union Cabinet announced the extension of the universal supply of fortified rice across all central government schemes under the National Food Security Act, 2011, until December 2028.

MORE ON NEWS:

- The Cabinet Committee on Economic Affairs (CCEA) had previously set a phased implementation plan for **nationwide rice fortification**, aimed to be **completed by March 2024**. This initiative, designed as part of India's broader strategy to **combat malnutrition**, has successfully achieved universal coverage in three planned phases:
 - **Phase 1:** Covered Integrated Child Development Services and PM POSHAN by March 2022.
 - **Phase 2:** Extended to the Public Distribution System (PDS) and other welfare schemes across more than 400 districts by March 2023.
 - **Phase 3:** Achieved nationwide coverage by March 2024.
- Approximately **406 lakh metric tonnes (LMT)** of fortified rice have been distributed since the 2019-20 fiscal year through March 2024. The total investment by the Centre for developing this fortified rice supply chain amounts to Rs 11,000 crore.

WHAT IS FOOD FORTIFICATION?

- The Food Safety and Standards Authority of India (FSSAI) defines fortification as **"deliberately increasing the content of essential micronutrients in a food so as to improve the nutritional quality of food and to provide public health benefit with minimal risk to health"**.
- Food fortification can be categorized according to the stage of addition:
 - **Commercial/industrial fortification**
 - **Biofortification:** breeding crops to increase their nutritional value, through conventional selective breeding and genetic engineering.
 - **Home fortification** (Eg: Adding vitamin D drops)
- Fortification is an evidence-informed intervention **that contributes to the prevention, reduction and control of micronutrient deficiencies**.

- It can be **used to correct a demonstrated micronutrient deficiency in the general population** (mass or large-scale fortification) or in **specific population groups** (targeted fortification) **such as children, pregnant women** and the beneficiaries of social protection programmes.
- In India, **food fortification began in the 1950s** with vegetable oil fortification and salt iodization. In the 2000s, the government introduced fortification of other commodities such as rice and wheat.
- **In 2016, FSSAI established standards for fortification of rice, wheat flour, edible oil, double fortified salt (DFS), and milk.**
- The **'+F' logo** has been notified to identify fortified foods.
- In January, 2021, **the FSSAI had issued draft regulations on mandatory fortification of edible oil and milk with vitamin A and D.**

Examples:

- **Iodised salt:** Salt that contains small amounts of sodium iodide or potassium iodide; used for boosting thyroid function.
- **DRR Dhan 45:** High zinc variety of rice, developed by the Indian Institute of Rice Research (IIR).
- **MACS 4028:** Biofortified, high protein wheat variety developed by Agharkar Research Institute (ARI), Pune.
- **Madhuban Gajar:** Biofortified carrot developed by Vallabhhai Vasrambhai Marvaniya, a farmer scientist from Junagadh district, Gujarat.

Rice fortification:

- Rice fortification **is a process of adding micronutrients to regular rice.**
- It is a **cost effective, culturally appropriate strategy to address micronutrient deficiency** in countries like India **with high per capita rice consumption.**
- **Various technologies are available** for rice fortification, such as **coating, dusting, and extrusion.**
- The latter, involving an extruder machine to produce **Fortified Rice Kernels (FRKs)**, is considered the most suitable for India, and is **currently being used to produce fortified rice across the country.**
- This involves the production of fortified rice kernels (FRKs) from a mixture using an extruder machine.
- The **fortified rice kernels are then blended with regular rice** to produce fortified rice.
- **As per guidelines** issued by the Ministry of Consumer Affairs, Food and Public Distribution, **the shape and size of the fortified rice kernel should "resemble the normal milled rice as closely as possible".**
- **Standards for fortification:** Under the Ministry's guidelines, **10 g of FRK must be blended with 1 kg of regular rice.**

- **According to FSSAI norms, fortified rice includes:**
 - Iron: 28 mg-42.5 mg
 - Folic acid: 75-125 micrograms
 - Vitamin B-12: 0.75-1.25 micrograms
 - Additional nutrients such as zinc, vitamin A, and other B vitamins are also added per kg of rice.

SIGNIFICANCE OF FORTIFICATION:

- **Reduce 'hidden hunger':**
 - In India, **over 80% adolescents suffer from hidden hunger, according to UNICEF's 2019 report.** Fortification can help reduce this deficiency and promote nutritional security in the country.

Hidden hunger is a form of under nutrition that occurs when **intake or absorption of vitamins and minerals is too low** to sustain good health and development, despite having sufficient food.
- **Address nutritional imbalance:**
 - According to NFHS 4, **over 70% of the population consumes less than half the daily recommended dietary allowance of micronutrients a day.** One key reason for this is the monotonous cereal-based diets with low consumption of vegetables and protein.
- **Enhance maternal & child health:**
 - India holds the **highest rate of child wasting** globally at 18.7%, as highlighted in the **2023 Global Hunger Index.**
 - Also, women in India also have the **highest prevalence of anemia globally.** This contributes to high levels of maternal and infant mortality in India. Fortification can address this issue.
- **Cost-Effective intervention:**
 - **Fortification adds only 3-7% to the retail price of food.** Hence, for the end consumers, the affordability of fortified foods is not a significant barrier.
 - Also, the cost of rice fortification is approximately Rs 2,700 crore per annum, representing **less than 2% of India's total annual food subsidy bill.**
- **No behavioural change is needed:**
 - Fortification can make frequently consumed foods or daily staples more nutritious without any change in the dietary habits of the consumers.
- **Natural or near natural ingredients:**
 - Fortification generally aims to supply micronutrients in amounts that approximate to those provided by a good, well-balanced diet. Hence, fortified staple foods will contain natural or near natural levels of micronutrients.

GOVERNMENT INITIATIVES:

- **Food Safety and Standards (Fortification of Foods) Regulations, 2016**

- In October 2016, FSSAI operationalized the Food Safety and Standards (Fortification of Foods) Regulations, 2016 for fortifying staples namely **Wheat Flour and Rice (with Iron, Vitamin B12 and Folic Acid), Milk and Edible Oil (with Vitamins A and D) and Double Fortified Salt (with Iodine and Iron)** to reduce the high burden of micronutrient malnutrition in India.
- **The '+F' logo has been notified to identify fortified foods.**
- **NAFED's Fortified Rice Bran Oil:**
 - Rice Bran oil from Nafed will be fortified and it will be ensured that it will contain additional nutrients and vitamins.
 - According to the FSSAI, **fortified oil can help a person fulfil 25-30% of the recommended dietary intake for vitamins A and D.**

CONCERNS:

- **Not a substitute to good nutrition:**
 - Adding a few micronutrients is **only a short-term solution to the larger issue of malnutrition.** Dietary diversity and higher protein consumption are key to solving undernutrition in India.
- **Unreliable studies:**
 - **Many of the studies** which FSSAI relies on to promote fortification are **sponsored by food companies** who would benefit from it, leading to conflicts of interest.
- **Possibility of toxicity:**
 - Nutrients usually do not work in isolation, but need each other for optimal absorption. Adding one or two vitamins and minerals (like synthetic nutrients) will not solve the larger problem, and in an undernourished population like India's, it may lead to toxicity.
 - **Fortified rice leading to side effects:**
 - Recently, a multidisciplinary fact-finding team of NGOs, after visiting a **tribal belt in Jharkhand, where fortified rice is being given in a pilot project**, has **found that Iron-fortified rice distribution has shown adverse health impact among Adivasi populations suffering from sickle-cell anaemia and thalassemia.**
- **Accessibility for poor:**
 - Poorest segments of the general population have restricted access to fortified foods in the open markets due to **low purchasing power and an underdeveloped distribution channel.**
- **Affects food MSMEs:**
 - Mandatory fortification would **harm the vast informal economy** of Indian farmers and food processors including local oil and rice mills. This is because **they will have to spend on machinery necessary for food fortification, such as blending machinery.**

- **Issue in production and distribution:**
 - While the oil and salt industries are relatively consolidated with large players accounting for 40-90% of production, cereal industries are characterized by a vast number of small-scale informal producers. This makes dissemination, coordination, and capacity building very challenging.
- **Fear of cartelization:**
 - Just five corporations have derived most of the benefits of global fortification trends and these companies have historically engaged in cartelising behaviour leading to price hikes. This can happen in India as well.

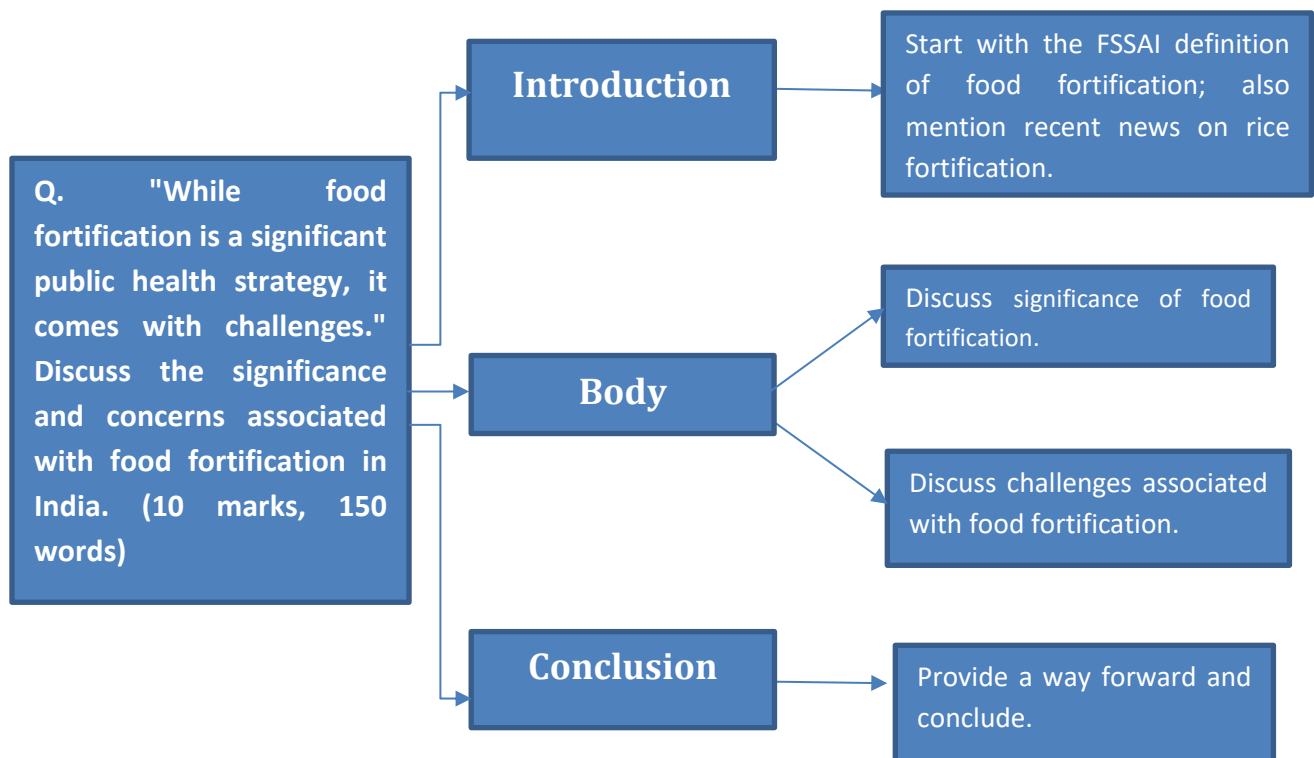
WAY FORWARD:

- **Improve public perception:** Large scale food fortification (LSFF) is a powerful way to tackle micronutrient malnutrition. But the **common man needs to be brought on-board** for the efforts to be successful. Hence, awareness measures are essential.
- **Independent research:** The FSSAI should take initiatives to generate unbiased independent research supporting fortification before major national policies are rolled out.
- **Support for MSMEs:** Government needs to ensure that MSMEs are supported with subsidized loans and facilities for upgrading to food fortification. FSSAI should ensure that there is no cartelization in fortified food market.
- **Promote dietary diversity, healthy and sustainable food:** Dietary diversity along with healthy and sustainable food system is the healthier and more sustainable way to fight malnutrition. For this, existing measures like the public distribution system and mid-day meal scheme in India should provide diverse food choices **such as nutri-cereals**. Eg. FSSAI has embarked on a large-scale **effort to transform the country's food system** in order to ensure **safe, healthy and sustainable food** for all Indians through the 'Eat Right India' movement.

PRACTICE QUESTION

Q. "While food fortification is a significant public health strategy, it comes with challenges." Discuss the significance and concerns associated with food fortification in India. (10 marks, 150 words)

APPROACH



MODEL ANSWER

Food fortification is defined by the Food Safety and Standards Authority of India (FSSAI) as “deliberately increasing the content of essential micronutrients in a food so as to improve the nutritional quality of food and to provide public health benefit with minimal risk to health.” This strategy is recently highlighted by the Union Cabinet’s decision to extend the distribution of fortified rice until December 2028 under the National Food Security Act, 2011, emphasizing its role in India’s nutritional enhancement plans.

Significance of Food Fortification:

- 1. Combatting Hidden Hunger:** According to UNICEF's 2019 report, over 80% of Indian adolescents are affected by micronutrient deficiencies. Fortification directly addresses these deficiencies, enhancing the nutrient intake across various population segments.
- 2. Economic and Nutritional Benefits:** The fortification process adds a small cost but provides substantial health benefits. Fortified foods are enriched with nutrients like iron, folic acid, and vitamins, essential for public health, especially in a country where over 70% of the population consumes less than half the daily recommended micronutrient intake (NFHS-4).
- 3. Scalable Public Health Strategy:** Fortification has been effectively scaled through phases to cover the entire nation, with approximately 406 lakh metric tonnes of

fortified rice distributed since the 2019-20 fiscal year at a cost of Rs 11,000 crore, signifying a major governmental investment in nutrition.

4. **Enhanced Maternal and Child Health:** Fortification is critical in reducing the rates of child wasting, which stands at 18.7% in India—the highest globally (Global Hunger Index, 2023). It also addresses high anemia rates among women, which contribute to maternal and infant mortality.
5. **Accessibility and Compliance:** By enhancing frequently consumed staples like rice, fortification ensures that essential nutrients reach the entire population without requiring significant changes in consumer behavior.

Challenges Associated with Food Fortification

1. **Risk of Over-Fortification:** Monitoring and controlling the levels of nutrients in fortified foods is essential to avoid potential health risks, such as toxicity, especially in sensitive populations.
2. **Economic Burdens on Small Producers:** Mandatory fortification standards can impose financial and operational challenges on small-scale producers, impacting their economic viability.
3. **Implementation Hurdles:** Ensuring uniform implementation across India's diverse and segmented food production sectors remains a significant challenge.
4. **Potential Health Risks:** Instances of adverse health impacts, such as those seen in tribal populations in Jharkhand suffering from conditions like sickle-cell anaemia and thalassemia, highlight the complexities of implementing a one-size-fits-all fortification strategy.
5. **Market Dynamics and Consumer Acceptance:** The success of fortification depends heavily on consumer acceptance and market dynamics, which can be influenced by misinformation and the economic interests of large food corporations.

Way Forward

- **Strengthened Oversight and Regulation:** Enhanced monitoring and quality control mechanisms are necessary to ensure the safety and efficacy of fortified foods.
- **Public Awareness and Education:** Robust campaigns to educate the public on the benefits and safety of fortified foods will help improve acceptance and correct usage.
- **Support for Diverse Diets:** While fortification addresses specific nutrient deficiencies, promoting dietary diversity remains crucial for overall nutritional health.
- **Research and Independent Verification:** Ongoing research and independent studies are essential to assess the long-term impacts of fortification and adapt strategies as needed.

Food fortification is a pivotal element of India's strategy to combat malnutrition and improve public health outcomes. While it brings significant benefits in terms of addressing micronutrient deficiencies, it also presents challenges that need careful management. A holistic approach, integrating fortification with broader nutritional policies and public health measures, is essential to achieve the desired health outcomes for India's diverse population.

11. AGEING POPULATIONS IN SOUTH INDIA AND INDIA'S ELDERLY POPULATION

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Social justice > Welfare Schemes > Vulnerable & Backward sections

REFERENCE NEWS:

- Recently, Andhra Pradesh Chief Minister N. Chandrababu Naidu and Tamil Nadu Chief Minister M.K. Stalin have raised concerns about the ageing population in southern states, which is becoming more pronounced compared to other parts of India.

MORE ON NEWS:

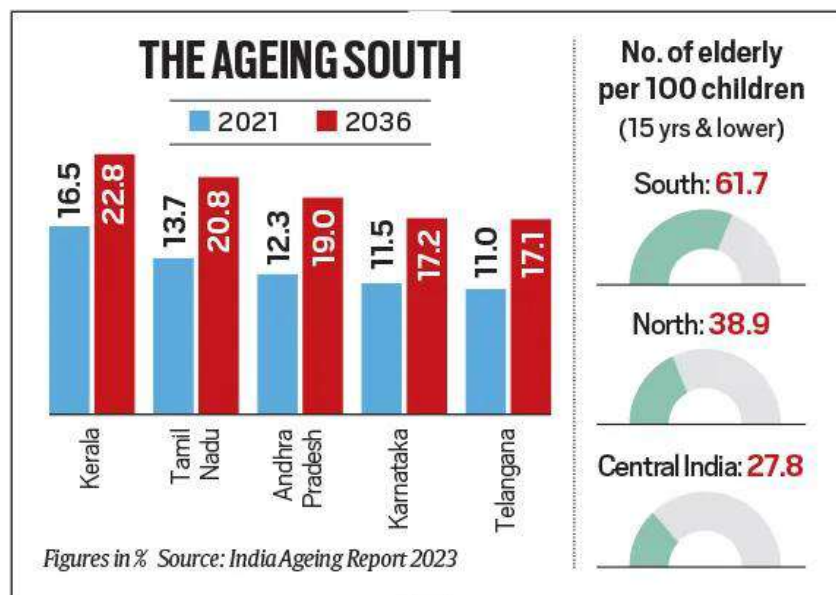
- Andhra Pradesh Chief Minister has discussed plans to introduce legislation aimed at **incentivizing families to have more children** as part of "population management" efforts. This includes possibly reversing previous laws that limited political candidacy based on family size.
- The **fertility rate in southern states has significantly declined**, with Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, and Telangana all recording rates **well below the national average of 2.1 children per woman**. These rates are among the lowest in the country, similar to those in **developed nations**.
- The demographic shifts in South India have raised concerns about potential **reductions in parliamentary representation**. As populations age and grow at slower rates compared to northern states, there could be implications for **the delimitation of constituencies**, potentially penalizing southern states in terms of fewer Lok Sabha seats.
- An aging population increases the dependency ratio, where a larger portion of the population is non-working and reliant on a smaller working-age population. This scenario demands **more state resources for healthcare and social support**, while also posing challenges for maintaining economic productivity.

STATS:

- According to the **India Ageing Report 2023 by the UNFPA**, southern states are expected to see a substantial increase in their elderly populations between 2021 and 2036.
- As per the report, in Kerala, the share of the elderly in the population is set to increase from **16.5% in 2021 to 22.8% in 2036**, or a **rise of little above 6%**. Tamil

Nadu will see an even higher increase from 13.7% to 20.8%, Andhra will see a similar rise from 12.3% to 19%, the Karnataka elderly will surge from 11.5% of the population to 17.2% and Telangana's from 11% to 17.1%.

- In contrast, northern states will see smaller increases, with Bihar's elderly population rising from 7.7% to 11%, Uttar Pradesh from 8.1% to 11.9%, Jharkhand from 8.4% to 12.2%, Rajasthan and Madhya Pradesh both from 8.5% to 12.8%.
- The growth in the proportion of the elderly is estimated at **6-7% in the South and 3-4% in the North over the 15-year period.**
- "India Ageing Report 2023," has said that the percentage of the elderly population in India is projected to be over **20% of the total population by 2050.**



CAUSES OF THE AGING POPULATION IN SOUTH INDIA:

- **Lower Fertility Rates:**
 - South Indian states exhibit significantly lower fertility rates compared to the national average.
 - For instance, as of the latest reports, the **fertility rate in Kerala and Tamil Nadu stands at about 1.5 children per woman**, far below the national average of 2.1.
 - Also, **Kerala achieved a Replacement Level of Fertility (2.1 children per woman) as early as 1988**, decades ahead of many other Indian states, leading to a reduced proportion of young people in the population over time.
- **Higher Life Expectancy:**
 - Life expectancy in southern states exceeds the national average.
 - For instance, **life expectancy in Kerala is around 71.9 years**, compared to India's overall **average of 68.2 years.**

- This higher life expectancy is largely due to **better healthcare infrastructure and public health initiatives** in states like Kerala, which has a well-established network of health care facilities even in rural areas.
- **Economic and Educational Advancements:**
 - South India has higher literacy rates and female participation in education and the workforce. For instance, **Kerala has a literacy rate of over 94%**, which is among the highest in the country.
 - Improved educational opportunities lead to greater awareness of family planning and child-rearing practices, contributing to lower birth rates. Higher education often correlates with delayed marriages and childbirth, further impacting fertility rates.
- **Migration Trends:**
 - There is significant internal and international **migration from South India**. Young adults often move to metropolitan areas or abroad for education and employment, which impacts the demographic structure back home.
 - Many families in Kerala have at least one family member working overseas, particularly in the Gulf countries. This not only alters the local demographic composition by reducing the number of younger people but also affects the fertility rate as family units are often separated.
- **Public Health Initiatives:**
 - South Indian states have been pioneers in public health initiatives, including **family planning and maternal health programs**.
 - For instance, Tamil Nadu and Karnataka have extensive public health campaigns that promote small family norms and provide easy access to contraceptives and reproductive health services, contributing to the sustained low fertility rates in these states.

CHALLENGES AND CONCERNS RELATED TO INDIA'S ELDERLY POPULATION:

- **'Feminisation' and 'ruralisation' of older population:**
 - The **India Ageing Report 2023** says **challenges facing India's ageing population** are the feminisation and 'ruralisation' of the older population in India, and **policies must be framed accordingly**. Data show that women in India, on average, have a higher life expectancy at the age of 60 and 80 when compared with men.
 - For instance, as per the UNFPA Report titled **'Caring for Our Elders: Early Responses'** the **sex ratio of the elderly** has increased from 938 women to 1,000 men in 1971 to **1,033 in 2011** and is projected to increase to **1,060 by 2026**. Also, the report observed that as many as **71% of elderly people** in India were **living in rural areas**.
- **Lack of physical infrastructure:**

- Most spaces in homes and public spaces are **insensitive to elderly needs**. Lack of access to assistive equipment makes the thing worse.
- **Changing family structure:**
 - The emerging prevalence of **nuclear family set-ups** in recent years, the elderly is likely to be exposed to **emotional and physical insecurity** in the years to come.
 - There is an upward trend in the number of **elderly staying alone or with spouse** only from **9.0% in 1992 to 18.7% in 2006**.
- **Lack of Social Support:**
 - The elderly in India are much more vulnerable because of the **less government spending on social security system**.
 - **Insurance cover** that is elderly sensitive is virtually non-existent in India and in addition, the pre-existing illnesses are usually not covered.
 - Pension and social security is also restricted to those who have worked in the public sector or the organized sector of industry.
- **Social Inequality:**
 - Elderly are a heterogeneous section with an urban and rural divide where they are less vulnerable in rural areas. There is also a divide on account of gender.
 - In a case study, **it was found that a major proportion of the elderly women were poorer**; received the lowest income per person; recorded the highest negative affective psychological conditions; were the least likely to have health insurance coverage and they recorded the lowest consumption expenditure.
- **Availability, Affordability and Accessibility of Health Care:**
 - **Geriatric care is relatively new in many developing countries** like India with many practicing physicians having little knowledge of the clinical and functional implications of aging
 - Most of the government facilities such as day care centres, old age residential homes, counselling and recreational facilities are urban based.
- **Economic Dependency:**
 - About 85% of the aged had to depend on others for their day to day maintenance. The situation was even worse for elderly females. (52nd round of NSSO). Poverty act as a multiplier of the risk of abuse.
- **Issues of the public health system**
 - Lack of infrastructure, limited manpower, poor quality of care and overcrowding of facilities affects a focussed elderly care in our public health systems.

GOVERNMENT INITIATIVES:

- **National Policy on Older People (NPOP):**

- Ensures State support for financial and food security, health care, and shelter.
- Covers social security, intergenerational bonding, and role of Non-Governmental Organizations.
- **Maintenance and Welfare of Parents and Senior Citizens Act 2007:** Enables elderly to demand maintenance from children or claim property back if neglected.
- **Atal Vayo Abhyudaya Yojana (AVYAY):** An umbrella scheme integrating current and future strategies for elderly care. Includes **Senior care Aging Growth Engine (SAGE)** initiative promoting innovations in elderly care products.
- **Atal Pension Yojana:** Provides a fixed pension ranging from Rs. 1,000 – Rs.5,000 per month after age 60.
- **Health Insurance for Senior Citizens:** Utilizes Rs.100 billion from unclaimed Employees Provident Fund Organisation (EPFO) and Small Savings for health insurance.
- **National Programme for Health Care of Elderly (NPHCE):** Enhances accessibility to health services and builds capacity for elderly care.
- **National Social Assistance Programme (NSAP):** Offers old-age pensions and benefits to Below Poverty Line (BPL) families via schemes like Indira Gandhi National Old Age Pension Scheme (IGNOAPS).
- **National Institute of Social Defence (NISD):** Focuses on training a cadre of geriatric caregivers through various certification programs.
- **UN Decade of Healthy Ageing (2021–2030):** A global collaboration aiming to improve the lives of older people and their communities.
- **South Asia Partnership on Ageing:** Reinforces commitments to Older Peoples' Rights under international agreements such as the Vienna International Plan of Action on Ageing and the United Nations Principles for Older Persons.

Best Practices and Examples:

- **'Vayomithram' by Government of Kerala:** Provides health care and support through mobile clinics, palliative care, and help-desks.
- **Kerala Police Janamaithri Suraksha:** Engages in regular interactions and support for senior citizens.

Examples of NGOs in Geriatric Care:

- Agewell Foundation
- Ekal Nari Shakti Sangathan
- HelpAge India

WAY FORWARD:

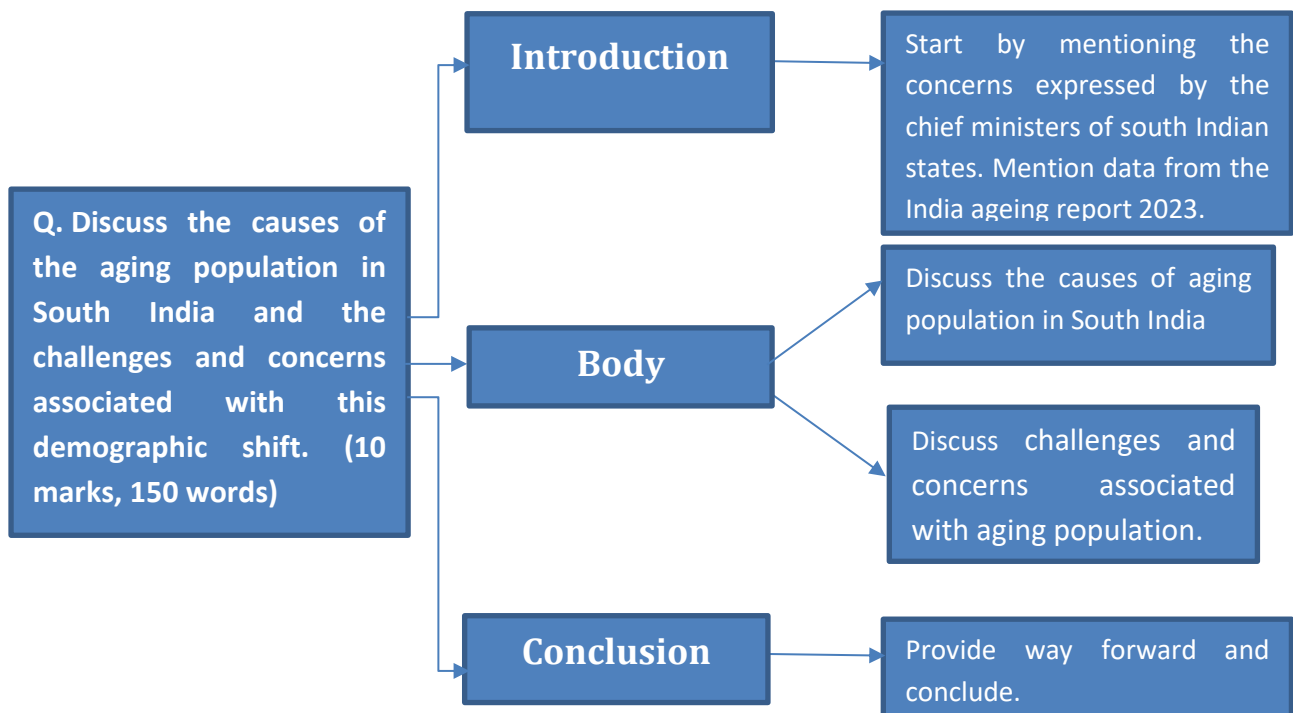
- **In situ ageing:** The United Nations Population Fund's **India Ageing Report 2023** suggested that the government should encourage **in situ (at home) ageing** as much as possible by creating short-term care facilities like **creches or day-care facilities**, citing better care when **elderly people live with their respective families**.

- **Platform for community interaction:** Increase the avenues for older people to participate in local issues, in resident associations, set up and manage spaces for community interaction, to leverage their knowledge and experience as a resource. For instance, the India Ageing Report 2023 called for the government to encourage the creation and running of elderly self-help groups.
- **Capacity building:** Peripheral health workers and community health volunteers should also be trained to identify and refer elderly patients for timely and proper treatment
- **Regulation:** The growing informal industry of home care providers urgently needs regulation. There should be mandated guidelines so that a large pool of certified and affordable trained home care givers can help provide basic support, prevent unnecessary hospital admissions, and keep the elderly in the familiar environs of their homes as far as possible. For instance, the India Ageing Report 2023 suggested that the government must bring all old-age homes under regulatory purview.
- **Medical education:** Geriatric pharmacotherapy needs to be included as a component of undergraduate and postgraduate education in medicine as well as in other disciplines like nursing and pharmacy
- **Infrastructure:** Creation of a network of old age homes, both in the private and public sector Guidelines for making public infrastructure accessible to old age people with necessary assistive supports
- **Data collection exercises:** The India Ageing Report 2023 found that there is a lack of credible data on various issues related to the elderly in India, and more could be done by including questions on relevant and emerging issues related to older persons in the upcoming data collection exercises of the National Sample Survey, the National Family Health Survey, and the Census of India, respectively.
- **Awareness generation:** As the India Ageing Report 2023 suggested, the government must work on increasing awareness about schemes for older persons.
- **Value education:** To inculcate the moral obligation upon the children to take care of their parents, we need to incorporate values and ethics in school curriculum.

PRACTICE QUESTION

Q. Discuss the causes of the aging population in South India and the challenges and concerns associated with this demographic shift. (10 marks, 150 words)

APPROACH



MODEL ANSWER

The demographic landscape of South India is witnessing notable changes with an increasingly aging population. **Concerns expressed by Andhra Pradesh Chief Minister N. Chandrababu Naidu and Tamil Nadu Chief Minister M.K. Stalin** align with findings from the **"India Ageing Report 2023"** by UNFPA. According to the report, by 2036, Kerala's elderly population will increase from **16.5% to 22.8%**, and **Tamil Nadu's from 13.7% to 20.8%**. In contrast, northern states like Bihar and Uttar Pradesh will see smaller increases, with elderly growth rates at **6-7% in the South compared to 3-4% in the North** over the next 15 years.

Causes of Aging Population in South India:

- Lower Fertility Rates:** Southern states like Kerala and Tamil Nadu have fertility rates around 1.5 children per woman, significantly below the national average of 2.1. Kerala achieved a Replacement Level of Fertility as early as 1988, leading to fewer young people in the population.
- Higher Life Expectancy:** The life expectancy in southern states surpasses the national average. For instance, Kerala's life expectancy is approximately 71.9 years compared to India's average of 68.2 years, largely due to better healthcare infrastructure and public health initiatives.
- Migration Trends:** There is notable internal and international migration from South India, particularly in Kerala, where many families have members working overseas, primarily in the Gulf countries. This migration affects the local demographic composition and fertility rates.

4. **Economic and Educational Advancements:** South India's high literacy rates and greater female participation in education and the workforce contribute to lower birth rates and delayed family planning.
5. **Public Health Initiatives:** States like Tamil Nadu and Karnataka have effective public health campaigns that promote small family norms and provide access to contraceptives, sustaining low fertility rates.

Challenges and Concerns Associated with Aging Population:

1. **Increased Dependency Ratios:** The rising elderly population increases the dependency ratio, putting additional pressure on the working-age population and social support systems.
2. **Delimitation Concerns:** As southern states experience slower population growth relative to the north, there are concerns about losing parliamentary seats, which could diminish the political influence of these regions.
3. **Strained Healthcare Infrastructure:** The demand for elderly-specific medical and palliative care facilities is expected to surge, challenging the existing healthcare infrastructure.
4. **Gaps in Social Security:** The existing social security and pension systems are insufficient to meet the needs of the growing elderly population, necessitating comprehensive reforms.
5. **Societal and Structural Changes:** The shift towards nuclear family structures and increasing urbanization exposes the elderly to greater risks of isolation and neglect.

Way Forward :

- **Enhance Healthcare Infrastructure:** Prioritize the expansion of geriatric care facilities and specialized services for chronic diseases prevalent among the elderly.
- **Reform Social Security Systems:** Improve pension schemes and health insurance plans to provide robust coverage for the elderly.
- **Foster Community Engagement:** Encourage the development of community centers and support networks to reduce isolation among the elderly.
- **Review Electoral and Delimitation Policies:** Ensure that demographic shifts do not unfairly penalize regions with aging populations in political representation.
- **Implement Data-Driven Policies:** Utilize current demographic data to adapt and refine policies continuously, ensuring they effectively address the evolving needs of the elderly population.

The increasing proportion of the elderly in South India presents complex challenges that require integrated and proactive policy responses. By addressing healthcare, social security, and community engagement, alongside ensuring fair political representation, South India can effectively manage the implications of its demographic transition. **The UN Decade of Healthy Ageing** offers a strategic framework to support these efforts, aiming to **enhance the quality of life and societal inclusion of the elderly.**

12. 10 YEARS OF SWACHH BHARAT MISSION (SBM)

IMPACT ANALYSIS

SYLLABUS:

GS 2> Social Justice > Welfare Schemes > Flagship schemes

REFERENCE NEWS:

- The Swachh Bharat Mission (SBM) marked its 10th anniversary on October 2, 2024. Launched in 2014, the mission aimed to achieve universal sanitation coverage by 2019, in tribute to the 150th birth anniversary of Mahatma Gandhi.
- Its primary goals included eliminating open defecation, eradicating manual scavenging, promoting scientific solid waste management, and enhancing overall public health and sanitation.

SWACHH BHARAT MISSION (SBM):

SBM is divided into two main components:

SBM-Grameen (Rural):

- **SBM-Grameen (Rural)**, managed by the Ministry of Jal Shakti, focuses on improving rural sanitation coverage, which was reported at 38.7% at the time of launch and **reached 100% (ODF Status) by 2019..**
- SBM-G aims to sustain sanitation coverage achievements and focuses on comprehensive waste management, including plastic, biodegradable solid waste, greywater, and faecal sludge.
- It's currently in Phase-II (2020-21 to 2024-25) with a budget of Rs. 1,40,881 crores.
- The current focus is to advance these areas to ODF Plus status, with 85% of villages already achieving this
- States like Tamil Nadu, Telangana, Odisha, Uttar Pradesh, and Himachal Pradesh are leading with the highest number of ODF Plus villages.

SBM-Urban (Urban):

- **SBM-Urban (Urban)**, overseen by the Ministry of Housing and Urban Affairs, targets urban areas to eradicate open defecation and improve waste management through initiatives like door-to-door waste collection and the establishment of scientific processing facilities.
- SBM-U's first phase aimed at making urban India **ODF by 2019, a target successfully met with all urban areas declared ODF.**

- The continuation, **SBM-U 2.0**, launched in the 2021-22 budget period and set to run until 2026, focuses on advancing urban areas to **ODF++ and beyond**, promoting sustainable sanitation and a circular economy.
- Significant improvements in waste processing were observed, with a current rate of **75% in 2023, up from 17% in 2014**.

ODF Classifications:

- **ODF**: No open defecation is observed at any time of day.
- **ODF+**: Public toilets are functional and well-maintained, with no open defecation.
- **ODF++**: Areas have managed faecal sludge and sewage effectively, with safe treatment processes in place.

KEY ACHIEVEMENTS AND IMPACTS

- **Sanitation Coverage and Public Health:**
 - The Swachh Bharat Mission (SBM) has been pivotal in increasing sanitation coverage, especially rural sanitation coverage, from 38.7% to achieving Open Defecation Free (ODF) status across India by 2019, leading to significant health improvements.
 - For instance, the **World Health Organization (WHO)** reported that enhanced sanitation facilities contributed to **300,000 fewer diarrheal disease-related deaths** in 2019 compared to 2014. Additionally, a study published in the journal Nature highlighted that the mission may have led to a reduction of **60,000 to 70,000 infant deaths annually** from 2014 to 2020.
- **Waste Management Enhancements:**
 - Beyond toilet construction, SBM has expanded its focus to comprehensive waste management, including solid and liquid waste.
 - The mission has witnessed substantial **improvements in urban waste processing**, with rates rising from **17% in 2014 to 75% in 2023**. These efforts are supported by significant financial investments and initiatives **promoting recycling and the circular economy**.
- **Economic Impact on Household Savings:**
 - Families in ODF-designated villages have reported significant economic benefits, with **UNICEF estimating an average annual saving of Rs 50,000 per household** due to reduced health-related expenses. This reduction in costs is largely attributed to decreased incidences of sanitation-related illnesses, which lead to fewer hospital visits and lower medical costs, especially noted in regions like Uttar Pradesh.
- **Global Recognition and Leadership:**
 - SBM has garnered global acclaim, with **leaders like Bill Gates and Ratan Tata**, and organizations such as **the WHO**, praising the initiative for its role in

promoting sustainable development goals, particularly in improving living conditions for India's poorer segments and women.

- **Community and Behavioral Change:**
 - A vital part of SBM's strategy has involved mobilizing communities through campaigns like **Swachhata Hi Seva**, which emphasize **public participation** in maintaining cleanliness. These campaigns have successfully fostered a sense of **civic responsibility and pride among citizens**, contributing to sustained cleanliness efforts across the nation.
- **Groundwater Safety Enhancement in ODF Regions:**
 - Achieving Open Defecation Free (ODF) status in areas significantly reduces the risk of **groundwater contamination by human waste**.
 - **A UN study reports a 12.7-fold decrease in such risks**, which is particularly vital in regions like Punjab and West Bengal. In these areas, groundwater serves as the main source of drinking water, and historical contamination has often resulted in serious public health issues. This marked improvement in groundwater quality underscores the environmental and health benefits of the Swachh Bharat Mission's efforts in sanitation.
- **Improving Women's Safety and Privacy:**
 - The construction of household toilets has led to an increased sense of security among women, with a **UNICEF report noting that 93% of women feel safer** due to the reduced need to venture out into vulnerable situations for defecation. This improvement is particularly notable in rural areas where women previously faced dangers during late-night or early-morning hours.
- **Cultural and Heritage Site Preservation:**
 - The Swachh Iconic Places initiative has mobilized resources from both public and private sectors to maintain cleanliness at **India's iconic cultural and historical sites**. Successful examples include the cleanliness drives at the Taj Mahal and the Ghats of Varanasi, which have improved not only aesthetics but also public and international perceptions.
- **Recognition and Motivation through National Cleanliness Awards:**
 - National cleanliness awards have been instrumental in motivating cities and towns to improve their sanitation and waste management systems. Cities like **Indore and Surat** have received accolades for their exceptional efforts in maintaining high standards of cleanliness, setting benchmarks for other urban areas .

CHALLENGES AND CONCERNS WITH SWACHH BHARAT MISSION (SBM)

- **Infrastructure and Quality Issues:**
 - The construction **quality of toilets** under SBM has been questioned, with concerns about their durability and effectiveness.

- Some studies and audits, like the **Comptroller and Auditor General report of 2020**, have raised doubts regarding the government's claims about the success of the initiative due to these infrastructure issues. Moreover, in certain urban slums and rapidly urbanizing areas, there remains a gap in access to public toilets, highlighting the uneven distribution of sanitation facilities
- **Environmental and Waste Management Challenges:**
 - The link between toilet construction and waste treatment is insufficiently established, leading to environmental contamination from improper disposal of faecal sludge. The mission has struggled with effective waste management, **particularly in handling and recycling plastic waste**, and there is a notable lack of success in technological solutions **like waste-to-energy plants**.
- **Social and Behavioral Barriers:**
 - Cultural norms and social behaviors continue to impact toilet usage negatively, with some households using **toilets for storage rather than sanitation**. Additionally, caste-based disparities persist in sanitation access and usage, with some upper caste households showing higher rates of non-usage.
- **Resource Allocation and Privatization Concerns:**
 - The centralized approach to achieving toilet construction targets has overshadowed community-driven efforts. There are concerns about the **privatization of sanitation services**, where sanitation work is outsourced to private contractors, **sometimes perpetuating caste discrimination**. This approach raises questions about the mission's inclusivity and effectiveness.
- **Human Resource Shortfalls:**
 - There is an acute shortage of sanitation inspectors which hinders effective monitoring and maintenance of sanitation facilities. For instance, in regions like Himachal Pradesh, the **shortage of inspectors** has been critical, affecting the overall management and success of sanitation programs.
- **Policy and Administrative Challenges:**
 - SBM's focus has been criticized for being too narrow, primarily concentrating on **construction targets without enough emphasis on holistic, sustainable sanitation solutions**. The need for a more integrated and decentralized approach that includes behavior change, public participation, and linking with other development programs like Jal Jeevan Mission is increasingly evident.

WAY FORWARD:

- **Holistic and Integrated Approach:** Transition from a primarily construction-focused approach to a holistic model that includes robust waste management systems, sustainable practices, and comprehensive public health initiatives. Integrating SBM

with other development programs like Jal Jeevan Mission will provide a more coordinated and effective approach to sanitation and water availability.

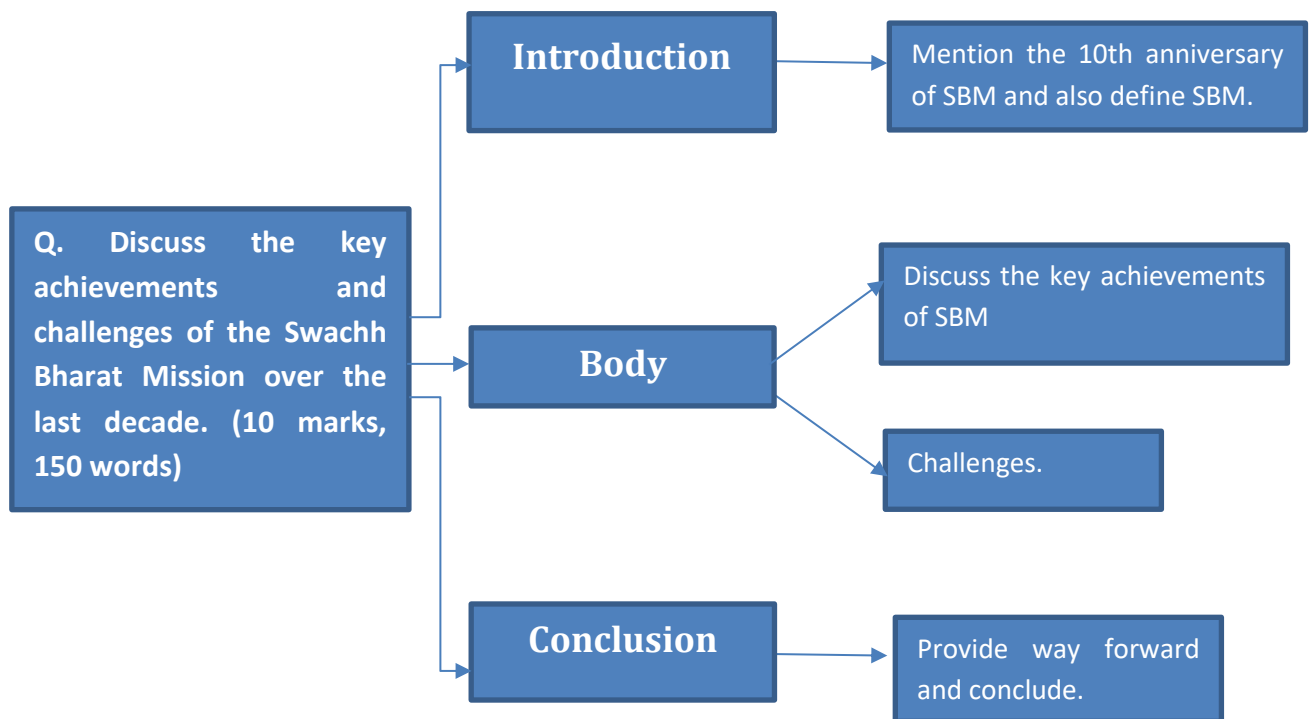
- **Decentralization and Community Participation:** Encourage decentralized, community-driven efforts that empower local bodies and communities to manage and sustain sanitation facilities. This involves strengthening community engagement through awareness programs and involving local stakeholders in the planning and execution of sanitation projects.
- **Behavioral Change and Education:** Amplify efforts in behavior change communication to address cultural and social barriers to toilet use. Educational campaigns should focus on the benefits of proper sanitation practices, aiming to shift long-standing perceptions and habits.
- **Technological Innovations and Infrastructure Quality:** Invest in research and development of cost-effective, low-maintenance sanitation technologies that are suitable for diverse geographical and cultural contexts of India. Addressing the quality issues in toilet construction to ensure durability and usability is critical.
- **Enhanced Monitoring and Accountability:** Strengthen monitoring mechanisms to ensure the functionality and maintenance of sanitation infrastructure. Implement regular audits, increase the number of sanitation inspectors, and utilize technology for real-time monitoring to enhance transparency and accountability.
- **Addressing Social Inequities:** Tackle caste-based and socioeconomic disparities in sanitation access and usage head-on. Policies should aim to be inclusive, ensuring that vulnerable and marginalized communities are not only beneficiaries but also active participants in sanitation initiatives.

CONCLUSION: The Swachh Bharat Mission has made commendable strides in addressing India's sanitation challenges over the past decade. However, as the mission evolves, it faces the critical task of transforming from a quantitative success to a qualitative and sustainable one. By adopting a more integrated, inclusive, and sustainable approach, the SBM can truly achieve its goal of a 'Clean India,' aligning with both national priorities and global sustainability standards. This re-envisioned approach will not only improve sanitation and public health outcomes but will also foster a sense of dignity and equity among all citizens, making Swachhata a shared national value and a permanent reality.

PRACTICE QUESTION

Q. Discuss the key achievements and challenges of the Swachh Bharat Mission over the last decade. (10 marks, 150 words)

APPROACH



MODEL ANSWER

Celebrating its **10th anniversary on October 2, 2024**, the Swachh Bharat Mission (SBM) was launched on the same day in 2014, as a tribute to Mahatma Gandhi's 150th birth anniversary, with the aim of achieving a "Clean India" by 2019. The mission's comprehensive goals included eliminating open defecation, eradicating manual scavenging, promoting scientific solid waste management, and enhancing public health and sanitation. Over the decade, SBM has made significant progress towards these objectives, although some challenges still persist.

Key Achievements:

1. **Sanitation Coverage and Public Health:** SBM has been instrumental in increasing rural sanitation coverage from 38.7% to achieving Open Defecation Free (ODF) status across India, significantly reducing health issues related to poor sanitation, such as diarrheal diseases. The WHO reported that enhanced sanitation facilities contributed to 300,000 fewer diarrheal disease-related deaths in 2019 compared to 2014.
2. **Waste Management Enhancements:** The mission expanded its focus beyond toilet construction to comprehensive waste management, including solid and liquid waste. Urban waste processing rates have risen from 17% in 2014 to 75% in 2023, supported by significant financial investments and initiatives promoting recycling and a circular economy.
3. **Economic Impact on Household Savings:** Families in ODF-designated villages have reported significant economic benefits, with UNICEF estimating an average annual

saving of Rs 50,000 per household due to reduced health-related expenses, leading to fewer hospital visits and lower medical costs.

4. **Global Recognition and Leadership:** The SBM has garnered global acclaim, praised by international figures like Bill Gates and organizations such as the WHO for its role in promoting sustainable development goals, particularly improving living conditions for India's poorer segments and women.
5. **Community and Behavioral Change:** Campaigns like Swachhata Hi Seva have emphasized public participation in maintaining cleanliness, fostering a sense of civic responsibility and pride among citizens, contributing to sustained cleanliness efforts across the nation.

Challenges:

1. **Infrastructure and Quality Issues:** Concerns about the durability and effectiveness of the constructed toilets persist, with some audits revealing gaps in the claimed successes of the initiative, especially in urban slums and rapidly urbanizing areas.
2. **Environmental and Waste Management Challenges:** The link between toilet construction and waste treatment remains weak, leading to environmental contamination from improper disposal of faecal sludge, with insufficient success in technological solutions like waste-to-energy plants.
3. **Social and Behavioral Barriers:** Cultural norms and social behaviors continue to negatively impact toilet usage, with some households using toilets for storage rather than sanitation. Additionally, caste-based disparities in sanitation access and usage persist.
4. **Resource Allocation and Privatization Concerns:** The centralized approach to achieving toilet construction targets has sometimes overshadowed community-driven efforts, raising questions about the mission's inclusivity and effectiveness.
5. **Human Resource Shortfalls:** An acute shortage of sanitation inspectors hinders effective monitoring and maintenance of sanitation facilities, critically affecting the overall management and success of sanitation programs in regions like Himachal Pradesh.

Way Forward:

- **Integrate Programs:** Link SBM with other developmental programs like Jal Jeevan Mission to provide a coordinated approach to sanitation and water availability.
- **Decentralize Efforts:** Empower local bodies and communities to take active roles in planning, executing, and sustaining sanitation facilities.
- **Enhance Behavioral Change:** Expand educational campaigns to shift cultural norms and behaviors regarding sanitation usage and maintenance.
- **Improve Infrastructure Quality:** Focus on constructing durable and low-maintenance sanitation facilities suitable for diverse geographical settings.

- **Increase Monitoring and Accountability:** Strengthen the inspection and auditing mechanisms to ensure the functionality and maintenance of sanitation infrastructure.
- **Address Social Inequities:** Implement policies that ensure inclusivity and address caste-based and socioeconomic disparities in sanitation access.

As the Swachh Bharat Mission progresses beyond its initial decade, it stands at a critical juncture. While it has made notable strides in enhancing sanitation and public health, persistent challenges require strategic shifts. By adopting a holistic, inclusive, and sustainable approach, SBM can achieve its goals more effectively, ensuring long-term benefits and truly realizing the vision of a 'Clean India.' This will not only enhance public health but also strengthen social unity and environmental sustainability, making cleanliness a universal norm in India.

13. ELECTORAL BOND

IMPACT ANALYSIS

SYLLABUS:

GS 2 > Election funding > Electoral bond Scheme

REFERENCE NEWS:

The Supreme Court has dismissed a plea seeking a review of its February 15, 2024 judgment holding the Electoral Bonds Scheme, 2018 unconstitutional. A five-judge bench of CJI D Y Chandrachud and Justices Sanjiv Khanna, B R Gavai, J B Pardiwala, and Manoj Misra said that “there is no error apparent on **the face of the record**” of its February ruling.

ELECTORAL BONDS:

- The Electoral Bond Scheme in India was introduced in 2018 as a mechanism for funding political parties while maintaining donor anonymity.
- The scheme aims to make political funding transparent while ensuring that donors' identities remain undisclosed to the public, addressing concerns about the influence of black money in electoral processes.

Features of the Electoral Bond Scheme:

- **Nature of Bonds:** Electoral Bonds are **financial instruments** akin to promissory notes that can be purchased by any citizen of India or a company incorporated in India. The bond itself is a **bearer instrument**, meaning ownership is determined by possession, and it **does not carry the name of the donor**. Bonds are issued in **denominations** of ₹1,000, ₹10,000, ₹1 lakh, ₹10 lakh, and ₹1 crore.
- **Who Can Buy and Redeem:** Electoral Bonds can be purchased by any **Indian citizen or entity**, whether individually or jointly. Political parties registered under **Section 29A of the Representation of the People Act, 1951** and that secured at least **1% of votes** in the last general or state election are eligible to receive donations via electoral bonds. These bonds can be redeemed only by eligible political parties through their **designated bank accounts**.
- **Availability of Bonds:** The bonds are available for purchase at designated branches of the **State Bank of India (SBI)** during specific periods throughout the year. Typically, the bonds can be bought during **four 10-day windows** in January, April, July, and October, as notified by the government. In the year of general elections, an additional **30-day window** is provided.

- **Anonymity:** One of the defining features of the Electoral Bond Scheme is that it provides **donor anonymity**. Neither the public nor the Election Commission is informed of the identity of the donors. The **State Bank of India (SBI)** knows the identity of the buyer but does not disclose it publicly, ensuring that the name of the donor remains confidential.
- **Validity:** Electoral Bonds have a limited validity period of **15 days** from the date of purchase. They must be encashed by political parties within this period in their authorized bank accounts, or they expire.
- **No Interest or Tax Deduction:** The Electoral Bonds do not carry any **interest**, and no **tax deduction** is available to the donor on contributions made through these bonds. However, political parties that receive the donations must **declare the amount received** through bonds in their contribution reports.

RECENT SC JUDGEMENT REGARDING ELECTORAL BOND SCHEME:

Association for Democratic Reforms & Anr v. Union of India & Anr:

- **Violation of Right to Information under Article 19(1)(a)**
 - SC asserted that transparency regarding funding to political parties is crucial for informed electoral decisions, affirming that the scheme infringes upon the right to information as enshrined in Article 19 (1)(a).
 - The scheme is also in conflict with the Representation of Peoples Act 1951, , which requires the political parties to disclose their contributions and expenditures.
- **Lack of proportionality between scheme objectives and restrictions imposed**
 - The restrictions imposed by the electoral bond scheme on the right to information are **disproportionate to the objectives of curbing black money** in electoral financing and protecting donor privacy.
- **Infringement on the right to donor privacy**
 - Scheme infringes upon the **right to donor privacy** by not adequately protecting the anonymity of donors and exposing them to potential harassment or discrimination based on their political affiliations.
- **Violates Principles of Equality**
 - The electoral bond scheme **violates principles of equality** by favouring certain political parties, creating disparities between donors and voters, and undermining transparency.
- **Failure to adopt the least restrictive method to curb black money**
 - The scheme does not represent the least restrictive method for achieving the objective of curbing black money in electoral financing, as there are other less restrictive alternatives available.
- **Concerns over unlimited political contributions by companies**

- Allowing unlimited political contributions by companies enhances their influence over the political process, potentially leading to preferential treatment and undermining the democratic principles of equality and fairness.

(2.1: Corporate companies and individuals who purchased electoral bonds)

PURCHASERS OF ₹100 CRORE & ABOVE	Number of companies	Total amount (in ₹ crore)	Chairman/Managing Director/Director
Future Gaming And Hotel Services Private Limited	1	1,368.0	Santiago Martin
Megha Engineering and Infrastructures Limited (MEIL)	2	1,186.0	Pamireddy Pitchi Reddy
MK Jalan Group	4	616.9	M. K. Jalan
Sanjiv Goenka Group	6	609.0	Sanjiv Goenka
Aditya Birla Group	7	545.8	Kumar Mangalam Birla
Qwik Supply Chain Private Limited	1	410.0	Vipul Pranlal Mehta, Sridhar Titti, Tapas Mitra
Vedanta Group	1	402.4	Sunil Duggal
Bharti Group	3	247.0	Sunil Bharti Mittal
Jindal Group	5	195.5	Sajjan Jindal
Torrent Group	3	184.0	Sudhir Mehta/ Samir Mehta

- The Supreme Court also mandated the SBI to disclose details of electoral bonds to the ECI for transparency by March 31, 2024.

Table 1: Encashers of electoral bonds (political parties)

Encashing party name	Total amount of encashed electoral bonds from April 12, 2019 To January 24, 2024 (in ₹ crore)	% of total
Bharatiya Janata Party	6,060.5	47.5
All India Trinamool Congress	1,609.5	12.6
President, All India Congress Committee	1,421.9	11.1
Bharat Rashtra Samithi	1,214.7	9.5
Biju Janata Dal	775.5	6.1
DMK Party In Parliament	639.0	5.0
YSR Congress Party	337.0	2.6
Telugu Desam Party	218.9	1.7
Shiv Sena (Political Party)	158.4	1.2
Rashtriya Janata Dal	72.5	0.6
Aam Aadmi Party	65.5	0.5
Other parties	195.8	1.5
GRAND TOTAL	12,769.1	100.0

REVIEW OF SC JUDGEMENT:

The Supreme Court rarely entertains reviews of its rulings, except on narrow grounds to correct grave errors that have resulted in a miscarriage of justice.

A ruling by the Supreme Court is final and binding. However, **Article 137** of the Constitution grants the SC the power to review its judgments or orders. A review petition must be filed within 30 days of the pronouncement of the judgment. Except in cases of death penalty, review petitions are heard through “circulation” by judges in their chambers, and not in an open court. Lawyers make their case through written submissions and not oral arguments. The judges who passed the verdict decide on the review petition as well.

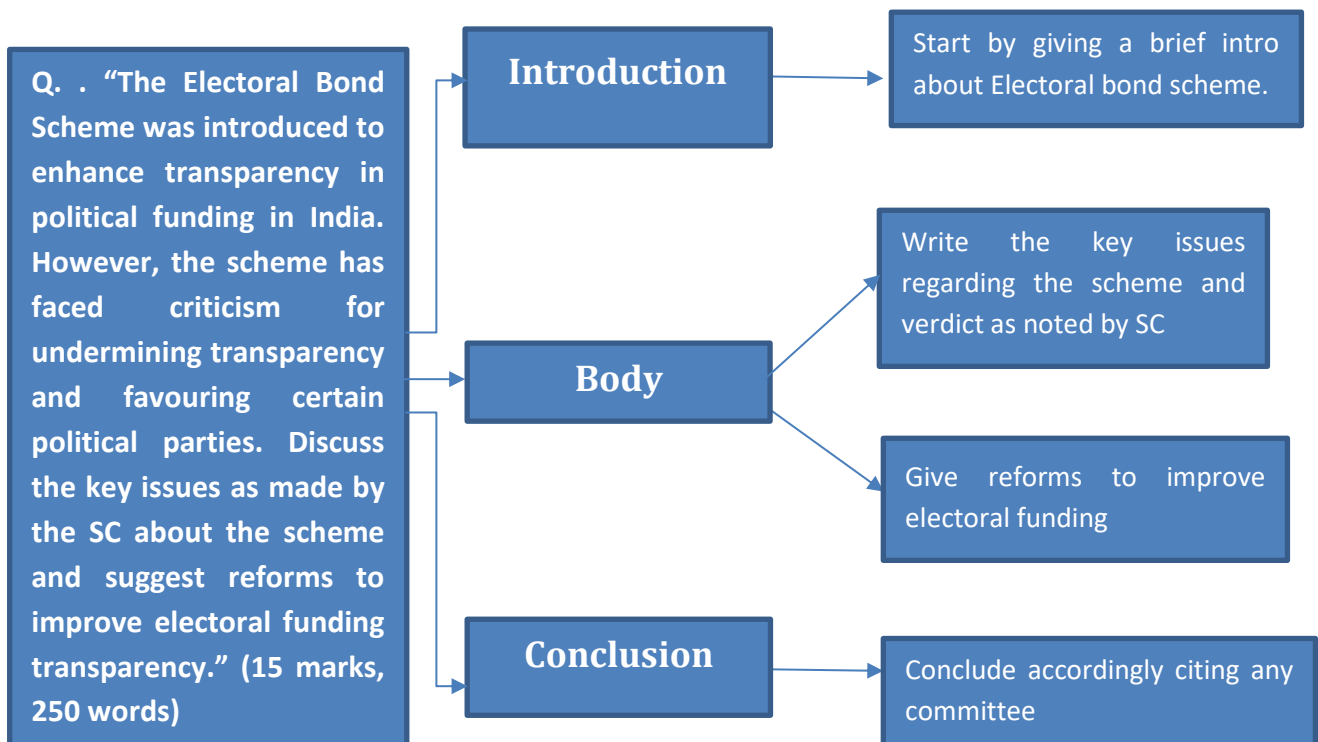
KEY RECOMMENDATIONS FOR A TRANSPARENT ELECTORAL FUNDING:

- **State Funding of Elections: As recommended by Indrajeet Gupta Committee.** Reduces corporate influence on political parties. Ensures fair access to resources for all political parties, including smaller or newly formed parties. Transparency is ensured since all funding comes from the government and is publicly disclosed.
 - **Direct State Funding:** The government provides direct funds to political parties based on certain criteria (e.g., vote share, number of seats, etc.).
 - **Indirect State Funding:** The government provides non-monetary benefits, such as free airtime on state-run media, access to public venues, and tax exemptions on donations.
- **Transparency in Donations with Full Disclosure:** This means that the source and amount of donations would be publicly available in real-time through a centralized Election Commission platform. All donations must be done through bank transfers or cheques to ensure accountability and traceability, eliminating cash donations.
- **Capping Political Donations:** Set a maximum contribution limit per year for individuals and corporations to any political party. Implement strict penalties for exceeding these limits, with enhanced monitoring mechanisms to track donations. Cap anonymous donations at Rs. 20 crores or 20% of total funding (**Law Commission recommendation**).
- **Digital Platforms for Crowdsourced Political Donations:** A digital platform for small donations from the general public, promoted via party websites or mobile apps. Anonymous donations allowed only below a certain threshold (e.g., ₹10,000). Real-time disclosure of donors for larger amounts, ensuring transparency.
- **Corporate Social Responsibility (CSR) for Electoral Funding:** Corporate donations to political parties can be integrated into the Corporate Social Responsibility (CSR) framework, where companies contribute to political funding as part of their CSR obligations. This would include strict disclosure requirements and public accountability.
- **Public Disclosure of Campaign Expenditures:** In addition to focusing on donations, political parties should be required to disclose their campaign expenditures in detail, providing transparency in how they use the funds received.
- **National Electoral Fund:** Where donors contribute anonymously and funds are allocated based on the parties' vote share
- **Venkatachaliah Committee Report, 2002:** To strengthen auditing of party accounts
- **Brazil and Chile banned corporate funding of elections following corruption scandals**

PRACTICE QUESTION

Q. “The Electoral Bond Scheme was introduced to enhance transparency in political funding in India. However, the scheme has faced criticism for undermining transparency and favoring certain political parties. Discuss the key issues as made by the SC about the scheme and suggest reforms to improve electoral funding transparency.” (15 marks, 250 words)

APPROACH



MODEL ANSWER

The **Electoral Bond Scheme**, introduced in 2018, aims to address the problem of black money in electoral funding by allowing individuals and corporations to donate to political parties through a banking system while maintaining donor anonymity. While the scheme was intended to improve transparency, it has faced significant criticism regarding its potential to increase corporate influence and its lack of public disclosure, raising concerns about its effectiveness in ensuring fair elections.

KEY ISSUES ASSOCIATED WITH THE ELECTORAL BOND SCHEME:

1. **Lack of Transparency:** One of the fundamental criticisms of the Electoral Bond Scheme is its **anonymity**. While donations are made through the **State Bank of India (SBI)**, the **public and Election Commission** are not informed of the identity of the donors. This lack of transparency undermines the very objective of the scheme, as it allows large corporations or individuals to make substantial donations without public scrutiny.

2. **Corporate Influence:** The removal of the cap on corporate donations and the anonymity provided by electoral bonds allow **corporations to donate unlimited amounts** to political parties. This has raised concerns about **policy capture**, where political parties may favour corporate interests over public welfare, thereby undermining democratic principles
3. **Favouring Ruling Parties:** There is a widespread perception that the scheme benefits **ruling parties**, as donors may prefer to contribute to parties in power to secure favourable treatment or avoid regulatory challenges. This can create an **unequal playing field** in elections, where opposition parties are disadvantaged in terms of access to funding
4. **Undermining Right to Information:** The **Supreme Court** recently highlighted that the scheme violates the **Right to Information (Article 19(1)(a))**, as voters are denied access to information about the sources of political funding. The lack of transparency in electoral funding deprives voters of the knowledge needed to make informed electoral choices
5. **Unlimited Political Contributions by Companies:** The scheme allows **unlimited political contributions by corporations**, which may distort the electoral process. Companies can exert undue influence over political parties by making large contributions, expecting favorable policies in return. This concentration of power in the hands of a few large corporations can undermine the **principles of equality and fairness** in democracy
6. **Foreign Influence:** The anonymity of donors, combined with the possibility of routing funds through **Indian subsidiaries of foreign companies**, raises concerns about **foreign influence** in Indian elections. This could pose a threat to **national sovereignty**, as foreign entities may attempt to sway election outcomes through financial means.

RECENT SC JUDGEMENT REGARDING ELECTORAL BOND SCHEME:

- **Violation of Right to Information under Article 19(1)(a)**
 - SC asserted that transparency regarding funding to political parties is crucial for informed electoral decisions, affirming that the scheme infringes upon the right to information as enshrined in Article 19 (1)(a).
 - The scheme is also in conflict with the Representation of Peoples Act 1951, , which requires the political parties to disclose their contributions and expenditures.
- **Lack of proportionality between scheme objectives and restrictions imposed**

- The restrictions imposed by the electoral bond scheme on the right to information are **disproportionate to the objectives of curbing black money** in electoral financing and protecting donor privacy.
- **Infringement on the right to donor privacy**
 - Scheme infringes upon the **right to donor privacy** by not adequately protecting the anonymity of donors and exposing them to potential harassment or discrimination based on their political affiliations.
- **Violates Principles of Equality**
 - The electoral bond scheme **violates principles of equality** by favouring certain political parties, creating disparities between donors and voters, and undermining transparency.
- **Failure to adopt the least restrictive method to curb black money**
 - The scheme does not represent the least restrictive method for achieving the objective of curbing black money in electoral financing, as there are other less restrictive alternatives available.
- **Concerns over unlimited political contributions by companies**
 - Allowing unlimited political contributions by companies enhances their influence over the political process, potentially leading to preferential treatment and undermining the democratic principles of equality and fairness.

REFORMS TO IMPROVE TRANSPARENCY IN ELECTORAL FUNDING:

1. **Full Disclosure of Donations: Mandatory disclosure** of all political donations above a certain threshold (e.g., ₹10,000 or ₹1 lakh) should be required. This would ensure that the public and the Election Commission are aware of who is funding political parties, promoting accountability.
 - **Real-time public disclosure** through an Election Commission-managed platform would allow voters to make informed choices based on the funding sources of political parties
2. **Reinstating the Cap on Corporate Donations:** The cap on corporate donations, which was removed in 2018, should be reinstated to **limit the influence** of large corporations on political parties. A cap of **7.5% of a company's average net profits** over the last three years could be reintroduced to prevent **excessive corporate control** over the political process.
3. **Digital Crowdsourcing Platforms for Political Donations:** Political parties should be encouraged to adopt **digital platforms** for raising small contributions from the general public. This would promote a **broader base of donors** and reduce reliance on corporate funding. Real-time disclosure of large donations would ensure **transparency and accountability**
4. **State Funding of Elections:** Implementing **state funding** of elections, as recommended by the **Indrajeet Gupta Committee**, would reduce the dependence of

political parties on corporate donations. **Direct state funding** could be provided based on criteria such as vote share or the number of seats, while **indirect support** (e.g., free airtime, access to public venues) could also be provided to ensure **fair access** to resources.

5. **Strengthening the Role of the Election Commission:** The **Election Commission of India** should be given greater authority to **monitor and audit political funding**. A **national electoral fund** could be created, where donations are collected anonymously, and the funds are allocated to political parties based on vote share. This would help maintain **donor privacy** while ensuring that funding is **distributed equitably**.
6. **Corporate Social Responsibility (CSR) for Electoral Funding:** Integrating corporate donations to political parties into the **Corporate Social Responsibility (CSR)** framework could enhance transparency. Companies should be required to disclose these donations as part of their CSR activities, and strict **public disclosure requirements** should be imposed to prevent undue corporate influence

To safeguard the **integrity of India's democratic process**, reforms such as **mandatory disclosure of donations, capping corporate contributions, and state funding of elections** are crucial as recommended by Indrajeet Gupta committee recommendations. By strengthening **oversight mechanisms** and promoting **public accountability**, India can move toward a more transparent and equitable political funding system that protects the values of democracy.

14. CONFLICT IN WEST ASIA

IMPACT ANALYSIS

SYLLABUS:

GS 2 > International relations > India and Global Regions > India & West Asia

REFERENCE NEWS:

- As tensions escalate between Iran and Israel in West Asia, with Iran launching missiles at Israel and the region on the brink of war, India, with its strategic ties to both nations and extensive economic and energy interests in the region, finds itself in a delicate position.

MORE ON NEWS:

- In October 2023, Israel declared war on Gaza after Hamas's attack, leading to over 41,000 Palestinian deaths and a full siege that displaced 90% of Gaza's population. Israel launched a ground invasion, raided al-Shifa Hospital, and faced protests from Houthi militants. A brief ceasefire in December 2023 saw a hostage exchange, but fighting resumed with Israel expanding its offensive. In April 2024, Iran launched missiles at Israel after its embassy in Damascus was hit. By September 2024, Israel killed key Hamas and Hezbollah leaders, prompting Iran to retaliate with missile strikes in October 2024, escalating the conflict into a broader regional war.

WEST ASIA:



- West Asia, a region of the Asian continent, is surrounded by Europe to the west, Central Asia to the north, South Asia to the east, and the Arabian Sea and Africa to the south.
- It stands at a **crucial junction between continents, featuring diverse terrains like deserts, river valleys, and mountains**. This region is notable for its historical depth, cultural richness, and significant natural resources, **particularly oil and gas**.

WHY WEST ASIA IS IMPORTANT FOR INDIA

- **Energy Security:**
 - A major aspect of West Asia's importance for India is energy security. India imports a substantial portion of its oil and natural gas from countries in West Asia, with Saudi Arabia and Iraq being major suppliers. For instance, **West Asia contributes nearly 40% of India's oil and a significant 70% of its gas needs**.
- **Economic Significance:**
 - West Asia is a key trading partner for India. Indian businesses have made considerable investments in this region, especially in sectors like infrastructure, construction, and technology. The economic ties are bolstered by various agreements and partnerships, such as the **India-UAE Comprehensive Economic Partnership Agreement (CEPA)**.
- **Indian Diaspora:**
 - There is a large Indian diaspora in West Asian countries, especially in the Gulf region. This diaspora plays a significant role in the economic and cultural spheres of these countries. For example, out of about 32 million non-resident Indians (NRIs), **nearly half are estimated to be working in Gulf countries**.
- **Cultural Ties:**
 - India shares a long history of cultural exchanges with West Asian countries. This includes the establishment of cultural centers in several countries in the region, which help in promoting mutual understanding and cooperation. Eg: **The Indian Cultural Centre in Riyadh, Saudi Arabia, The Swami Vivekananda Cultural Centre (SVCC) in Tehran, Iran etc.**
- **Counter-Terrorism and Radicalization:**
 - Cooperation with West Asian countries is key for India in countering terrorism and radicalization. The geographical proximity and the **rise of terror outfits like the Islamic State** make this cooperation essential for regional security.
- **Strategic Location:**
 - West Asia's geographical location is strategically important for India, serving as a **gateway to landlocked and resource-rich Central Asia as well as Europe** and playing a key role in India's extended neighbourhood policy.

- For instance, projects like the **Chabahar port in Iran**, which enhances India's connectivity to Central Asia.
- **Defence Cooperation:**
 - India has been deepening its defence cooperation with several countries in West Asia, such as the United Arab Emirates and Oman. This includes military-to-military exchanges, training, and defence production collaboration. For instance, Oman has granted India access to the **Port of Duqm for military purposes and logistical support**, which is a significant step in bolstering India's presence in the Indian Ocean Region.
- **Political Challenges:**
 - The internal security situations in countries like Syria, Iraq, and Yemen, and the broader regional tensions, require careful navigation by India to maintain balanced relations.
- **Balancing Relations:**
 - India strives to balance its relations with key players in the region, such as Saudi Arabia, Iran, and Israel, despite their rivalries. This balancing act is crucial for maintaining India's strategic interests in the region.

CHALLENGES IN INDIA-WEST ASIA RELATIONS:

- **Regional Crisis:**
 - Despite these strong ties, the region's political instability and complex geopolitical dynamics pose challenges for India.
 - For instance, the **expansion of the Israel-Hamas conflict** into a broader regional crisis has significantly **complicated the geopolitical landscape of West Asia**, impacting India's foreign policy considerations.
- **Balancing Relations with Rival States:**
 - India maintains a balanced diplomatic approach in the region, managing relations with **countries that have historically been in conflict, such as Israel and Iran, or Saudi Arabia and Iran.**
- **Lack of a Comprehensive Policy:**
 - Unlike the Act East policy, India has not established a comprehensive West Asia policy despite the regions having similar geopolitical significance.
- **Impact of External Powers:**
 - The influence of major powers like **the USA, Russia, and China in West Asia** affects India's interests. The dynamics of these external powers can complicate India's foreign policy decisions in the region.
- **Cultural and Religious Sensitivities:**
 - Given the diverse cultural and religious landscape of West Asia, India often finds itself managing sensitive issues that may arise, impacting bilateral relations. For instance, **Balanced Stance on Israel-Palestine Conflict.**
- **Terrorism and Security Issues:**

- The threat of terrorism, originating from or supported by elements within some West Asian countries, remains a concern for India.
- **Energy Dependence:**
 - India heavily relies on West Asian countries for its energy needs, especially oil and gas. **Fluctuations in oil prices or disruptions in supply due to geopolitical tensions** can significantly impact India's economy. For instance, **the 2019 Aramco attacks** indeed highlighted the vulnerabilities and risks associated with India's heavy reliance on oil imports, particularly from a geopolitically volatile region like West Asia.

Regional Players in West Asia: Their Influence and Interests

West Asia is a critical geopolitical region where several influential players shape the dynamics through diplomacy, security interests, and economic strategies. Here's a breakdown of the major players:

- **Qatar: A Regional Mediator:**
 - Qatar plays a pivotal role in the region due to its ability to engage with all sides. It has provided substantial aid to Palestine, hosted Hamas leaders, and mediated between the US, Israel, and Iran. Qatar's regional influence is also amplified through its media network, **Al Jazeera**, which shapes public opinion across the Arab world.
- **Egypt: Israel's Neighbor:**
 - As Israel's immediate neighbor, Egypt holds significant sway in the conflict. Egypt has historically mediated ceasefires between Israel and Hamas and remains concerned about the possibility of a refugee influx from Gaza. Under President Abdel Fattah al-Sisi, Egypt has focused on countering terrorism and maintaining regional stability.
- **Saudi Arabia: A Leader of the Islamic World:**
 - Saudi Arabia, under the leadership of Crown Prince Mohammed bin Salman, has been positioning itself as a peace broker and is a key player in connectivity initiatives in the region. However, its relations with Shia-majority Iran remain tense, and peace talks with Israel have been put on hold amid the current conflict.
- **UAE: Stability and Economic Growth:**
 - The UAE is keen on maintaining stability in the region, particularly in light of its economic ambitions. The UAE signed a normalization agreement with Israel in 2020, known as the **Abraham Accords**, and has been actively pursuing initiatives to boost economic cooperation and connectivity across the region, including the IMEEC.
- **Turkey: A Key Diplomatic Channel:**
 - Turkey, despite its critical stance on Israel's actions, has been a backchannel between Israel, its allies, and Iran. Turkish officials have direct lines of communication with Hamas, Iran, Israel, and the US, giving it a crucial role in de-escalation efforts.
- **United States: Traditional Arbiter:**
 - The US has traditionally been the mediator in the region, with deep ties to Israel. However, its credibility has waned in recent years, and it is now seen

as firmly on Israel's side. US efforts, led by envoy Amos Hochstein, are focused on preventing further escalation but are met with mistrust, especially from Iran.

- **China: A Rising Mediator:**
 - China has increasingly positioned itself as a potential mediator, especially after brokering the **Saudi-Iran deal**. China's interest in West Asia is driven by its economic and geopolitical ambitions in Iran, Saudi Arabia, and the UAE. Beijing's growing influence underscores its rising global profile as a potential alternative to the US in regional mediation.

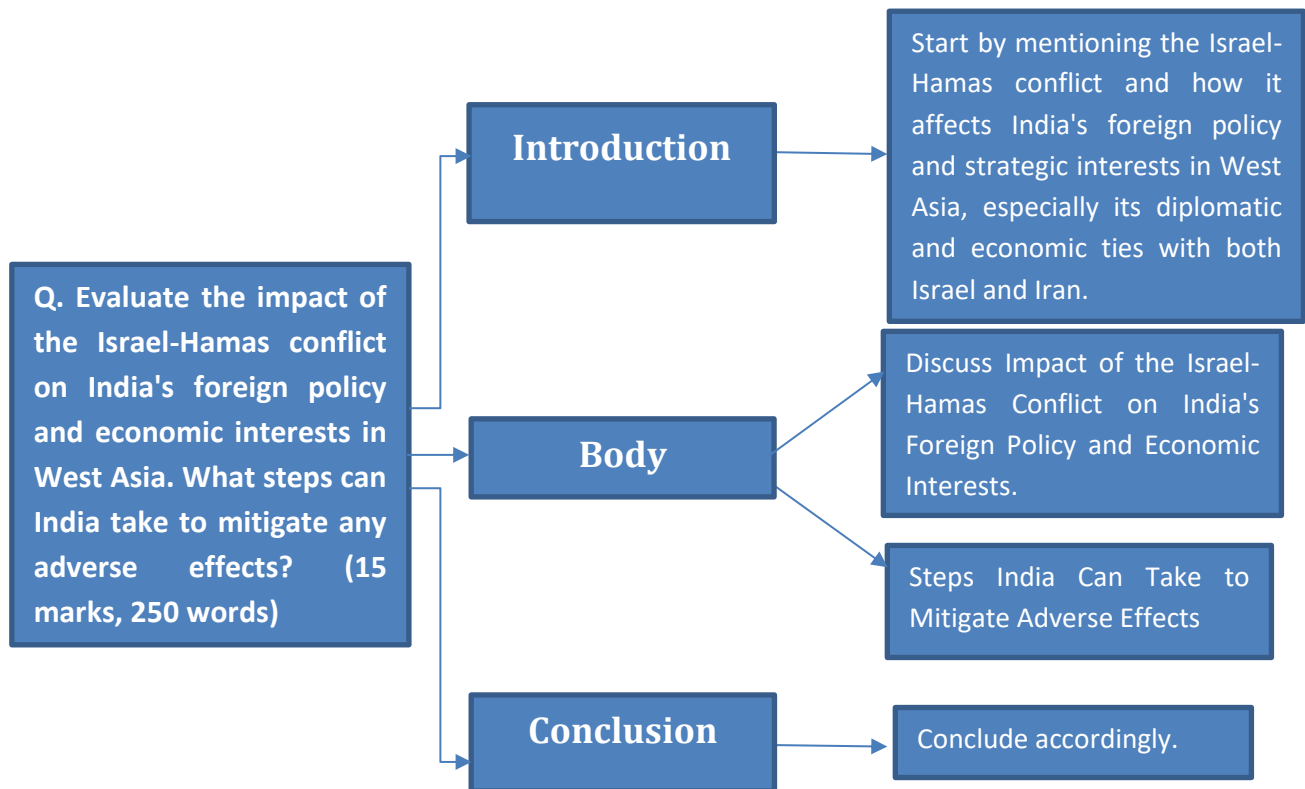
WAY FORWARD:

- **Developing a Comprehensive West Asia Policy:** Formulating a comprehensive and coherent policy towards West Asia, akin to the Act East policy, can provide a structured framework for India's engagement with the region.
- **Diversifying Energy Sources:** Given the heavy reliance on West Asian countries for energy, India should further diversify its energy sources to reduce vulnerability to regional instabilities.
- **Counter-Terrorism Collaboration:** Deepening counter-terrorism cooperation with West Asian countries is vital. This includes intelligence sharing, joint training exercises, and collaborative efforts to combat radicalization and terrorism financing.
- **Balanced Approach to Conflict Resolution:** India should continue its balanced approach to regional conflicts, avoiding taking sides in internal conflicts while advocating for peaceful resolutions. This approach helps in maintaining good relations with conflicting parties.
- **Investment in Regional Infrastructure Projects:** India should invest in strategic regional infrastructure projects, like the Chabahar port in Iran, to improve connectivity and strengthen its geopolitical position.
- **Cultural and Educational Exchanges:** Promoting cultural and educational exchanges can enhance mutual understanding and goodwill, which is essential in a region with diverse cultural and religious backgrounds.
- **Strategic Defence Cooperation:** Strengthening defence ties with key West Asian countries, through joint military exercises, defence technology collaboration, and strategic military agreements, can enhance India's security presence and capabilities in the region.
- **Monitoring and Adapting to Geopolitical Shifts:** Continuously monitoring the region's dynamic geopolitical landscape and being ready to adapt its strategy accordingly is crucial for India to safeguard its interests and respond effectively to emerging challenges.

PRACTICE QUESTION

Q. Evaluate the impact of the Israel-Hamas conflict on India's foreign policy and economic interests in West Asia. What steps can India take to mitigate any adverse effects? (15 marks, 250 words)

APPROACH



MODEL ANSWER

The ongoing **Israel-Hamas conflict**, which escalated after Hamas' attack on Israel in October 2023, has put India in a complex foreign policy dilemma. With over **41,000 Palestinian deaths** and significant geopolitical repercussions, India's balancing act **between strategic allies Israel and Iran** has become even more precarious, particularly after Iran's missile strikes on Israel in October 2024. Given India's extensive energy and economic interests in West Asia, this conflict significantly impacts its foreign policy and economic strategies.

Impact of the Israel-Hamas Conflict on India's Foreign Policy

- Balancing Relations with Israel and Iran:** India has historically maintained close ties with both Israel and Iran. Israel is a key defense partner, while Iran is crucial for India's access to Central Asia via the Chabahar Port. The current escalation complicates India's diplomatic efforts to balance relations with both nations, especially with **Iran launching missiles at Israel in retaliation** for Israeli actions.

2. **Pressure to Take Sides:** As the conflict intensifies, global powers, particularly the **USA** (a staunch supporter of Israel), may press India to openly support Israel. Simultaneously, India needs to manage its relationship with the **Arab world** and Iran, both of which are crucial for India's energy security and large diaspora.
3. **International Mediator Role:** With **China's rising influence** as a mediator, particularly after brokering the Saudi-Iran deal, India's traditionally neutral stance could be sidelined unless it takes proactive diplomatic steps. India might be forced to step up its diplomatic outreach to maintain relevance in **West Asia's peace processes**.
4. **Counterterrorism Partnerships:** India has expanded its **counterterrorism cooperation** with Israel and other West Asian nations to address regional security threats like **ISIS** and other radical groups. The conflict, involving entities like Hamas and Hezbollah, underscores the need for continued security collaborations to counter extremist threats that could spill over into the region.
5. **Diplomatic Strain with Arab Countries:** Supporting Israel too overtly could strain India's relations with Arab nations such as Saudi Arabia, UAE, and Qatar, who are key economic partners. As mentioned, these countries are significant players in shaping public opinion across the **Arab world**, which could impact India's broader diplomatic standing.

Impact of the Conflict on India's Economic Interests

1. **Energy Security Threats:** West Asia supplies **40% of India's oil** and **70% of its gas needs**, making any disruption in the region highly detrimental. Escalation between **Iran and Israel** could threaten shipping routes, leading to price volatility and affecting India's energy imports, as seen during the **2019 Aramco attacks**.
2. **Impact on Indian Diaspora:** With nearly **50% of India's 32 million NRIs** working in the Gulf, heightened conflict in the region could affect the safety of these expatriates, leading to possible evacuations and loss of remittances. India will need to closely monitor the situation and ensure the safety of its diaspora.
3. **Trade and Investment:** The region is a significant trade partner for India, with substantial investments in infrastructure and technology. Rising tensions could destabilize trade routes, affecting sectors such as **construction** and **technology** where Indian businesses have major stakes, especially under agreements like the **India-UAE CEPA**.
4. **Logistical Challenges:** The **Chabahar Port** project in Iran, crucial for India's access to **Central Asia**, could face delays or logistical setbacks if the conflict escalates further. This would negatively impact India's connectivity goals in the region, impeding trade flows and strategic projects.
5. **Fluctuations in Oil Prices:** Any intensification of hostilities would likely lead to fluctuations in global oil prices, directly impacting India's economy. The current crisis

demonstrates the vulnerabilities India faces due to its reliance on oil imports from a **geopolitically volatile** region like West Asia.

Steps India Can Take to Mitigate Adverse Effects

1. **Pursuing a Balanced Diplomacy:** India must continue its **balanced approach**, neither siding openly with Israel nor with Iran. By advocating for peaceful resolutions through **diplomatic channels**, India can protect its relationships with both nations and avoid alienating other regional players like **Saudi Arabia** and **UAE**.
2. **Diversifying Energy Sources:** India should expedite efforts to diversify its energy portfolio by increasing investments in **renewables** and engaging in energy partnerships beyond West Asia, such as in **Central Asia** and **Africa**, to reduce dependency on the volatile West Asian region.
3. **Strengthening Defense Cooperation:** Enhancing military ties with key partners like **Oman** and **UAE**, particularly with **access to strategic ports** like Duqm, will allow India to bolster its security presence in the region and safeguard maritime routes, especially in the **Indian Ocean Region**.
4. **Engaging in Regional Infrastructure Projects:** India should deepen its involvement in infrastructure projects like the **Chabahar Port** to enhance its strategic foothold in the region, even amidst rising tensions. Such projects will ensure that India's trade and connectivity goals are not compromised by the conflict.
5. **Promoting Cultural and Educational Exchanges:** To build long-term goodwill, India should continue promoting **cultural and educational exchanges** with key nations in West Asia. Strengthening soft power can help India maintain positive relations even amid geopolitical challenges.

The **Israel-Hamas conflict** has presented serious challenges to India's foreign policy and economic interests in West Asia. However, by adopting a pragmatic, **balanced approach**, diversifying energy sources, and enhancing defense cooperation, India can navigate the complexities of the conflict while safeguarding its national interests.

15. INDIA-CHINA LAC AGREEMENT AND INDIA-CHINA BORDER DISPUTE

IMPACT ANALYSIS

SYLLABUS:

GS 2 > International relations > India and Neighbours > Indo China border

REFERENCE NEWS:

- India and China recently announced an agreement focusing on “patrolling arrangements” along the Line of Actual Control (LAC), aiming to resolve tensions stemming from the 2020 border stand-off. This agreement was made official following a meeting between Prime Minister Narendra Modi and President Xi Jinping at the BRICS summit in Kazan, Russia.

MORE ON NEWS:

- In April 2024, Prime Minister Modi emphasized the importance of resolving the border issue with China, to which the Chinese responded positively, suggesting a cooperative outlook on the broader relationship beyond the border situation.
- Subsequent meetings, including one between India’s External Affairs Minister and his Chinese counterpart, highlighted the need to resolve "patrolling rights" in specific contentious zones, forming the basis for this new agreement.

KEY POINTS OF THE PATROLLING PACT:

- **Nature of Patrolling:** The primary element of this agreement restores patrolling rights to both nations in areas where issues have persisted, particularly in the Depsang Plains and Demchok. This approach adheres to Article 4 of the 2005 border agreement, emphasizing **restraint, non-escalation, and mutual respect in cases of face-offs.**
- **Restoration of Status Quo:** Indian troops are now expected to patrol up to points (PP) 10 to 13 in the Depsang Plains and the Charding nullah of Demchok as per pre-2020 conditions.
- **Implementation of the "Three Ds":**
 - **Disengagement:** Immediate priority with troops beginning the separation process in these contested areas.
 - **De-escalation:** Reduction of troop levels in proximity to the LAC, expected to follow.
 - **De-induction:** Final withdrawal of surplus troops, planned as the last step once stability is ensured.

HISTORY OF INDIA-CHINA BORDER DISPUTE:

- Traditionally, the **Himalayas acted as a natural boundary** separating the two regions. Today, the two nations share a **highly disputed 3488 km border**.
- The **Line of Actual Control (LAC)**, formed after the **1962 war**, separates Indian-controlled territory from Chinese-controlled territory.
- 4 states viz., **Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh and Union Territories of Ladakh** (erstwhile state of Jammu & Kashmir) share a border with China.

WESTERN SECTOR:

- In the western sector, Union Territory of Ladakh shares about 2152 km long border with the Xinjiang Province of China.
- **Aksai Chin** is the most disputed region in this sector. The dispute arises from a cartographic uncertainty.
 - **The Johnson's line**, proposed in 1865, shows Aksai Chin in erstwhile Jammu and Kashmir, thereby **bringing it under India's control**. Upon independence, India used the Johnson Line as the basis for its official boundary in the west.
 - However, the **McDonald Line**, proposed in 1893, **places the region under China's control**.

CENTRAL SECTOR:

- Here, India shares about 625 km long boundary with China. This region, passing along **Himachal Pradesh and Uttarakhand remain largely peaceful**.

EASTERN SECTOR:

- Here, Sikkim and Arunachal Pradesh share a 1140 km border with China.
- The region is demarcated based on the **McMahon line signed between British India and the erstwhile Tibetan government**. **China does not accept the McMahon Line**, claiming that Tibet was never a sovereign region to sign such an agreement. Today, it **claims almost whole of Arunachal Pradesh**.



WHY INDIA-CHINA BORDER DISPUTES REMAIN UNRESOLVED:

- **Geographical constraints:**
 - The **rugged mountain range**, with its **inhospitable climate** and undulating topography, is difficult to access and properly demarcate.
- **Cartographic issues:**
 - The **British-era agreements and maps** have **many unmarked and arbitrarily marked areas**. Also, many of these **agreements were signed with regional rulers** and kingdoms, whose **legitimacy is questioned** by the modern-day republics.
- **Pressure tactic:**
 - China settled its border disputes with Nepal, Myanmar, Pakistan, and Afghanistan back in the 1960s itself. However, it has **left the dispute with India remain unsettled as a pressure tactic**.
 - The **incident in the Uttarakhand hills**, days after China expressed **objection to Operation Yudhabhyas**, and **Chinese aggression along Doklam** in 2017, immediately after **India's aversion to the Belt and Road Summit**, are examples of this.
- **China Pakistan relations:**
 - Pakistan and China share deep ties, through military cooperation and strategic projects such as the **China Pak Economic Corridor**.
 - If China is to settle its disputes with India along the Western sector, it would **significantly weaken Pak's claim over the Kashmir region**.
- **Commitment Problem:**
 - In the long term, China aims for a **"Multipolar world, Unipolar Asia"**, placing itself as the regional giant in Asia.
 - However, it contradicts India's view of a **"Multipolar world, Multipolar Asia"**. Hence, both countries are reluctant fully to cooperate with each other.
- **Lack of mutual trust:**
 - Historically, **Chinese diplomacy has been an unreliable for India**.
 - Also, China is suspicious of **India's close ties with the USA**. Hence, there is a **trust deficit among the two neighbors** hindering any form of resolution.
- **Other contentious issues:**
 - China's stand on the Tibetan and Kashmir issue, its support for Pakistan in the global fora, the **'water bomb' threat to India**, **China's stand against India's NSG membership etc.** are barriers to peaceful resolution of the dispute.

The "**water bomb**" threat to India from China refers to concerns over **China's ability to manipulate the flow of transboundary rivers** into India, potentially causing **flooding or water scarcity through dam-building and water diversion projects**. This strategic control over water resources raises significant geopolitical and environmental risks for India.

- **Ultra-nationalism:**

- Although the frontiers in question date back to the British colonial era, the modern phenomenon of social media-fuelled nationalism is a major barrier to progress. Because of their opposing ideological stands, both governments are unwilling to compromise on their demands on territorial rights.

MEASURES TAKEN:

- **Investments:**
 - To match the huge Chinese investments along the borders, India has been making steady progress in **developing critical border infrastructure**.
 - It has completed 74 strategic roads, bridges and communication infrastructure along the eastern border.
 - To further expedite border road construction, Ministry of Defence has delegated administrative and financial powers to the **Border Roads Organisation (BRO)**.
- **Defensive measures:**
 - India has developed the **Indo-Tibetan Border Police (ITBP)** for deployment along the Tibetan border.
 - To strengthen its border forces, India is deploying its **second squadron of Rafale jets at Hasimara base in West Bengal**.
- **Vibrant Villages Programme:**
 - In **response to China's land border law** enacted in January 2022, which supports the establishment and development of such border defense villages, India has initiated its own countermeasure through the Vibrant Villages Programme.
 - **Launched in 2022**, this initiative aims to **develop Indian border villages into modern, amenity-rich communities** that can also serve as tourist attractions, thereby **promoting economic and social development in India's border areas**.
 - This program, building upon the existing **Border Area Development Programme (BADP)**, has **identified 663 villages** for development, with a focus on **regions adjoining China's border**, including in the strategic areas of Ladakh, Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.
- **International cooperation:**
 - India has joined hands with Japan for aggressively developing infrastructure projects in North east to contain China.
 - India is also pushing for the **Kaladan Multimodal project** to improve **connectivity to the North East**.

POTENTIAL IMPLICATIONS OF THE INDIA-CHINA LAC AGREEMENT:

- **Confidence-Building Measure:** The agreement is seen as a significant step toward rebuilding trust between the two nations after the 2020 Galwan Valley clash. Restoring patrolling rights and establishing clear protocols for troop behavior at the LAC can serve as a stabilizing factor.
- **Revisiting Economic and Trade Relations:** Normalizing border relations may pave the way for India and China to revisit stalled trade and economic dialogues, which have been affected by heightened tensions and have led to restrictions on Chinese investment in India.
- **Gradual Diplomatic Rapprochement:** By outlining steps for disengagement, the agreement creates a framework for deeper diplomatic engagement and strategic dialogues, potentially averting escalations and promoting smoother negotiations.
- **Prevention of Future Skirmishes:** By defining patrolling rights and discouraging provocative acts, the agreement helps reduce misunderstandings and avoid clashes, such as those in Galwan Valley, where disputed patrol zones contributed to fatal confrontations.
- **Institutionalizing Protocols:** A systematic approach to de-escalation and de-induction reinforces both countries' commitment to border management protocols. This could lead to more reliable and predictable behavior at the border, thus strengthening the 2005 agreement and existing confidence-building mechanisms.
- **Reduction in Military Presence:** The agreement's phased disengagement and de-escalation process could decrease the military buildup on both sides. Reducing troops allows both nations to reallocate military resources and finances, which may help ease defense budget constraints.
- **Impact on Quad and Other Alliances:** Improved India-China relations might recalibrate India's stance in the Quad (with the U.S., Japan, and Australia) and other security alliances. It may result in a nuanced balancing act as India aims to engage with China while strengthening its Indo-Pacific strategy.
- **Response from Regional Players:** Neighboring countries like Pakistan, Nepal, and Bhutan will likely monitor the outcomes, as an India-China rapprochement could influence border management practices and regional alliances, impacting South Asian geopolitics.
- **Skepticism in Indian Strategic Circles:** Given past challenges with Chinese commitments on border agreements, there is caution within Indian strategic circles about the sustainability of this agreement. Skepticism centers on whether China will uphold the agreement without attempting incremental advances along the border.
- **National Security Discourse:** The pact has implications for India's domestic discourse on national security, where some experts advocate for continued vigilance and recommend a 'trust but verify' approach in the border region.

- **Resumption of Economic Activities:** The agreement allows India to resume patrolling and grazing rights in sensitive zones like the Depsang Plains and Demchok, which have strategic importance and impact local economies and communities.
- **Border Infrastructure Development:** India may accelerate infrastructure projects, such as road and bridge construction, near the LAC to better support its border management and improve troop mobilization capacities if needed.
- **Risk Mitigation for Regional Conflicts:** Enhanced stability along the LAC contributes to broader regional peace, as any escalation between India and China has repercussions for the entire region.
- **Strategic Autonomy:** For both India and China, a reduced border conflict allows each country to pursue its strategic priorities with less external dependency or pressure, contributing to regional multipolarity

WAY FORWARD:

A lasting resolution for India-China border disputes calls for a balanced approach blending diplomatic and strategic measures, building on the positive momentum of the "Wuhan Spirit."

- **Deepen Dialogue:** India and China should continue high-level talks rooted in the "Wuhan Spirit" to foster trust and long-term stability. Political consultations at regular intervals are essential to shifting the focus from military posturing to peaceful engagement.

"Wuhan Spirit": The "Wuhan Spirit" refers to the consensus and positive momentum in bilateral relations between India and China following an **informal summit between Indian Prime Minister Narendra Modi and Chinese President Xi Jinping in Wuhan, China, in April 2018**. This meeting was aimed at easing tensions and enhancing mutual trust following a standoff in the Doklam region in 2017.

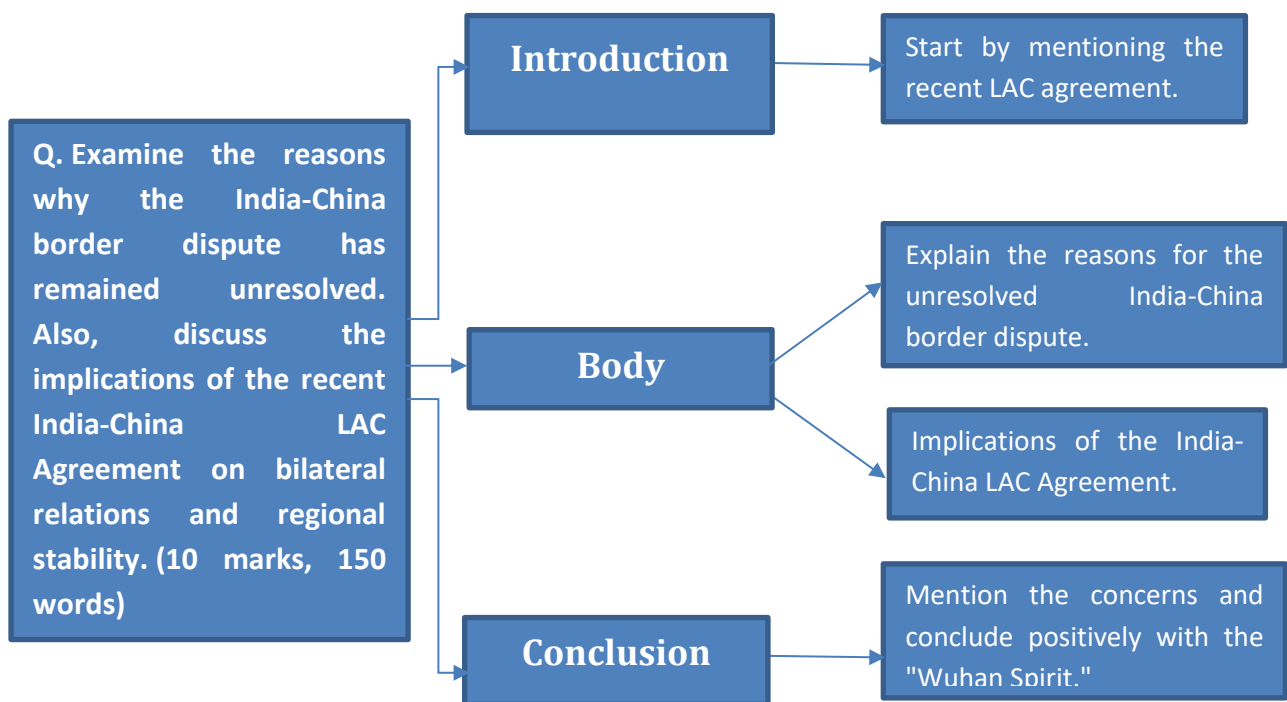
- **Enhance Communication:** Reliable military-to-military channels are crucial for immediate conflict resolution along the LAC. Regular border meetings at various command levels can help manage misunderstandings, making incremental disengagement efforts smoother.
- **Strengthen Economic Ties:** Restoring trade and investment dialogues can align both nations' interests toward a stable border. Economic cooperation, alongside India's Vibrant Villages Programme, can uplift border areas, balancing China's development efforts on its side.
- **Promote Regional Stability:** Collaborative efforts in multilateral forums like BRICS and SCO allow both countries to engage on global issues, indirectly improving bilateral relations and supporting regional peace.
- **Balanced Infrastructure Development:** Strategic infrastructure in border areas should focus on safety and logistics rather than escalation. India's collaboration with

Japan in the Northeast region provides a counterbalance without provoking tensions.

PRACTICE QUESTION

Q. Examine the reasons why the India-China border dispute has remained unresolved. Also, discuss the implications of the recent India-China LAC Agreement on bilateral relations and regional stability. (10 marks, 150 words)

APPROACH



MODEL ANSWER

India and China recently announced an agreement on "**patrolling arrangements**" along the **Line of Actual Control (LAC)**, restoring patrolling rights in sensitive areas like the Depsang Plains and Demchok to de-escalate border tensions. This agreement, formalized during a meeting between Prime Minister Narendra Modi and President Xi Jinping at the BRICS summit in Kazan, Russia, reflects **renewed efforts to stabilize the LAC**. However, given the complex history of border disputes, this development is met with cautious optimism in Indian strategic circles.

Reasons for the Unresolved India-China Border Dispute

1. **Geographical Challenges:** The rugged terrain of the Himalayas, with extreme weather and difficult accessibility, poses substantial challenges to proper

demarcation of the border. These factors create ambiguities in defining the exact boundaries.

2. **Historical Cartographic Issues:** British-era maps and agreements have left many areas unmarked or ambiguously marked, leading to disagreements. While India claims territories based on the Johnson Line, China relies on the McDonald Line in the western sector, further complicating the issue.
3. **China's Pressure Tactics:** China has historically kept its border dispute with India unresolved to use as leverage, unlike its settled borders with Nepal and Myanmar. Incidents like the Doklam standoff in 2017 and objections to India's military exercises illustrate China's use of border disputes as a strategic pressure point.
4. **China-Pakistan Relations:** China's close alliance with Pakistan complicates the border resolution with India, as a settlement might undermine Pakistan's position on Kashmir. The China-Pakistan Economic Corridor also adds to China's strategic interests in the region.
5. **Mutual Mistrust:** A trust deficit persists, with China viewing India's relations with the U.S. with suspicion, while India perceives Chinese diplomacy as unreliable. China's actions on Tibet, its support for Pakistan, and its position on India's Nuclear Suppliers Group membership create further strains in the relationship.

The LAC Agreement: The recent LAC agreement aims to stabilize tensions by establishing a structured process **for disengagement, de-escalation, and de-induction**. This approach allows both nations to restore pre-2020 conditions in disputed zones, setting clear protocols for patrolling and military behavior at the LAC.

Implications of the India-China LAC Agreement

1. **Confidence-Building and Trust Restoration:** The agreement aims to rebuild trust after the 2020 Galwan Valley clash by restoring patrolling rights and reducing troop presence, which could lead to long-term stability along the LAC.
2. **Potential for Improved Bilateral Relations:** Stabilizing the border could help both countries revisit stalled trade and economic dialogues. With restored confidence, the possibility of expanding cooperation in trade and investments could grow.
3. **Framework for De-escalation:** Through the phased implementation of disengagement, de-escalation, and de-induction, the agreement provides a structured path to reduce military presence and tensions. This could minimize skirmishes, establishing protocols for more predictable behavior along the LAC.
4. **Impact on Regional Geopolitics and Alliances:** Improved India-China relations might recalibrate India's role in the Quad and other regional alliances, potentially influencing India's Indo-Pacific strategy. Neighboring countries like Pakistan, Bhutan, and Nepal may also observe the outcomes, affecting regional dynamics.
5. **Boost to Border Infrastructure Development:** The agreement could accelerate India's efforts to enhance border infrastructure for troop mobilization and regional development. Programs like the Vibrant Villages Programme, focused on border

areas, will benefit from greater stability and improve the economic resilience of local communities.

While the LAC agreement marks an important step toward stabilizing India-China relations, concerns remain about China's commitment to honoring the agreement and the risk of incremental advances along the border. However, the agreement echoes the principles of **the "Wuhan Spirit," emphasizing dialogue and trust-building**. If both nations uphold this spirit, they could set a new course toward peaceful coexistence, focusing on shared prosperity and regional stability.

16. INDIA-CANADA RELATIONS

iMPACT ANALYSIS

SYLLABUS:

GS 2 > International relations > India and Global Powers > Separatist movement

REFERENCE NEWS:

- The tension between India and Canada reached a new height on October 14, 2024, when the Canadian government declared that Indian diplomats, including High Commissioner Sanjay Verma, were “persons of interest” in the ongoing investigation into the murder of Hardeep Singh Nijjar. In response, India decided to withdraw these diplomats and expelled six Canadian diplomats from the country, further escalating the diplomatic rift.
- Following this, Canadian police accused the Indian government of allegedly using notorious gangster **Lawrence Bishnoi** to execute criminal operations in Canada. **Prime Minister Justin Trudeau** accused India of repeatedly refusing to cooperate in the investigation of Nijjar's assassination.

MORE ON NEWS:

- Relations between India and Canada have been severely strained since **September 2023**, when **Prime Minister Trudeau** announced to the Canadian parliament that there was credible evidence linking Indian agents to the assassination of **Hardeep Singh Nijjar**, a prominent Sikh separatist, who was shot dead outside a gurdwara in **Surrey, British Columbia** in **June 2023**. India strongly denied the allegations, labeling them as “**absurd and motivated**”, and pointing out Canada's tolerance of Khalistani extremists as a key issue in the bilateral strain.
- This series of accusations and countermeasures has severely impacted diplomatic relations, leading to visa suspensions, diplomatic expulsions, and stalled trade talks between the two nations.

The **Khalistan movement** is a Sikh separatist movement seeking to create a homeland for Sikhs by establishing a sovereign state, called Khalistan (Land of the Khalsa). The proposed state would consist of land that currently forms Punjab region in India and Pakistan.

HISTORY:

- Canada and India have longstanding bilateral relations built upon shared traditions of **democracy, pluralism** and strong interpersonal connections.
- During the colonial period, Canada was an important destination for **migrants from India**.

- During the Cold War period, the personal equation between Indian Prime Minister Jawaharlal Nehru and his Canadian counterparts helped develop some strategic understanding between the two sides.
- During this period, India became the largest recipient of Canadian external assistance. Canada provided food aid, project financing and technical assistance.
- For instance,
 - Under the Colombo Plan, Canada provided grants to India's civil nuclear programme. The 'Canada India Reactor Utility Services (CIRUS)' went critical in July 1960.
 - In the 1960s and 70s, Canada supported projects such as **the Kundah power house project in Tamil Nadu and the Idukki Dam in Kerala.**
- However, following **India's Smiling Buddha nuclear test of 1974 and the bombing of the Air India Flight 182 by separatists**, Indo-Canadian relations deteriorated.
- But the cessation of Cold War hostilities and the LPG reforms of 1990s paved the way for rekindling the relationship.

AREAS OF COOPERATION:

- **Political:**
 - At the Ministerial level, Canada and India enjoy a strategic partnership underpinned by Ministerial Dialogues on foreign policy, trade and investment, finance, energy.
 - At the official level, there are regular working groups that focus on counter-terrorism, security, agriculture, education, science and technology.
 - India and Canada have also established a **Track 1.5 Dialogue** on involving experts, government officials and business leaders from both sides to explore the possibility of future cooperation.
- **Trade:**
 - Bilateral trade in goods amounted to **USD 10.50 billion in 2022 (India's exports: USD 6.40 billion and India's imports: USD 4.10 billion)** which is well below the business potential of the two countries. The bilateral trade in services in 2022 was USD 8.74 billion. In 2023 (January – October), bilateral trade in goods amounted to USD 7.65 billion (India's exports: USD 4.70 billion and India's imports: USD 2.95 billion).
 - Canada and India are working toward a **Comprehensive Economic Partnership Agreement and a Foreign Investment Promotion and Protection Agreement (FIPA).**
 - Canada is the **fourth largest source of tourists** in India (based on 2021 figures)
- **Investment:**
 - Canada accounts for **0.56%** of the total FDI in India according to the Indian Department for Promotion of Industry and Internal Trade (DPIIT)

- India has also emerged as an attractive investment destination for several Canadian pension funds.
- **Developmental assistance:**
 - **Global Affairs Canada** provide development assistance to India through Indian and Canadian Non-Governmental Organizations, and through multilateral mechanisms such as the World Bank and the Asian Development Bank.
- **Strategic:**
 - In late 2022, **Canada released an Indo-Pacific strategy which called India a “crucial partner”** and termed China an “increasingly disruptive” global power. The strategy states that Canada will seek new opportunities to partner and engage in dialogue with India in areas of common interest.
 - The strategy also contains funding commitment on infrastructure projects through the US-led **G7 Partnership for Global Infrastructure and Investment**, an **enhanced military presence including a third frigate in the Indian Ocean**, and expanded participation in regional military exercises.
- **Multilateral:**
 - India and Canada collaborate closely in international fora, particularly through the UN, Commonwealth and G-20.
- **Security and defence:**
 - Defence ties have been expanding with **mutual ship visits**. There is also robust cooperation on counter terrorism issues particularly through the framework of the **Joint Working Group (JWG) on Counter Terrorism**.
 - The security cooperation was further enhanced with the **Framework for Cooperation between India and Canada on Countering Terrorism and Violent Extremism** signed in February 2018.
- **Science and technology:**
 - **Nuclear Cooperation:**
 - **A Nuclear Cooperation Agreement (NCA) with Canada was signed in June 2010 and came into force in September 2013.**
 - In 2015, Department of Atomic Energy (DAE) and Canada’s Cameco Corporation signed an **agreement for supply of uranium ore concentrate to India in 2015-2020.**
 - **Space:**
 - ISRO and Canadian Space Agency have signed MOUs in the field of exploration and utilisation of outer space.
 - ISRO and ANTRIX, the Commercial arm of ISRO, have launched several Canadian satellites. Eg: Canada’s first LEO satellite was launched by the PSLV from Sriharikota in 2018.
 - **Arctic research:** Department of Earth Science and Polar Canada have started a programme for exchange of knowledge and scientific research on Cold Climate (Arctic) Studies.

- **Agriculture:**
 - The **bilateral MoU** on agriculture cooperation was signed at the federal level in 2009. A **Joint Working Group for Pulses** has been set up separately.
- **Energy Cooperation:**
 - In February 2018, the scope of the Energy Dialogue was expanded to additionally include electricity, energy efficiency and renewable energy.
 - **India Oil Corporation has a 10% participating interest** in a Liquid Natural Gas project in British Columbia.
- **Capacity building:**
 - **Education** is a key area of mutual interest. Recently, **India became the top source of foreign students studying in Canada.**
 - **Every 7th Indian student studying abroad is in Canada** according to data maintained by the Ministry of External Affairs.
 - **Canada's Foreign Service Institute (CFSI) has undertaken training initiatives to Indian diplomats** at FSI, New Delhi on Bilateral & Multilateral Negotiation and Diplomacy and Global Affairs including Canada's Foreign Policy Approach.
- **Cultural:**
 - Canada is home to **5.26% of overseas Indians** according to the data available from the Ministry of External Affairs
 - Canada is home to one of the largest communities of Indian origin, with approximately **4% of Canadians being of Indian heritage.**
 - Canada was the first western democratic nation to **celebrate Diwali officially in Parliament.** Diwali has been celebrated on the Parliament Hill since 1997.
 - There are institutions like the **Shastri Indo-Canadian Institute (SICI)** for fostering education and cultural cooperation and collaboration between India and Canada.
- **Diplomatic:**
 - In India, **Canada is represented by the High Commission of Canada in New Delhi** beside Consulates General in Bengaluru, Chandigarh and Mumbai.
 - India is represented in Canada by a **High Commission in Ottawa and by consulates in Toronto and Vancouver.**
- **Connectivity:**
 - There are direct flights between Indian and Canadian cities. Indian and Canadian carriers have also expressed interest in expanding their business in the other country.
 - **India and Canada have recently finalised an expanded air transport agreement.** This could further boost connectivity between the two nations.

AREAS OF CONCERN:

- **Canadian tolerance for separatists:**

- **Khalistan activism** is strong in Canada. But its inability to assuage Indian concerns regarding the same has made New Delhi apprehensive of its ties with Ottawa.
- **Rising violence:**
 - Instances of **vandalism of temples, hate crimes and sectarian violence against Indian nationals** have been on the rise in Canada.
- **Lack of clear policy:**
 - Despite the apparent interest in furthering its relations with India, there is lack of a clear plan of action and policy on the part of Ottawa to effectively engage with India.
- **China factor:**
 - Despite its criticism, Canada has stronger relations with China, partly due to its **expansive trade relations with Beijing**.
 - This is evident from the fact that while Canada has engaged with China on issues ranging from extradition, free trade and cyber-security cooperation, it does not accord the same treatment to its relations with India.
- **Lack of concern for Indian sensitivities:**
 - On many occasions, Canada has shown a lack of concern for Indian sensitivities and interfered in India's internal affairs.
 - For instance, in December 2020, **Canadian PM raised concerns about the handling of farmer protests by India**. In response, the Indian Ministry of External Affairs stated that PM's comments were "an unacceptable interference in our internal affairs".
- **Low levels of trade:**
 - While India–Canada economic relations have made some progress, **Canada remains an insignificant trading partner for India compared to other North American countries**, particularly USA and Mexico.
- **Challenges in FTA negotiations:**
 - The trade negotiations are stuck on two crucial factors. **India is asking for further flexibility on freer movement of professionals, while Canada wants a specific cut on fruits and vegetable** — a concession India is unwilling to offer, given the vulnerability of its farming sector.

WAY FORWARD

- **Addressing Khalistan Activism:** India and Canada should engage in diplomatic dialogue to tackle concerns over Khalistani extremism. A framework for cooperation, including intelligence sharing and law enforcement coordination, is crucial. Canada must strengthen legal measures against individuals and groups promoting violence or hatred.
- **Enhancing Trade and Investment:** Re-engage in Comprehensive Economic Partnership Agreement and FIPA negotiations, focusing on flexibility in areas like

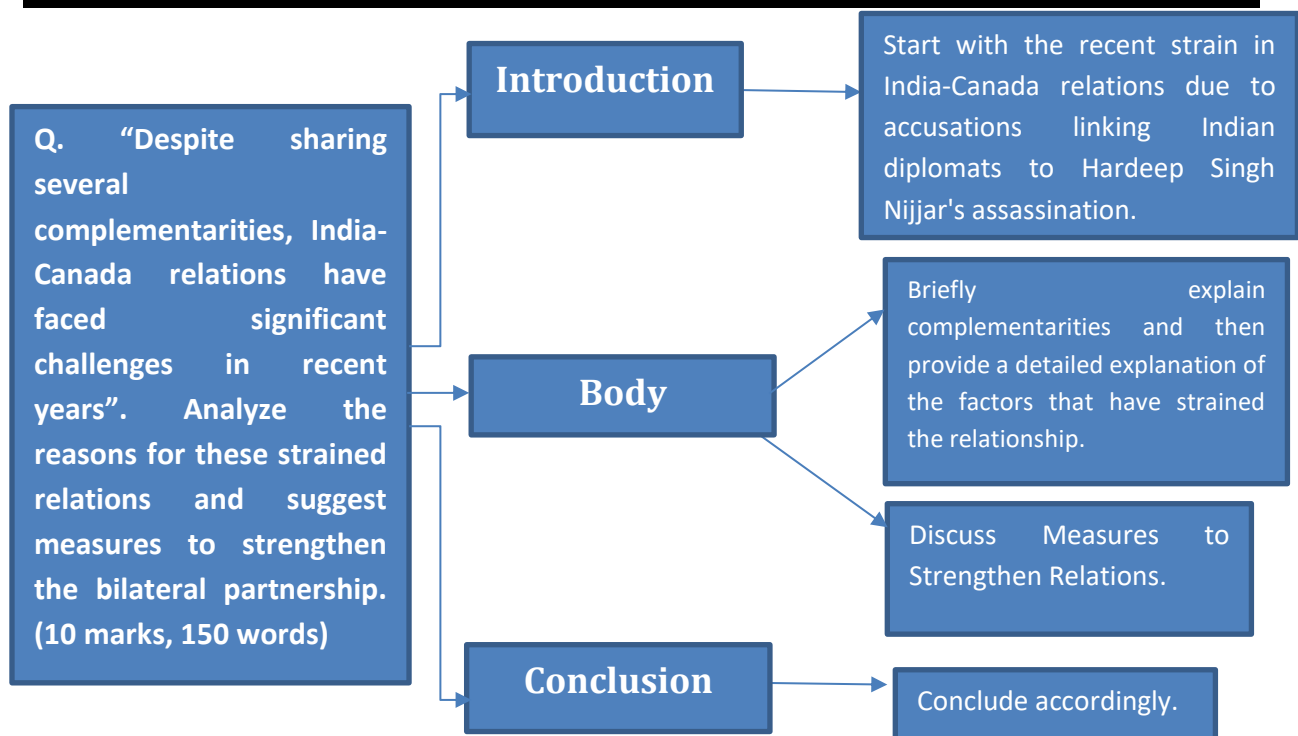
professional movement and agricultural concessions. Diversifying trade in sectors like IT, pharmaceuticals, and renewable energy will create a resilient economic partnership.

- **Building Trust in Bilateral Relations:** High-level dialogues between political leaders and officials should be increased to improve trust. Platforms like G20 and the Commonwealth can be used to collaborate on global issues such as counter-terrorism, climate change, and development.
- **People-to-People Connectivity:** Promoting educational and cultural exchanges, expanding scholarships, and improving air connectivity and visa processes will enhance mutual understanding and boost tourism and economic ties.
- **Strategic Cooperation in Indo-Pacific:** Canada and India can strengthen cooperation in areas like maritime security and regional stability in the Indo-Pacific, countering China's influence and advancing mutual strategic interests.
- **Principle of Reciprocity:** Relations should be based on equality, mutual respect, and reciprocity, ensuring that both nations uphold their responsibilities and respect each other's sovereignty.

PRACTICE QUESTION

Q. "Despite sharing several complementarities, India-Canada relations have faced significant challenges in recent years". Analyze the reasons for these strained relations and suggest measures to strengthen the bilateral partnership. (10 marks, 150 words)

APPROACH



MODEL ANSWER

India-Canada relations have recently been marked by heightened tensions, particularly after the Canadian government accused Indian diplomats of involvement in the **murder of Hardeep Singh Nijjar in 2023**. This issue has escalated into diplomatic expulsions and visa suspensions, severely affecting the bilateral relationship.

India and Canada share complementarities in political values, economic interests, and strategic goals, supported by strong **people-to-people ties through the Indian diaspora**. **Both democracies** offer opportunities for collaboration in sectors such as IT, pharmaceuticals, renewable energy, and education. **Canada's natural resources and energy reserves, combined with India's growing market and technological expertise**, present significant potential for deeper trade and investment. However, despite these shared strengths, the relationship has yet to fully realize its potential.

Reasons for Strained India-Canada Relations:

1. **Khalistan Issue:** The rise of Khalistani extremism in Canada and its perceived tolerance by the Canadian government have been major points of contention for India. India views **Canada's inability to take decisive action** against these elements as a **threat to its sovereignty**, particularly as separatist activities continue to gain traction within Canadian borders.
2. **Rising Sectarian Violence:** Incidents of temple **vandalism, hate crimes, and violence against Indian nationals** in Canada have increased, further straining the relationship. These acts, often associated with extremist groups, undermine trust between the two countries.
3. **Lack of Clear Diplomatic Engagement:** Canada's inconsistent policies toward India have hindered progress in bilateral relations. While Canada has shown interest in furthering ties, its lack of a clear strategy to engage effectively with India has led to missed opportunities, particularly in the fields of trade and security cooperation.
4. **China Factor:** Canada's relatively stronger relationship with China, particularly in areas like trade and cybersecurity cooperation, has left India feeling sidelined. Despite **Canada's Indo-Pacific strategy**, which names India as a crucial partner, its deeper engagement with China poses a challenge for India-Canada relations.
5. **Low Trade Levels:** Trade between India and Canada remains significantly below potential. The two countries have been negotiating a **Comprehensive Economic Partnership Agreement (CEPA)** and a **Foreign Investment Promotion and Protection Agreement (FIPA)** for years, but talks have stalled due to disagreements on key issues such as the movement of professionals and agricultural concessions.

6. **Interference in Domestic Affairs:** Canada's stance on certain domestic issues in India, such as the 2020 farmer protests, has further strained relations. India perceives such comments as interference in its internal matters, which has led to diplomatic friction.

Measures to Strengthen India-Canada Relations:

1. **Resolving the Khalistan Issue:** Both countries need to engage in open and constructive dialogue to address the Khalistan issue. **Strengthening legal frameworks** to deal with extremism and enhancing **intelligence-sharing** mechanisms can help both nations mitigate the impact of separatist activities.
2. **Reviving Trade Talks:** Efforts to resume negotiations for **Comprehensive Economic Partnership Agreement (CEPA) and a Foreign Investment Promotion and Protection Agreement (FIPA)** should be prioritized. Flexibility on key issues, such as professional mobility for India and agricultural concessions for Canada, will be essential in unlocking the trade potential between the two countries. Diversifying trade in sectors like IT, renewable energy, and pharmaceuticals could also be beneficial.
3. **Enhanced Diplomatic Engagement:** Increased frequency of high-level dialogues and ministerial meetings can help rebuild trust between the two nations. Strategic dialogues on issues **like counter-terrorism, climate change, and economic cooperation** should be revitalized to provide a platform for regular engagement.
4. **Focus on People-to-People Connectivity:** Expanding educational and cultural exchanges will further strengthen the interpersonal ties between the two countries. Additionally, improving air connectivity and easing visa processes will promote tourism and enhance mutual understanding.
5. **Strengthening Strategic Cooperation in the Indo-Pacific:** **Canada's Indo-Pacific strategy, which identifies India as a key partner**, offers significant opportunities for cooperation in areas like maritime security and regional stability. By collaborating in multilateral forums and regional groupings, the two countries can counterbalance China's growing influence and enhance their strategic partnership.

India-Canada relations, despite their complementarities, have struggled to flourish due to differences over key issues like the Khalistan movement, trade disputes, and diplomatic engagement. Both nations must work towards resolving these issues through constructive dialogue, mutual respect, and stronger strategic cooperation. By capitalizing **on shared interests, such as trade, education, and Indo-Pacific security**, India and Canada can build a more resilient and mutually beneficial partnership in the future.

17. INDIA-BHUTAN

IMPACT ANALYSIS

SYLLABUS:

GS 2 > International Relations >> India's Neighbourhood

REFERENCE NEWS:

Prime Minister Narendra Modi held a meeting with his Bhutanese counterpart Tshering Tobgay and called Bhutan India's "special friend." He emphasized that the cooperation between the two nations will continue to get better in the times to come.

In a significant step towards promoting sustainable transportation solutions, Shri Hardeep Singh Puri, Minister of Petroleum & Natural Gas, showcased India's advancements in green hydrogen mobility by demonstrating a hydrogen-fuelled bus powered by Indian Oil to Prime Minister of Bhutan, Shri Tshering Tobgay and his delegation.

HISTORY OF INDIA-BHUTAN RELATIONS:

- **Early Engagement (1910-1947):** Bhutan historically maintained its sovereignty by limiting external engagements. The **1910 Treaty of Punakha** with British India allowed Bhutan to retain its internal autonomy while delegating some aspects of its foreign policy to British India, laying the foundation for future bilateral ties.
- **Post-Indian Independence and Treaty of Friendship (1949):** After India gained independence, Bhutan was one of the first countries to recognize it. The two nations signed the **Indo-Bhutan Treaty of Friendship** in **1949**, which laid the framework for their modern relationship. Under this treaty, Bhutan agreed to seek India's guidance in foreign policy, while India promised non-interference in Bhutan's internal matters.
- **Deepening Economic and Strategic Ties (1950s-1980s):** Bhutan aligned closely with India following **China's annexation of Tibet**. India saw Bhutan as strategically important to its **Himalayan frontier policy**. Prime Minister **Jawaharlal Nehru's 1958 visit** to Bhutan emphasized India's commitment to Bhutan's sovereignty and security. India also initiated significant **economic assistance programs** during Bhutan's early development phase, focusing on infrastructure, education, and military modernization. Project Dantak established in 1961 was tasked to construct the pioneering motorable roads, airports etc.
- **Transition to Greater Sovereignty:** The India-Bhutan Foundation, established in 2003, promotes educational, cultural, and scientific exchanges. Also, pilgrimage to Buddhist sites in India remains a significant cultural connection. In 2007, the two countries revised the 1949 treaty, granting Bhutan greater autonomy. The new treaty **removed the requirement for Bhutan to seek India's guidance on foreign**

policy, strengthening its sovereign status. This revision marked a transition towards a more balanced relationship,

- **Recent Engagements and Contemporary Relations (2008-Present):** India continues to play a crucial role in Bhutan's development. It has supported **hydropower projects**, which generate revenue for Bhutan and supply clean energy to India. India remains Bhutan's **largest trading partner**, accounting for about 73% of its total trade.

SIGNIFICANCE OF INDIA-BHUTAN TIES:

- **Strategic and Security Importance:** Bhutan is of critical strategic importance as a buffer between India and China, especially near the sensitive **Siliguri Corridor** (Chicken's Neck), which connects India's northeastern states to the mainland
 - **Doklam Standoff (2017):** The standoff between India and China at **Doklam Plateau**, which lies at the tri-junction of India, Bhutan, and China, highlighted Bhutan's role in regional security. India's intervention was crucial in preventing Chinese infrastructure development in this strategic area.
- **Economic Cooperation and Trade:** India is Bhutan's **largest trading partner**, accounting for 73% of Bhutan's total trade. In **2022-23**, the bilateral trade reached **USD 1.6 billion**, with key exports including **hydropower, ferro-silicon, and agricultural products**. The **India-Bhutan Agreement on Trade, Commerce, and Transit** facilitates **duty-free trade and access to global markets** through Indian ports
- **Hydropower Cooperation: Mutually Beneficial Hydropower Projects** in Bhutan like **Mangdechhu (720 MW)** and ongoing developments at **Punatsangchhu-I and II** contribute to Bhutan's economy while providing clean energy to India.
- **Revenue and Energy Security:** Hydropower constitutes a significant part of Bhutan's national revenue, making it **South Asia's highest per capita income** country. India benefits from a stable and sustainable source of electricity from these projects.
 - Under the South Asian Association for Regional Cooperation (SAARC) currency swap arrangement, a USD 200 million arrangement was made to manage Indian rupee liquidity and ease foreign exchange pressures in November 2022.
- **Developmental and Educational Support:** India has consistently provided aid to Bhutan's **Five-Year Plans**. For the **12th Five-Year Plan (2018-23)**, India committed **INR 4,500 crore** to Bhutan's socio-economic development projects.
- **Education and Capacity Building:** India offers **scholarships** and skill development programs to Bhutanese students. Over **4,000 Bhutanese students** study in Indian universities, while scholarships such as the **Nehru-Wangchuck Scholarship** further strengthen educational ties. More than 50,000 Indians work in Bhutan, contributing significantly to various sectors.

- India and Bhutan have established space cooperation with the India-Bhutan SAT, launched in November 2022. It aids in natural resource management and has a digital repeater serving the amateur radio community.
- **Shared Buddhist Heritage:** Bhutan and India share deep cultural and religious links, with Bhutanese pilgrims frequently visiting **Bodh Gaya** and other Buddhist sites in India. This cultural connection reinforces people-to-people ties and promotes tourism
- **Bilateral Celebrations:** India and Bhutan celebrate their diplomatic relationship through exchanges in arts, education, and culture. The **India-Bhutan Foundation**, established in 2003, promotes such initiatives
- **Geopolitical and Diplomatic Support:** India has historically supported Bhutan's sovereignty and facilitated its engagement in international forums. India's assistance was crucial in Bhutan's transition to **democracy in 2008**, symbolizing India's role as a trusted partner
- **Sustainable Development:** India emphasised the country's commitment to sustainable energy solutions by showcasing its progress in green hydrogen technology by presenting a hydrogen-fuelled bus, highlighting the country's advancements in sustainable mobility.

CHALLENGES IN INDIA-BHUTAN RELATIONS:

- **Geopolitical Pressures and China's Growing Influence:** China's Diplomatic Engagement with Bhutan and recent boundary talks and high-level meetings have raised concerns in India. China's growing economic and military influence in the region **poses a challenge to India's strategic interests in Bhutan.**
 - In 2023, Bhutan's foreign minister visited China, signalling a potential shift in Bhutan's foreign policy towards balancing relations between China and India, which could complicate India's strategic calculus
- **Economic Dependency and Diversification Challenges:** Bhutan is heavily dependent on India for economic assistance, with 73% of its external grants coming from India's contribution to its Five-Year Plans. This dependency limits Bhutan's ability to diversify its economy and foreign partnerships
- **Issue of Trade Balance:** Bhutan exports hydropower to India, but imports a majority of its goods from India. Any disruptions in trade or Indian aid could impact Bhutan's economy significantly
- **Environmental and Financial Risks:** While hydropower projects are central to Bhutan's economy, they face delays and cost overruns. For example, the

Punatsangchhu-I and II projects have seen delays due to geological challenges, raising Bhutan's financial burden and affecting its revenue streams.

- The original **BBIN (Bangladesh, Bhutan, India, and Nepal) Motor Vehicles Agreement** was signed by all four nations in June 2015. Due to objections in **Bhutan related to sustainability and environmental issues**, the Bhutanese parliament opted not to endorse the initiative. As a result, the other three countries moved forward with the vehicular movement initiative (**BIN-MVA**) in 2017.
- **Debt Issues:** Bhutan's dependence on hydropower loans from India has also increased its debt burden, with a large portion tied to energy projects that are yet to become fully operational
- **Cultural and Socio-Political Dynamics:** Many young Bhutanese migrate to India for education, which creates a brain drain in Bhutan. The lack of local opportunities forces skilled professionals to seek employment abroad, affecting Bhutan's workforce development
- **Changing Bhutanese Public Sentiment:** As Bhutan diversifies its international relations, some sections of its population are advocating for reduced dependence on India. This shift in public opinion could affect the traditionally strong ties between the two countries
- **Balancing Act in Bhutan's Foreign Policy:** Bhutan is navigating a delicate balance between maintaining close ties with India and exploring engagement with China to resolve border issues. India closely watches these developments, concerned that greater Chinese influence could alter Bhutan's foreign policy priorities.
 - China has increased its economic support to Bhutan through offers of infrastructure development and tourism cooperation, challenging India's influence

WAY FORWARD:

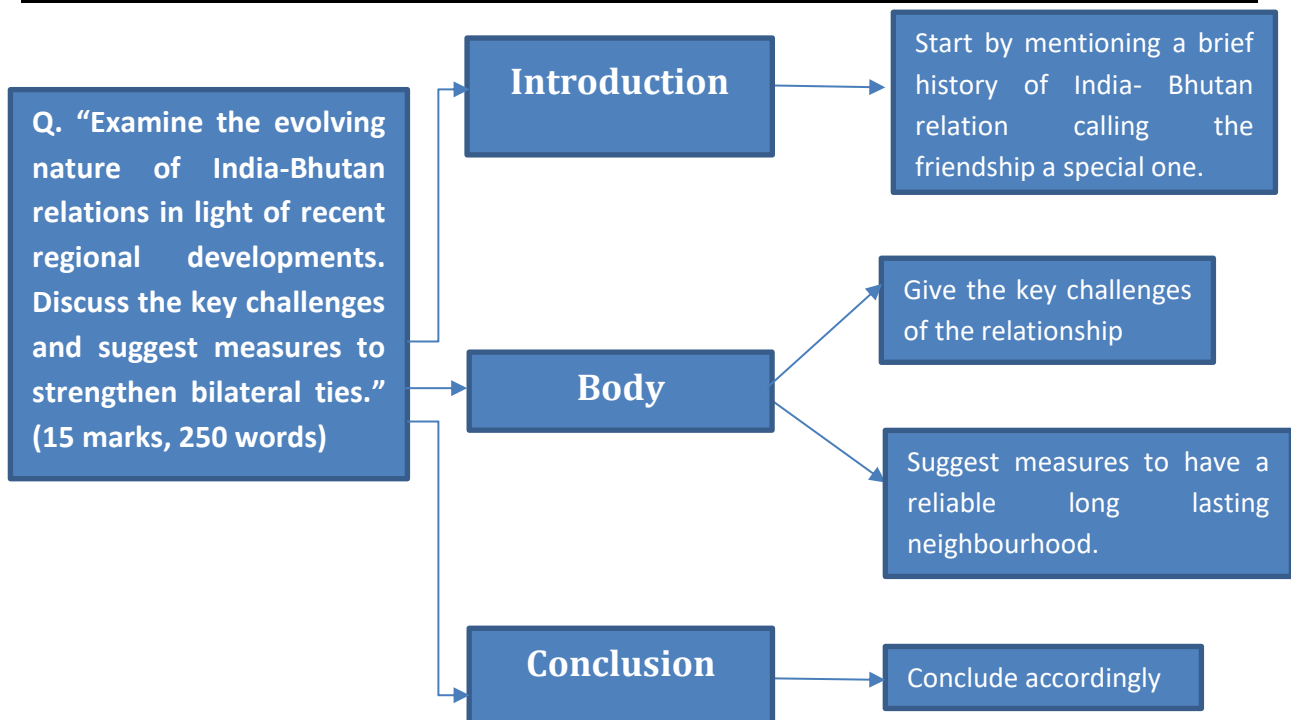
- **Expand Investments Beyond Hydropower:** While hydropower remains central to the relationship, India and Bhutan should diversify economic cooperation into tourism, IT, agriculture, and healthcare sectors. **Gelephu-Kokrajhar Link Between Bhutan and India** a proposed rail line connecting Bhutan directly to the Indian railway network, facilitating easier access to Bangladesh through the Haldibari-Chilahati interchange.
- **Resolve Delays in Hydropower Projects:** The completion of Punatsangchhu-I and II should be prioritized to reduce financial burdens on Bhutan. India can support with technical expertise and concessional financing to fast-track projects

- **Promote Free Trade:** Expanding the India-Bhutan Agreement on Trade, Commerce, and Transit to include more goods and trade routes will boost Bhutan's exports and reduce its dependency on India for imports
- **Strengthen Security and Strategic Collaboration:** India can offer Bhutan continued support in border management and intelligence sharing, especially in sensitive areas like Doklam, to counter Chinese influence.
- **Joint Security Training Programs:** India and Bhutan could enhance military-to-military cooperation by conducting joint training exercises to secure shared interests along their borders like common civil services training by India. Strengthen the current IMTRAT- Indian Military Training Team for training Royal Bhutan Army .
- **Promote People-to-People and Educational Exchanges:** Scholarships and exchange programs can be expanded, particularly in STEM fields and vocational training, ensuring that Bhutanese youth gain skills relevant to the country's development.
- **Encourage Cultural Exchanges and Tourism:** Joint promotion of Buddhist heritage tourism can attract international tourists and boost Bhutan's economy. This will also strengthen cultural ties through pilgrimages to sites like Bodh Gaya and Rajgir
- **Adopt a Balanced Foreign Policy:** India should respect Bhutan's efforts to diversify its foreign policy, ensuring that Bhutan feels no pressure to choose between its two neighbours, India and China.
- **Engage with Bhutan on China Relations:** India must maintain open channels of communication with Bhutan about its boundary discussions with China. Collaborative efforts can ensure that Bhutan's engagements with China do not compromise India's security interests
- **Enhance Bhutan's Role in SAARC and BIMSTEC:** India can promote Bhutan's participation in regional organizations to increase its diplomatic engagement and visibility.
- **Encourage Bhutan's Green Energy Exports:** Bhutan's hydropower surplus can be integrated into larger regional energy grids, further enhancing its economic linkages with other South Asian countries
- **Promote Sustainable Development:** India's development cooperation with Bhutan should focus on sustainable infrastructure and climate resilience, aligning with Bhutan's focus on environmental preservation.
- **Collaborate on Indo-Pacific Strategy:** India can engage Bhutan within the broader Indo-Pacific framework by encouraging participation in regional dialogues on sustainable development, peace, and environmental cooperation

PRACTICE QUESTION

Q. "Examine the evolving nature of India-Bhutan relations in light of recent regional developments. Discuss the key challenges and suggest measures to strengthen bilateral ties." (15 marks, 250 words)

APPROACH



MODEL ANSWER

India and Bhutan share a special friendship based on cultural affinity, economic cooperation, and strategic interests. The relationship, built on the foundation of the 1949 Treaty of Friendship, has evolved through shared values and mutual cooperation. However, regional challenges, particularly China's growing influence, along with Bhutan's economic dependence on India, necessitate recalibrating this partnership to adapt to changing geopolitical realities.

KEY CHALLENGES IN INDIA-BHUTAN RELATIONS

1. **China's Growing Influence:** China-Bhutan Boundary Talks: Bhutan's recent engagement with China to resolve border disputes raises concerns for India, particularly near Doklam and the Siliguri Corridor, which is critical to India's northeastern security
 - **Example:** Bhutan's foreign minister's visit to China in 2023 signaled potential diplomatic shifts, complicating India's strategic calculus

2. **Economic Dependency and Diversification Issues:** Bhutan relies on India for 73% of its total trade and receives significant financial aid through India's Five-Year Plans. This dependency limits Bhutan's ability to diversify its economy and foreign partnerships
 - Trade imbalances persist, with Bhutan exporting hydropower to India but importing the majority of other goods from India, making its economy vulnerable to external shocks
3. **Environmental and Hydropower Challenges:** Delays in major hydropower projects like Punatsangchhu-I and II have increased Bhutan's debt burden and affected revenue streams, creating financial stress
 - Environmental concerns around sustainable development also play a role, as seen in Bhutan's withdrawal from the BBIN Motor Vehicles Agreement over sustainability concerns
4. **Socio-Cultural and Migration Issues**
 - Brain Drain: A significant number of Bhutanese youth migrate to India for higher education and employment, leading to workforce challenges in Bhutan
 - Changing Public Sentiment: As Bhutan explores new diplomatic engagements, some sections of the population advocate for reduced reliance on India, potentially altering the dynamics of the bilateral relationship

WAY FORWARD FOR STRENGTHENING INDIA-BHUTAN RELATIONS

1. Economic Diversification and Trade Expansion

- Promote Trade beyond Hydropower: India and Bhutan can expand trade in areas like IT, tourism, healthcare, and agriculture to reduce economic dependency on a single sector
- Resolve Hydropower Delays: India can assist Bhutan with technical support and concessional financing to complete stalled projects like Punatsangchhu, reducing Bhutan's debt burden

2. Strengthen Security and Strategic Cooperation

- Joint Border Management: Enhanced intelligence sharing and security cooperation near Doklam and other sensitive areas can counter external threats.
- Civil and Military Training: India can offer joint training programs for Bhutan's civil servants and military personnel to enhance capacity-building efforts

3. Encourage People-to-People and Cultural Exchanges

- Scholarships and Skill Development Programs: Expanding scholarships for Bhutanese students in STEM and vocational courses will help reduce brain drain and foster talent retention
- Cultural Collaboration: Joint promotion of Buddhist tourism will strengthen people-to-people ties and boost Bhutan's tourism industry

4. Respect Bhutan's Sovereignty while Navigating Regional Geopolitics

- Balanced Foreign Policy: India must respect Bhutan's efforts to diversify its foreign policy and engage with China, while ensuring that these engagements do not compromise India's strategic interests
- Regional Integration: Bhutan's role in organizations like SAARC and BIMSTEC should be enhanced to promote regional connectivity and economic cooperation

5. Focus on Sustainable Development

- India can collaborate with Bhutan on green energy initiatives, such as hydrogen mobility, aligning with Bhutan's emphasis on environmental preservation

India and Bhutan's relationship, though strong, faces emerging challenges that require mutual respect, collaboration, and adaptation to new geopolitical realities. By expanding economic cooperation, enhancing strategic engagement, and respecting Bhutan's sovereign choices, India can ensure that this special friendship continues to thrive. Both nations must work together to navigate regional challenges and foster a mutually beneficial partnership in the evolving global landscape.

18. INDIA-TAIWAN

IMPACT ANALYSIS

SYLLABUS:

GS 2 > International Relations > Bilateral relations

REFERENCE NEWS:

In a significant boost to ties with New Delhi, Taiwan opened the Taipei Economic and Cultural Centre (TECC) in Mumbai. It is the third such centre in India, following its representative centres in Delhi (1995) and Chennai (2012).

Since **India does not maintain formal diplomatic relations with Taiwan**, it is through these centres that the latter conducts its diplomatic missions in the country. They act as the de facto consulates in India.

HISTORY OF INDIA-TAIWAN RELATIONS:

- **Early Period – Limited Engagement (1950s to 1990s)**
 - India was among the first non-communist countries to recognize the **People’s Republic of China (PRC)** in 1950, aligning with the “**One-China Policy**” and limiting official engagement with Taiwan.
 - Initial interactions with Taiwan were cautious, and India prioritized its relationship with the PRC. However, some informal ties, including cultural exchanges and backchannel cooperation, persisted.
- **Post-Cold War Period – Look East Policy and Renewed Interest (1990s)**
 - In 1991, India launched its **Look East Policy**, signalling a shift in its foreign policy to engage more actively with East and Southeast Asia. Taiwan became an important focus during this phase.
 - **1995 and 1996** marked a turning point with the establishment of **representative offices**—the Taipei Economic and Cultural Centre in New Delhi and the India-Taipei Association in Taipei. Although not formal embassies, these offices enabled deeper economic and cultural ties.

Economic and Cultural Engagements (2000s to Present)

- Economic ties between India and Taiwan grew steadily, with bilateral trade surpassing **\$7 billion** by 2021. Taiwanese investments in India's manufacturing, technology, and electronics sectors—such as **Foxconn’s** involvement in semiconductors—highlighted increasing economic cooperation.

- Cultural exchanges also deepened, with regular **Taiwanese film screenings at Indian festivals** and joint research initiatives between educational institutions.
- **Geopolitical Shift and Strengthening of Ties (2010s-Present)**
 - Relations gained momentum under Prime Minister **Narendra Modi** and Taiwan's **New Southbound Policy** launched in 2016, which prioritized India for trade, talent exchange, and regional cooperation.
 - Both India and Taiwan view each other as strategic partners amid **China's growing assertiveness**, seeking to enhance ties in technology and defence without provoking Beijing. In 2021, **parliamentary interactions** increased, and discussions on a possible **free trade agreement** commenced.

SIGNIFICANCE OF INDIA-TAIWAN RELATIONS:

- **Defence and Strategic Cooperation**
 - **Shared Strategic Interests:** Both India and Taiwan view **China's growing assertiveness** as a common threat, driving informal cooperation to safeguard their interests in the Indo-Pacific region.
 - **Intelligence Sharing:** India and Taiwan have collaborated on **intelligence gathering**, particularly regarding Chinese activities in **Tibet** and the South China Sea
 - **Potential Collaboration in Cybersecurity:** Taiwan's advanced expertise in **cybersecurity** could complement India's defence infrastructure, especially given the increasing frequency of cyber threats from China
- **Technology and Semiconductor Cooperation**
 - **Semiconductor Industry:** Taiwan is a global leader in **semiconductors**, producing **90% of advanced chips** required for electronics. India, under initiatives like **Make in India**, seeks to develop its semiconductor manufacturing capacity, with Taiwanese companies like **Foxconn** investing in India
 - **Technology Transfer:** Collaborations in **green technology**, electronics, and artificial intelligence could bolster India's tech ecosystem and reduce dependence on other countries for critical components
 - **FICCI** reports that India and Taiwan can create resilient supply chains, advance new technologies and address global economic challenges as some states like Telangana, Karnataka have concluded MoUs with Taiwan to boost investments in infrastructure and other sectors.
- **Economic and Trade Relations**

- **Rising Bilateral Trade:** In 2024, bilateral trade reached over **\$10.1 billion**, with over **120 Taiwanese companies** operating in India across sectors like **electronics, manufacturing, and automobiles** making India Taiwan's 16th largest trading partner.
- **Investment Opportunities:** Taiwan's investments in **electric vehicles** and **consumer electronics** align with India's industrial goals. A potential **free trade agreement** under negotiation could further enhance economic ties
- **Global Geopolitics and Indo-Pacific Strategy**
 - **Balancing China:** Both India and Taiwan play critical roles in the evolving **Indo-Pacific strategy**. India's **Act East Policy** complements Taiwan's **New Southbound Policy**, fostering greater regional connectivity and economic cooperation
 - **Countering Chinese Influence:** Strengthening India-Taiwan ties serves as a **strategic hedge** against China's dominance. Taiwan offers India a model of **economic resilience** and democratic governance, counterbalancing China's authoritarian model in Asia
 - With the third office, the number of Taiwanese diplomats in India could rise to thirty two.
- **Resource and Talent Exchange**
 - **Educational Exchanges:** With nearly **3,000 Indian students studying in Taiwan**, academic cooperation helps both countries build a skilled workforce. Taiwan's focus on **STEM fields** aligns with India's growing emphasis on research and innovation
 - **Talent Mobility:** Taiwan seeks to attract Indian professionals in **IT and engineering**, which could benefit both economies through enhanced human capital exchange
 - **The Mumbai TECC** is expected to help around 260 Taiwanese companies which have invested 5 billion USD and added around 1.7 lakh jobs in India's western coast

CHALLENGES TO INDIA-TAIWAN RELATIONS:

- **China's Opposition and the One-China Policy:** India recognizes the One-China Policy, which limits its ability to engage formally with Taiwan.

- China actively opposes any diplomatic engagement between India and Taiwan, viewing it as interference. This restricts formal recognition and high-level meetings between Indian and Taiwanese officials.
- **Risk of Diplomatic Fallout:** Strengthening ties with Taiwan could provoke Beijing, which might retaliate economically or politically, causing a spill-over effect across the India's borders especially along contentious areas like the Ladakh border.
- **Lack of Formal Diplomatic Relations:** Neither India nor Taiwan maintains formal embassies in each other's countries, relying instead on representative offices. This limits the scope of political engagement and joint policymaking
 - **Transactional Relationship:** Engagement remains largely economic and informal, with limited political depth. Without diplomatic recognition, joint actions in sensitive areas like defence remain constrained
- **Limited Awareness and Infrastructure Gaps:** Taiwanese businesses often struggle to navigate India's regulatory environment, such as tax policies, labour laws, and market dynamics. This has restricted the scale of Taiwanese investments in India.
- **Internal and External Balancing:** India has to tread carefully, balancing its engagement with Taiwan against maintaining stable relations with China. Overplaying Taiwan's role could escalate India-China tensions and hinder diplomatic efforts in other areas
- **Inconsistent Policy Focus:** While Taiwan is a priority under India's Act East policy, shifts in domestic priorities or geopolitical calculations could slow the momentum of the relationship.
- **Geopolitical Constraints:** Taiwan faces **diplomatic isolation**, with only 13 countries formally recognizing it. This limits Taiwan's ability to engage on equal terms with India and other global powers
- **Indian Hesitancy in Security Cooperation:** While Taiwan offers expertise in cybersecurity and defence technology, India remains cautious about formal military cooperation to avoid provoking China

WAY FORWARD:

- **Expand Trade and Investment:** India can encourage Taiwanese investments in key sectors like semiconductors, electronics, and green technology under the Make in India and Digital India initiatives. This can help India reduce its dependence on other countries for critical technologies.

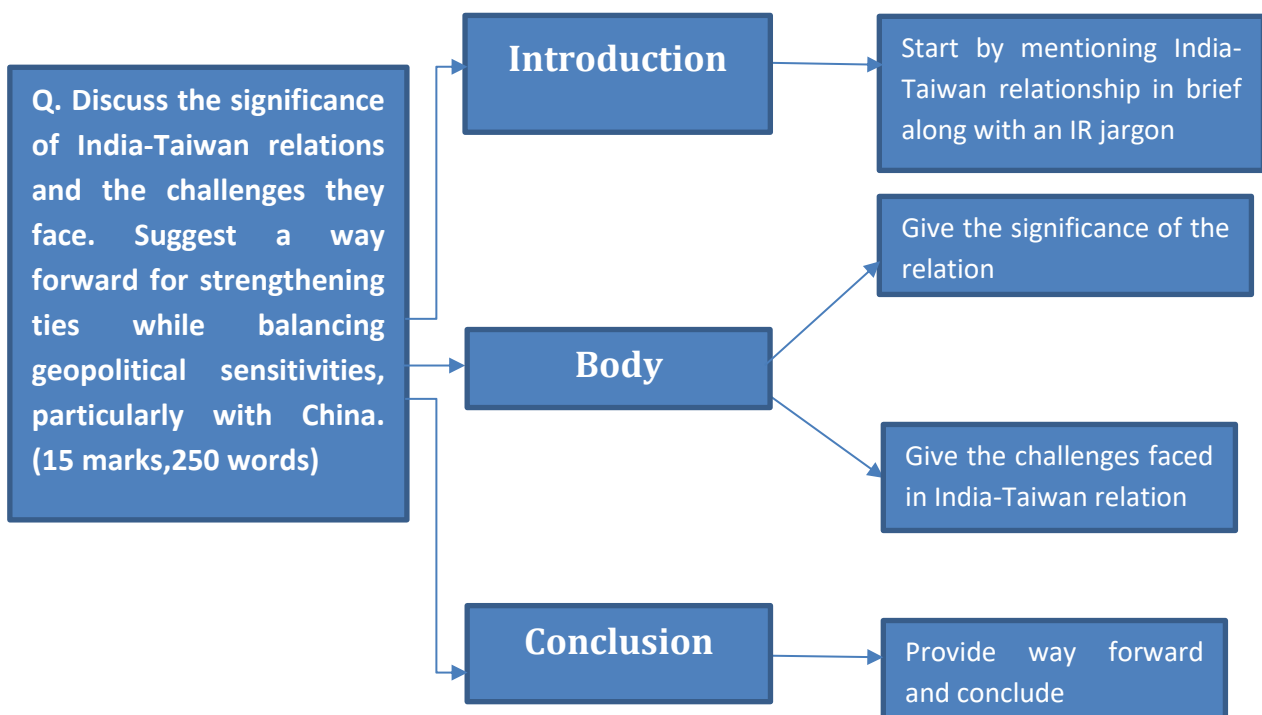
- **Focus on Critical Sectors:** Collaboration in semiconductors, AI, and cyber technologies will enhance India's resilience and support its industrial ambitions without directly provoking China.
 - Taiwan's Foxconn has already invested in India's electronics sector. Future cooperation can focus on developing semiconductor manufacturing hubs
- **Deepen People-to-People Engagement and Cultural Ties:** India can foster greater academic exchanges by encouraging Indian students to pursue higher education in Taiwan, especially in STEM fields. Taiwan's need for skilled professionals could also align with India's surplus human resources. Organizing joint film festivals, exhibitions, and conferences will build cultural goodwill while maintaining a low geopolitical profile
- **Engage in Multi-Track Diplomacy:** Strengthen **Informal Diplomacy** by continuing parliamentary exchanges and unofficial dialogues with Taiwan, using forums like the India-Taiwan Parliamentary Friendship Group. This ensures dialogue without upsetting China.
 - In 2021, Indian parliamentarians attended Taiwanese President Tsai Ing-wen's virtual swearing-in ceremony—signalling cooperation without formal recognition
- **Leverage Global Platforms for Strategic Coordination:** Taiwan's inclusion in Indo-Pacific frameworks focused on maritime security and regional connectivity can align with India's strategic objectives without direct confrontation with China.
 - India can coordinate with Taiwan under the Quad Plus framework, involving Japan, Australia, and the U.S., focusing on non-military areas such as supply chain resilience
- **Maintain Strategic Ambiguity to Avoid Provoking China:** India should avoid official pronouncements that openly challenge the One-China Policy. Instead, India can adopt a **pragmatic stance**, engaging Taiwan economically and technologically without formal diplomatic recognition
- **Focus on "One-India" Principle:** India could continue subtly pushing for recognition of its own sovereignty issues, such as in Kashmir and Arunachal Pradesh, in response to China's pressure on Taiwan
- **Develop Contingency Plans for Geopolitical Shifts:** India should plan for contingencies, such as maintaining military balance in the Taiwan Strait, otherwise could disrupt global semiconductor supplies. A bilateral task force on supply chain security could mitigate such risks

- **Engage in Multilateral Forums:** India can support Taiwan's inclusion in forums like the World Health Assembly (WHA) and Asia-Pacific Economic Cooperation (APEC) to promote Taiwan's international standing. India and other powers can follow a collaborative approach by drawing a redline for any Chinese effort to take Taiwan by force.

PRACTICE QUESTION

Q. Discuss the significance of India-Taiwan relations and the challenges they face. Suggest a way forward for strengthening ties while balancing geopolitical sensitivities, particularly with China. (15 marks,250 words)

APPROACH



MODEL ANSWER

India and Taiwan have developed a **multi-faceted relationship**, especially in the domains of trade, technology, and cultural exchanges, despite the absence of formal diplomatic ties. The relationship is shaped by **strategic considerations** within the Indo-Pacific framework and the challenges posed by **China's assertiveness**. Taiwan's growing economic and technological strengths complement India's industrial ambitions, but deeper engagement must navigate **China's opposition** and diplomatic complexities.

SIGNIFICANCE OF INDIA-TAIWAN RELATIONS

1. **Economic and Technological Cooperation:** Taiwan is a **global leader in semiconductors**, producing **90% of advanced chips** critical for electronics. India's **Make in India initiative** seeks to develop semiconductor manufacturing capacity, with **Foxconn** and other Taiwanese companies investing in India.
 - In **2024**, bilateral trade reached **\$10.1 billion**, making India Taiwan's **16th largest trading partner**
2. **Defence and Strategic Cooperation:** Both countries share concerns about **China's assertiveness**, leading to informal **intelligence sharing** regarding **Chinese activities in Tibet and the South China Sea**.
 - Taiwan's **cybersecurity expertise** complements India's defense infrastructure, enhancing protection against cyber threats
3. **Global Geopolitics and Indo-Pacific Strategy:** India's **Act East Policy** aligns with Taiwan's **New Southbound Policy**, promoting regional connectivity. The two nations are potential partners in **Indo-Pacific frameworks** that seek to counterbalance China's influence
4. **Resource and Talent Exchange:** **Educational and talent mobility** initiatives have seen nearly **3,000 Indian students** pursuing higher education in Taiwan, especially in **STEM fields**. Taiwan also seeks **IT professionals and engineers** from India to fill skill gaps in its industries

CHALLENGES TO INDIA-TAIWAN RELATIONS

1. **China's Opposition and the One-China Policy:** India recognizes the **One-China Policy**, limiting formal diplomatic engagement with Taiwan. Strengthening ties could provoke **retaliation from China**, especially on contentious issues like **Ladakh**.
2. **Lack of Formal Diplomatic Relations:** The absence of embassies and reliance on **representative offices** limits high-level political engagement. This also constrains deeper cooperation in sensitive sectors like **defence**.
3. **Economic and Infrastructure Barriers:** Taiwanese businesses face challenges in navigating **India's regulatory environment**, including tax policies and market dynamics, which have hindered investment expansion.
 - **Cultural differences** and limited awareness also pose barriers to collaboration
4. **Geopolitical Constraints:** Taiwan's diplomatic isolation (recognized by only **13 countries**) limits its ability to engage on equal terms with India. India must also **balance its engagement** with Taiwan against maintaining stable relations with China

WAY FORWARD FOR STRENGTHENING INDIA-TAIWAN RELATIONS

1. **Expand Trade and Investment:** Encourage **Taiwanese investments** in key sectors like **electronics, semiconductors, and electric vehicles** under the **Make in India initiative**.
 - A **bilateral free trade agreement** should be explored to enhance economic cooperation and create resilient supply chains
2. **Leverage Informal Diplomacy and People-to-People Ties:** Strengthen **parliamentary exchanges** and **cultural collaborations** to build goodwill. Participation in **joint conferences** and educational collaborations can sustain momentum without provoking China.
 - **Example:** The **India-Taiwan Parliamentary Friendship Forum** has enabled deeper engagement
3. **Engage in Indo-Pacific Frameworks:** Align Taiwan's expertise with India's **Indo-Pacific strategy**, focusing on **supply chain resilience** and maritime security under **Quad Plus initiatives** involving Japan, Australia, and the U.S.
4. **Maintain Strategic Ambiguity to Manage China's Sensitivities:** India can adopt a **pragmatic stance**, deepening ties with Taiwan without openly challenging the **One-China Policy**. Simultaneously, India should push for **recognition of its own sovereignty issues** (e.g., in **Kashmir**) in response to Chinese provocations
5. **Plan for Geopolitical Shifts:** India should **develop contingency plans** for potential crises in the **Taiwan Strait** to safeguard global semiconductor supplies. A **bilateral task force on supply chains** could mitigate risks from disruptions

India-Taiwan relations present immense potential in **trade, technology, and strategic cooperation**, offering mutual benefits while serving as a **counterbalance to China's influence**. However, strengthening this partnership requires a **careful balancing act** to avoid provoking China. By **expanding economic cooperation, leveraging informal diplomacy**, and participating in **regional frameworks**, India can enhance its ties with Taiwan without compromising its broader strategic interests.

GENERAL STUDIES III

19. MIDDLE-INCOME TRAP

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Economic Development > Indian Economy and issues relating to Growth

REFERENCE NEWS:

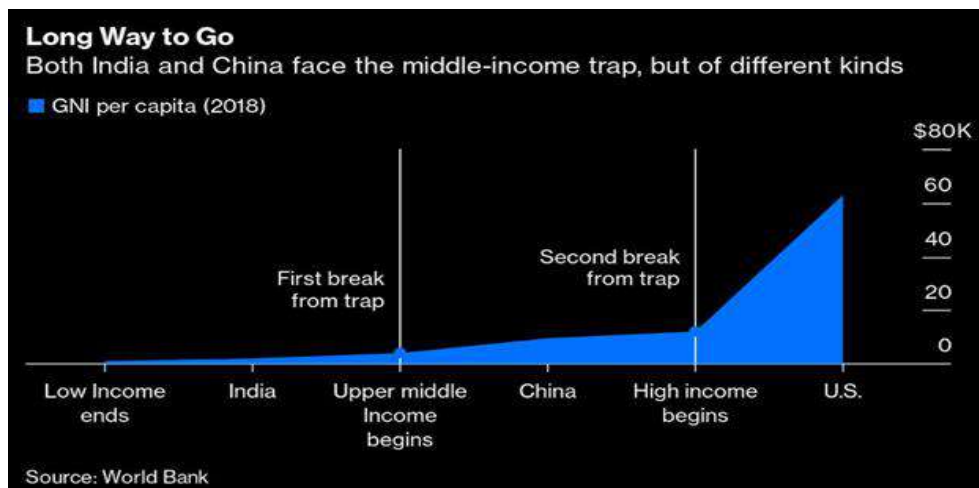
- The recently released World Development Report 2024, published by the World Bank, highlights the challenge of the middle-income trap, where countries experience a slowdown in growth as they reach higher income levels.

MORE ON NEWS:

- Drawing on insights from the World Development Report 2024, Indermit Gill, the World Bank's Chief Economist, highlights the significant challenges that India faces in transcending the middle-income trap. He emphasizes the need for greater economic freedom, enhanced educational quality, and equal opportunities for women. According to the report and Gill's analysis, without substantial reforms in these critical areas, India's progression to a high-income status remains uncertain.

THE MIDDLE-INCOME TRAP:

- The concept of the "middle-income trap" highlights a critical challenge for developing economies: **stagnation at a mid-level of income** with significant hurdles to achieving high-income status.
- According to the World Development Report 2024 by the World Bank, this stagnation **typically occurs** when a **nation's per capita income** reaches **approximately 11% of the U.S. figure**.
- Currently, **middle-income economies** are classified with per capita incomes ranging from **\$1,136 to \$13,845**.
- **In the past 34 years, only 34 nations** have successfully transitioned from this bracket to higher income levels, underscoring the difficulty of this economic leap.



CHALLENGES HINDERING INDIA'S ESCAPE FROM THE MIDDLE-INCOME TRAP:

- **Stagnating Productivity:**
 - India's productivity growth has been uneven across sectors. While the IT and services sectors have shown robust growth, traditional manufacturing and agriculture have not kept pace.
 - For instance, the **manufacturing sector's contribution to GDP** has hovered around **15-17% over the last decade**, significantly lower than in East Asian economies at similar stages of development.
 - Also, according to the World Bank, **India's labor productivity growth was approximately 4.6%** annually from 2011-2020, lower than the 6-7% needed to escape the middle-income trap.
- **Structural Constraints in the Economy:**
 - India's infrastructure deficits, such as inadequate power supply, poor transport networks, and inefficient ports, hinder economic efficiency and increase the cost of doing business.
 - For instance, the **World Economic Forum's Global Competitiveness Report** consistently ranks **India lower in infrastructure quality** compared to China and other East Asian nations that have successfully transitioned to high-income statuses.
- **Inequality and Inclusive Growth:**
 - High levels of inequality can limit the overall market size, as large segments of the population cannot afford more than basic goods. This reduces the potential for domestic-led growth and increases social and economic instability.
 - For instance, according to the **Oxfam Inequality Report 2020**, the **top 10% of the Indian population holds 77% of the total national wealth**, indicating significant income disparity.
- **Education and Skill Development:**

- India faces a significant challenge in upgrading its human capital, as evidenced by ongoing issues in the education system, such as high dropout rates and substandard learning outcomes.
- This challenge is starkly highlighted in the **Annual Status of Education Report (ASER) 2023**. According to this report, nearly **43% of adolescents** in the 14-18 age group **are unable to read English sentences adequately**. Furthermore, in rural areas, about **25% of these students struggle to read texts** that are expected of a second-grade level in their regional languages. These findings are indicative of deep-rooted **problems in primary education** that fail to equip students with necessary skills for a modern economy.
- **Demographic Challenges:**
 - While India's large youth population is often seen as a demographic dividend, it can also pose a challenge if the economy is unable to generate sufficient employment opportunities.
 - For instance, India's large youth population **faces significant employment challenges** despite being a potential demographic boon, as detailed in the '**India Employment Report 2024**' by the Institute for Human Development (IHD) and International Labour Organization (ILO). The report notes a **dramatic rise in youth unemployment**, which has nearly tripled from **5.7% in 2000 to 17.5% in 2019**, highlighting the urgency for targeted job creation strategies.
- **Regulatory and Governance Issues:**
 - Corruption, bureaucratic inefficiencies, and inconsistent policy frameworks deter investment, both domestic and foreign. This impacts the overall investment climate and economic growth prospects.
 - For instance, in the latest Transparency International's **Corruption Perceptions Index for 2023**, India is ranked **93rd out of 180 countries**, indicating ongoing governance challenges. This rank points to a slight deterioration from previous years, reflecting persistent issues in effectively addressing public sector corruption.
- **External Economic Shocks:**
 - India, like many developing countries, is vulnerable to external shocks such as **fluctuating oil prices, global trade wars, and financial market volatility**. These factors can derail growth trajectories and make it harder to maintain economic momentum.
 - For instance, a recent example of India being affected by external economic shocks is the global economic uncertainty triggered by the Russia-Ukraine conflict that began in early 2022. This conflict led to a sharp **increase in global commodity prices, particularly for crude oil, natural gas, and edible oils**, which are significant imports for India.

STRATEGIES FOR INDIA TO OVERCOME THE MIDDLE-INCOME TRAP:

- **Adopting the 3i Approach: Investment, Infusion, and Innovation:**
 - As highlighted in the **World Development Report 2024**, the "3i" approach—**investment, infusion, and innovation**—is crucial for transitioning from middle-income to high-income status. India should intensify its efforts in these three areas to stimulate economic growth and development:
 - **Investment:** Increase domestic and foreign investment in key sectors such as manufacturing and infrastructure. This includes improving the ease of doing business and enhancing public spending on critical infrastructure.
 - **Infusion:** Promote the infusion of new technologies into traditional industries and the broader economy to boost productivity and competitiveness.
 - **Innovation:** Foster a robust ecosystem for innovation through increased funding for research and development, support for startups, and partnerships between academia and industry.
- **Emphasizing Education and Skill Development:**
 - Prime Minister Narendra Modi has highlighted the importance of skill development, research, and job-based knowledge to make India a developed nation ("**Viksit Bharat**"). India must improve the quality of its education system to equip its young population with the skills needed for the jobs of tomorrow, particularly in **science, technology, engineering, and mathematics (STEM) fields**.
- **Economic Reforms for Higher Growth:**
 - **NITI Aayog** suggests that India needs to maintain a **growth rate of 7-10% over the next 20-30 years**. This requires substantial reforms in various sectors, including manufacturing, logistics, and energy. Efforts to reduce the rural-urban income gap and promote balanced regional development are also crucial.
- **Leveraging Demographic Dividends:**
 - India's youthful population is a significant asset. The government aims to harness this demographic dividend by fostering a skilled and employable workforce. This involves not only traditional education but also vocational training and digital literacy programs.
- **Improving Governance and Reducing Corruption:**
 - To attract investment and enhance public trust, India needs to **improve its governance frameworks and reduce corruption**. This includes streamlining bureaucratic processes, ensuring transparency in government dealings, and enforcing strict anti-corruption laws.
- **Addressing Structural Challenges:**

- India must continue to address structural challenges in its economy, such as inadequate infrastructure and the need for greater market competitiveness. **Improvements in logistics, power supply, and internet connectivity** will be key to supporting sustainable growth.

Examples of countries that came out of the middle income trap:

- **South Korea's Strategic Economic Planning:**
 - South Korea's government played a pivotal role in its transition by directing the economy towards export-oriented industrialization. The state not only guided private sector investment but also ensured discipline among economic elites, aligning their activities with broader national goals. This involved both support for successful ventures and the allowance of market exit for non-performers, thereby fostering a competitive yet managed economic landscape.
- **Chile's Targeted Sector Support**
 - Chile, while not a member of a supranational entity like the European Union that facilitates economic integration among its members, successfully navigated the middle-income trap through strategic state intervention in its natural resource sectors. The state's targeted efforts in the salmon industry, for instance, turned it into a global leader, demonstrating the effectiveness of focused governmental support in specific industries.

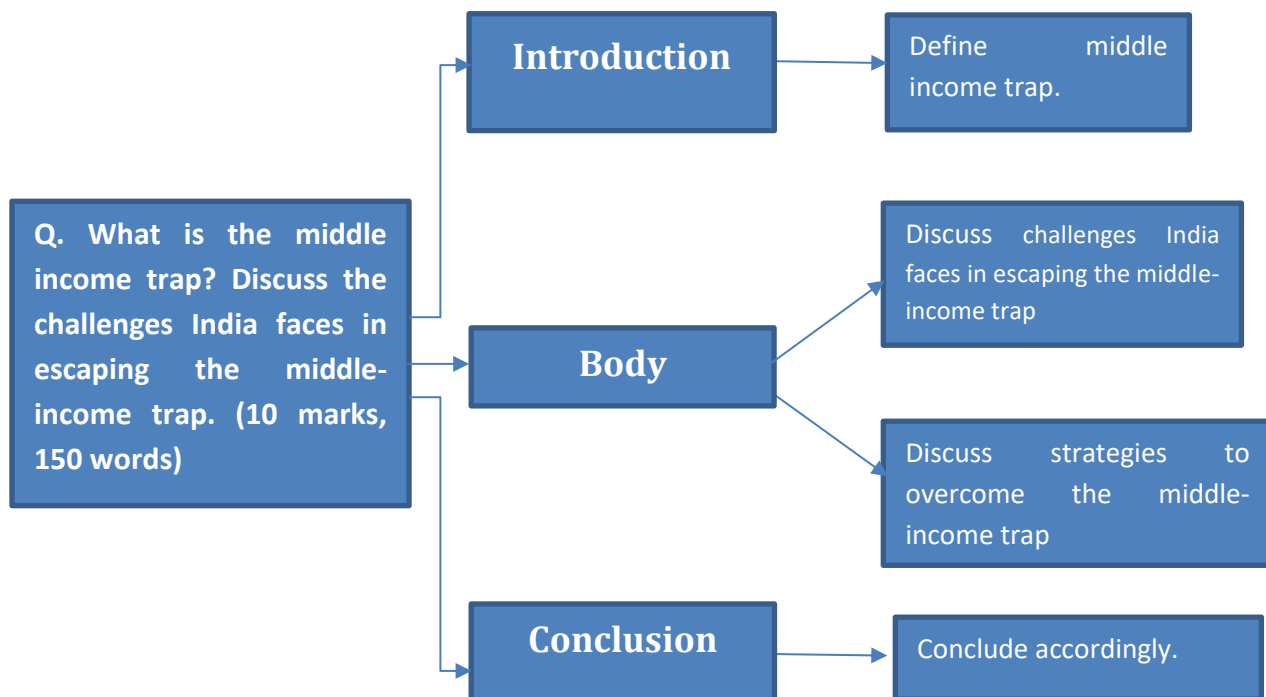
CONCLUSION:

- India's pathway out of the middle-income trap involves strategic implementation of reforms across various sectors, from enhancing innovation and technology infusion to strengthening education and governance. By adopting these forward-thinking strategies, India is setting the stage for sustainable growth and aiming to elevate itself to a high-income status. The focused efforts in fostering an **inclusive and innovative economic environment** promise to unlock the **full potential of its demographic and industrial capabilities**, paving the way for a prosperous future.

PRACTICE QUESTION

Q. What is the middle income trap? Discuss the challenges India faces in escaping the middle-income trap. (10 marks, 150 words)

APPROACH



MODEL ANSWER

The middle-income trap refers to a situation where countries reach **middle-income status after rapid economic growth but struggle to progress to high-income status** due to various structural and policy challenges. According to the World Development Report 2024, this stagnation typically happens when a nation's per capita income reaches about 11% of that of the U.S., presenting a significant hurdle for further economic advancement.

Challenges India Faces in Escaping the Middle-Income Trap

1. **Stagnating Productivity:** Despite robust growth in the IT and service sectors, traditional sectors like manufacturing and agriculture lag behind. The manufacturing sector's contribution to GDP has remained around 15-17% over the last decade, much lower than in East Asian economies at similar developmental stages. The World Bank notes India's labor productivity growth was approximately 4.6% annually from 2011-2020, below the 6-7% required to escape the middle-income trap.
2. **Structural Constraints in the Economy:** India's infrastructure deficits—such as inadequate power supply and inefficient ports—hinder economic efficiency and increase business costs. The World Economic Forum consistently ranks India lower in infrastructure quality compared to China and other East Asian nations that have successfully transitioned to high-income statuses.
3. **Inequality and Inclusive Growth:** High levels of inequality restrict market size as large population segments cannot afford more than basic goods, limiting domestic-led growth. According to the Oxfam Inequality Report 2020, the top 10% of the

Indian population holds 77% of the total national wealth, indicating significant income disparity.

4. **Education and Skill Development:** The education system's challenges are highlighted by high dropout rates and substandard learning outcomes. The Annual Status of Education Report (ASER) 2023 shows that nearly 43% of adolescents in rural areas struggle to read English sentences adequately, pointing to a severe skill gap in the modern economy.
5. **Demographic Challenges:** High unemployment rates among youth undermine the potential demographic dividend. The 'India Employment Report 2024' by the IHD and ILO notes a dramatic rise in youth unemployment, emphasizing the need for targeted job creation strategies.

Strategies to Overcome the Middle-Income Trap

- **Adopting the 3i Approach:** The World Development Report 2024 advocates for increased investment, the infusion of new technologies, and fostering innovation to stimulate economic growth and development.
- **Enhancing Education and Skilling:** Prime Minister Narendra Modi emphasizes the importance of skilling, research, and innovation as critical for India's development. Effective educational reforms are necessary to align with the demands of future job markets.
- **Implementing Economic Reforms:** According to NITI Aayog, India needs to maintain a 7-10% growth rate over the next 20-30 years, requiring substantial reforms in manufacturing, logistics, and energy to promote balanced regional development and close the rural-urban income gap.
- **Leveraging Demographic Dividends:** Harnessing India's large youth population through vocational training and digital literacy programs is essential for converting this demographic potential into a productive workforce.

Navigating out of the middle-income trap requires India to tackle its productivity issues, infrastructural deficits, and educational gaps while promoting innovation and inclusive growth. By strategically addressing these challenges, India can pave its way towards sustainable economic growth and eventually reach high-income status.

20. DIGITAL ARREST SCAMS

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Security > Cyber security

REFERENCE NEWS:

- Recently, during his radio program 'Mann Ki Baat,' Prime Minister Narendra Modi issued a public warning about the **prevalence of digital arrest scams**. He stressed that there is **no legal basis for what is termed as "digital arrests"** and clarified that **no government agency is authorized to conduct arrests or investigations via phone calls or digital communications**.
- This clarification comes in response to the rising incidents where fraudsters impersonate law enforcement officials to deceive individuals.
- In addition to the warning, Prime Minister Modi called on educational institutions to play a crucial role in combating these scams. He urged schools, colleges, and universities to actively participate in raising awareness about these fraudulent practices.

DIGITAL ARREST:

- Digital arrest scams involve **fraudsters impersonating government officials to extort money from victims**. They use phone or video calls, often via **WhatsApp or Skype**, to falsely accuse individuals of illegal activities like drug trafficking or suspicious package involvement.
- Scammers create a convincing scenario using sets, costumes, and fake documents, **making victims believe they are under digital arrest** and demanding money for their release.

MODUS OPERANDI OF DIGITAL ARREST SCAMMERS:

- **Initial Contact:** Scammers target potential victims through phone calls, falsely accusing them of sending or being slated to receive parcels containing illegal items such as drugs or fake passports.
- **Extortion Tactics:** Following initial contact, scammers often communicate via video calls on platforms like Skype, posing as law enforcement officials in realistic settings. They demand money for alleged legal breaches, under the pretense of reaching a compromise or closing the case.

- **Digital Arrest:** In severe instances, victims are kept under digital surveillance, not allowed to disconnect the call or move out of camera view, until the scammers' demands are met.

NOTABLE INCIDENT:

In a high-profile case of digital arrest scam, **S P Oswal, the chairman of Vardhman Group** — India's largest textile manufacturing conglomerate — was duped into **transferring Rs 7 crore to fraudsters**. Posing as **Central Bureau of Investigation (CBI) agents**, these scammers convinced him that he was under investigation for money laundering. They subjected him to **two days of digital surveillance via Skype**, maintaining a constant visual watch to simulate a genuine investigative scenario. To further authenticate their claims and intensify the pressure on Oswal, they conducted a **fake Supreme Court hearing**. This elaborate ruse compelled him to comply with their demands, resulting in a significant financial loss.

STATISTICS:

- From **January to April 2024**, Indians suffered financial losses of **Rs 120 crore** specifically from digital arrest scams, according to the **Indian Cybercrime Coordination Centre (I4C)** under the Ministry of Home Affairs.
- During the same period, the total financial loss from various types of cyber frauds amounted to **Rs 1,776 crore**.
- **Breakdown of losses by type of scams for the January-April 2024 period:**
 - Digital Arrest Scams: Rs 120.30 crore
 - Trading Scams: Rs 1,420.48 crore
 - Investment Scams: Rs 222.58 crore
 - Romance/Dating Scams: Rs 13.23 crore,
- **The National Cybercrime Reporting Portal (NCRP)** recorded 7.4 lakh cybercrime complaints from January to April 2024. In comparison, there were 15.56 lakh complaints in the entire year of 2023, and 9.66 lakh complaints in 2022, showing a significant annual increase from the 4.52 lakh complaints recorded in 2021.

CHALLENGES AND CONCERNS WITH RISING DIGITAL ARREST SCAMS IN INDIA:

- **Prevalence and Financial Impact:**
 - Digital arrest scams have rapidly emerged as a significant cyber threat in India, where sophisticated schemes involve criminals impersonating law enforcement officials.
 - For instance, from **January to April 2024 alone, Indians lost Rs 120 crore to these scams**, as part of a broader Rs 1,776 crore lost to various types of cyber frauds, reported by the Indian Cybercrime Coordination Centre (I4C). A notable case involved S P Oswal, chairman of Vardhman Group, who was deceived into **transferring Rs 7 crore to fraudsters**.
- **Operational Challenges:**

- The modus operandi of digital arrest scams typically involves perpetrators using digital communication platforms such as **WhatsApp or Skype**. They create **elaborate setups with costumes and fake documents** to mimic legitimate law enforcement environments, **leveraging the credibility of institutions like the CBI or RBI** to pressure victims into paying large sums purportedly to resolve legal accusations.
- **Legal and Regulatory Hurdles:**
 - Addressing digital arrest scams is complicated by the **inadequacies in the legal and regulatory framework**, which struggles to keep pace with the evolution of digital platforms and the innovative methods used by cybercriminals. There's also a significant **need for improved international cooperation**, given many scams originate from regions like Southeast Asia.
- **Public Awareness and Education:**
 - Despite public warnings from high-profile figures like Prime Minister Narendra Modi and initiatives by bodies such as the Computer Emergency Response Team of India (CERT-In), a gap in public awareness persists. More robust educational initiatives are needed to **equip citizens with the skills to identify and avoid such scams**.
- **Technological Advancements vs. Cybersecurity Measures :**
 - The rapid advancement of technology, including the **use of artificial intelligence by scammers**, poses a severe challenge. These technologies lend a new level of authenticity to the identities and scenarios crafted by fraudsters, making scams harder to detect for the average citizen. This calls for continuous **advancements in cybersecurity measures and regular updates to public advisories**.
- **Emotional and Psychological Impact:**
 - Victims of digital arrest scams often experience significant emotional distress and psychological impact. **The fear and anxiety** induced by believing one is involved in legal trouble can have long-lasting effects on an individual's mental health. **The stress of losing large amounts of money** can also lead to severe depression and a feeling of helplessness, especially if life savings are involved.
- **Institutional Response and Coordination:**
 - The response from institutions, including the I4C and the National Cyber Crime Reporting Portal (NCRP), is critical but **needs more coordination**. Immediate actions such as account freezes and rapid response teams are essential to mitigate damage.

GOVERNMENT INITIATIVES:**Existing Measures:****1. Indian Cybercrime Coordination Centre (I4C) Initiatives**

- **Trend Analysis:** The I4C continuously analyzes trends related to digital arrest scams,

providing crucial data to shape prevention and response strategies.

- **Blocking Communication Channels:** Over 1,000 Skype IDs and other digital identifiers associated with scams have been blocked to disrupt the operations of fraudsters.
- **Public Awareness Campaigns:** The I4C runs extensive campaigns to educate the public on recognizing and avoiding digital arrest scams.

2. Inter-ministerial Committee

- This committee enhances the coordination among various governmental bodies to create a unified strategy against cybercrimes, including those originating from international locations like Southeast Asia.

3. Legal Framework Enhancements

- The government is actively working on strengthening legal measures to ensure that the law adequately covers the specifics of cybercrimes such as digital arrest scams.

4. Technological Infrastructure

- Advanced digital surveillance tools are being deployed to monitor and counteract cybercriminal activities effectively.

Government Plans:

1. International Collaboration

- There are plans to enhance international cooperation with countries that are frequently identified as bases for cybercrime operations targeting India. This involves sharing intelligence and best practices to mitigate the risk of digital scams.

2. Cyber Helplines and Rapid Response

- The establishment of a **National Cyber Crime Helpline** allows for immediate reporting and assistance for victims of cybercrimes, including digital arrest scams. The helpline number for reporting cybercrime in India is **1930**.

3. Specialized Cybercrime Units

- Plans include the further development of specialized units within police forces that are specifically trained and equipped to handle cybercrimes.

WAY FORWARD IN COMBATING DIGITAL ARREST SCAMS IN INDIA:

Reinforcement of Existing Measures:

- **Continued Trend Analysis by I4C:** Persistent monitoring by the Indian Cybercrime Coordination Centre (I4C) is critical to adapting strategies against cybercriminals' evolving tactics.
- **Expansion of Public Awareness Campaigns:** Broadening the reach of educational campaigns to raise public awareness about the nature of scams and preventive measures.
- **Strengthening Legal Frameworks:** Enhancing laws to explicitly address and prosecute digital arrest scams and related cybercrimes.
- **Enhanced International Collaboration:** Strengthening international cooperation for better intelligence sharing and coordinated actions against cybercrimes originating from abroad.

Introduction of New Strategies

- **Development of Specialized Cybercrime Units:** Building dedicated units within police forces with the requisite technological tools and legal expertise to handle cybercrimes effectively.
- **Cyber Helplines and Rapid Response Teams:** Promoting the use of the National Cyber Crime Helpline (1930) and setting up rapid response teams to handle incidents swiftly.

Empowering Individuals: PM Modi's Three-Step Approach

- **Stop:** Encouraging individuals not to panic or make hasty decisions when contacted by supposed officials demanding payments.
- **Think:** Advising to critically assess the situation, questioning the authenticity of the call, and verifying identities by contacting agencies through their official communication channels.
- **Take Action:** Recommending immediate steps if victimized, such as contacting banks to freeze accounts, reporting the incident via the National Cyber Crime Reporting Portal, and preserving all evidence for law enforcement.

Additional Tips for Public Empowerment

- **Resist Pressure Tactics:** Remain calm and do not act under pressure, which scammers often use to coerce victims into complying with their demands.
- **Guard Personal Information:** Avoid disclosing personal or financial information over the phone or through digital communications.
- **Use Official Channels:** Recognize that legitimate government interactions will not occur over informal platforms like WhatsApp or Skype.

Actions if Victimized

- **Secure Financial Accounts:** Immediately inform banks to stop unauthorized transactions.
- **Report the Crime:** File a detailed complaint with the National Cyber Crime Reporting Portal at cybercrime.gov.in.
- **Preserve Evidence:** Maintain records of all communications, transaction details, and other relevant evidence.
- **Seek Legal Advice:** Consult a lawyer to understand potential legal actions for recovery and prosecution.

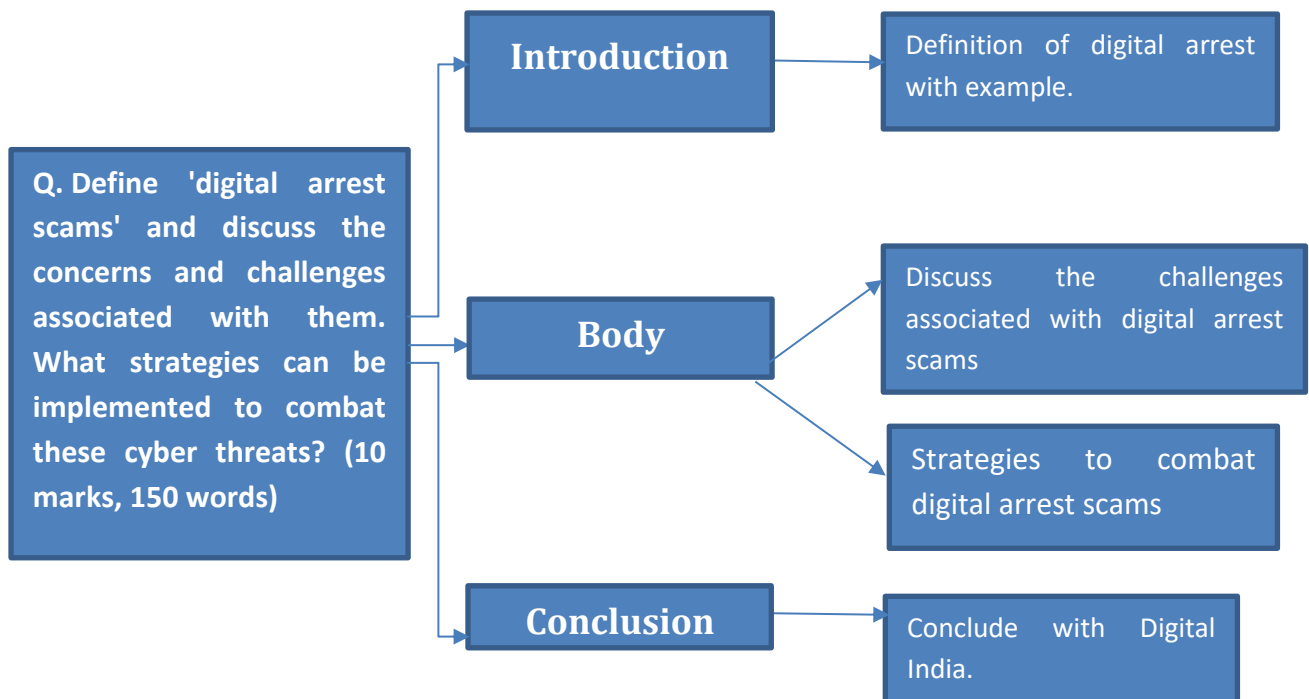
CONCLUSION:

The rising challenge of digital arrest scams in India is multi-dimensional, encompassing technological, legal, educational, and psychological aspects. A holistic approach that includes regulatory updates, technological defenses, extensive public education campaigns, and targeted support for victims is essential to safeguard against these sophisticated cyber threats.

PRACTICE QUESTION

Q. Define 'digital arrest scams' and discuss the concerns and challenges associated with them. What strategies can be implemented to combat these cyber threats? (10 marks, 150 words)

APPROACH



MODEL ANSWER

Digital arrest scams involve fraudsters impersonating law enforcement officials to extort money from victims. These scams typically use phone or video calls, often via platforms like WhatsApp or Skype, to falsely accuse individuals of illegal activities such as drug trafficking. A prime example, as mentioned in the article, is the case of **S P Oswal, chairman of Vardhman Group**, who was duped into **transferring Rs 7 crore to fraudsters** claiming to be CBI agents investigating him for money laundering. This scenario highlighted the fraudsters' use of digital surveillance and a fake court hearing to intensify their scam.

Challenges Associated with Digital Arrest Scams

- **Prevalence and Financial Impact:** These scams have rapidly emerged as a significant threat, with substantial financial losses nationwide. For instance, from **January to April 2024 alone, Indians lost Rs 120 crore to these scams**, as reported by the Indian Cybercrime Coordination Centre (I4C).
- **Operational Challenges:** The use of digital communication complicates tracking and prosecution, as scammers can easily mask their identities and locations.

- **Legal and Regulatory Hurdles:** Existing laws struggle to keep pace with the evolving tactics of cybercriminals, necessitating updates and international cooperation.
- **Technological Advancements vs. Cybersecurity Measures:** The integration of AI and sophisticated technologies by scammers creates realistic and convincing scenarios, making detection difficult.
- **Emotional and Psychological Impact:** Victims endure significant stress and anxiety, which can have profound and lasting mental health effects.

Strategies to Combat Digital Arrest Scams

- **Public Awareness and Education:** Following PM Modi's emphasis, there's a need to expand educational campaigns that inform the public about recognizing and preventing these scams.
- **Strengthening Legal Frameworks:** Update laws to better address the specifics of cybercrimes and enhance penalties for digital arrest scams.
- **Technological Enhancements:** Implement advanced cybersecurity measures to detect and respond to scams more effectively.
- **Specialized Cybercrime Units:** Develop units within law enforcement specifically trained to handle such sophisticated crimes.
- **PM Modi's Three-Step Approach:**
 - **Stop:** Encourage potential victims not to panic or make hasty decisions.
 - **Think:** Advise them to verify the authenticity of the caller by directly contacting the claimed agency.
 - **Take Action:** Recommend reporting the incident to authorities and taking steps to secure any compromised financial accounts.
- **International Collaboration:** Enhance cooperation with countries from which many digital scams originate, to prevent, track, and prosecute offenses.

As India advances its **Digital India** initiative aimed at digital empowerment, enhancing cybersecurity is crucial. Addressing digital arrest scams with updated legal frameworks, advanced technologies, and robust public awareness campaigns is vital for safeguarding citizens in the digital age. This integration will strengthen public confidence in digital services, essential for the initiative's success, **ensuring a secure and innovative digital future for all.**

21. GLOBAL DIGITAL COMPACT

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Science and Technology >> Awareness on emerging technologies >>> SDGs

REFERENCE NEWS:

In the recently concluded 'Summit of the Future' organised by the United Nations, member countries adopted the 'Global Digital Compact' (GDC).

GLOBAL DIGITAL COMPACT:

- The Global Digital Compact (GDC) is a key initiative spearheaded by the United Nations to establish a shared understanding and set of principles for governing digital technologies in a manner that **is inclusive, open, and sustainable**.
- The UN offers an **inclusive platform** to articulate challenges, reconcile diverse national interests and promote international cooperation mechanisms.
- Building on the norms of international law, the Universal Declaration of Human Rights and the UN 2030 Agenda among others, GDC proposes global cooperation in the governance of data and digital technologies.
- To meet the Compact's goals, UN members have committed to establish two panels: an Independent International Scientific Panel on AI and a panel for Global Dialogue on AI Governance.

AIM OF GDC:

- **Bridging the Digital Divide:** The GDC prioritizes the reduction of inequalities in access to digital technologies, ensuring that marginalized communities and developing nations benefit from digital advancements. It aims to create equitable access to digital infrastructure and proposes **Digital Public Goods** that will include open-source software, open data and open AI models plus adherence to privacy and best practices. Digital Public goods have the ability to drive social change as elements of a digital public infrastructure that deliver services.
- **Advancing the Sustainable Development Goals (SDGs):** By promoting digital inclusion and cooperation, the GDC intends to leverage digital technologies to further progress on the United Nations Sustainable Development Goals (SDGs), particularly in the fields of education, healthcare, and poverty alleviation.
- **Strengthening International Governance of Emerging Technologies:** The GDC seeks to establish governance frameworks for emerging technologies, particularly Artificial

Intelligence (AI), to ensure that their development aligns with human rights, ethical standards, and sustainable development goals as digital technologies continue to shape our societal and geopolitical landscape.

- **Promoting Digital Trust and Safety:** A significant focus is on enhancing digital trust and safety by establishing common standards to combat misinformation, harmful content, and protect users' rights such as privacy and freedom of expression.
- **Fostering Collaboration:** The GDC will promote **multistakeholder collaboration**, bringing together governments, civil society, private sector, and international organizations to address digital governance challenges and formulate global standards for an inclusive and secure environment. GDC is not a binding law but a **diplomatic instrument** with a set of shared goals for governments, institutions, firms and other stake holders. Once there is a greater adherence, the GDC terms may become **soft laws** in each country.

CHALLENGES ASSOCIATED WITH THE GDC

- **Geopolitical Contestations:** Global digital governance is marked by a geopolitical divide, particularly between the **United States** and **China**, each advocating different AI governance frameworks. The U.S. promotes a **harmonized AI governance** model focused on transparency and data protection, while China emphasizes **equitable benefits** and **non-discriminatory trade**. This divergence could complicate the formation of a cohesive global framework.
- **Digital Sovereignty Concerns:** Many countries, including India, have expressed concerns over **digital sovereignty**, fearing that global digital governance frameworks may limit their control over their own digital ecosystems. Balancing global standards with national interests will be a significant challenge.
 - The extensive European experience with public private partnerships vis-à-vis digital projects suggests openness within such partnerships is restricted by contractual requirements such as non-disclosure, confidentiality and intellectual property protection.
 - GDC recognises interoperable data governance to foster innovation and economic growth, which experts note may amplify risks in absence of effective personal data protection and privacy laws.
- **Digital Divide:** A stark contrast exists between developed and developing nations in terms of digital infrastructure, AI innovation, and access to the internet. The GDC must address this **digital divide** to ensure that developing countries can participate equitably in the global digital economy.
- **Implementation and Accountability:** While the GDC sets ambitious goals, ensuring **accountability** and **compliance** with the agreed-upon principles might be difficult,

particularly when dealing with large multinational tech companies. Establishing robust mechanisms for implementation and monitoring progress will be crucial.

- **GDC** adds little to international governance and moots for self-regulation by digital tech companies to keep users safe. This is not an optimum solution as self-regulation has already proved ineffective.

INDIA'S ROLE IN THE GDC:

India's Role in the Global Digital Compact

India's strategic engagement with the GDC is vital, given its increasing global prominence in digital technologies and its long-standing advocacy for the Global South.

- **Advocacy for the Global South:** India has consistently advocated for equitable access to digital technologies and AI resources for developing nations. India aims to ensure that the interests of the Global South are adequately represented in the discussions on AI governance and other emerging technologies.
 - Drawing on its experiences in global climate negotiations, India seeks to push for principles such as equity, accessibility, and differentiated responsibilities in the governance of digital technologies.
- **Building Digital Infrastructure and Capacity:** India has been a leader in building Digital Public Infrastructure (DPI) and has committed to sharing its expertise with other developing nations. Through initiatives like the **Global DPI Repository** launched during India's G20 presidency, India aims to accelerate the development of digital infrastructures in the Global South.
- **Influence in Global Governance:** India's active participation in international fora such as the G20 and the Global Partnership on Artificial Intelligence (GPAI) positions it as a crucial player in shaping digital governance norms. India is expected to continue championing inclusive and human-centric approaches to AI governance at the UN and GDC.
- **Fair and inclusive AI governance framework:** India's role in such a framework is crucial in the context of bipolar dynamics between US and China.

WAY FORWARD:

- **Promote a Multistakeholder Approach:** Digital governance cannot be led by governments alone, as the private sector (particularly tech companies) plays a critical role in developing and managing digital infrastructure. Moreover, civil society is crucial in safeguarding human rights and ensuring inclusivity. Establish formal consultation mechanisms for stakeholders, enabling meaningful dialogue on digital

governance, ensuring that all views are represented during decision-making, and giving the process more legitimacy.

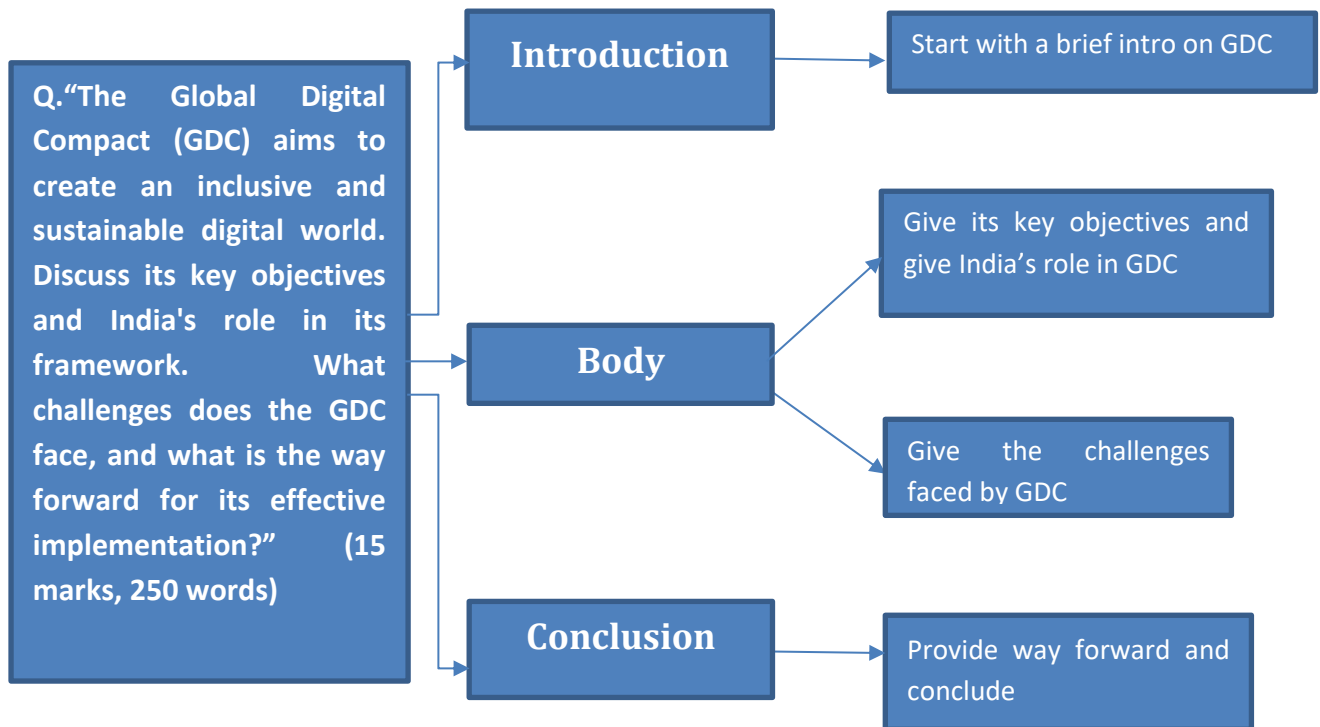
- **Address Geopolitical Contestation:** It should emphasize neutrality and collaborative efforts rather than favouring one geopolitical bloc over another. Geopolitical competition, particularly between the U.S. and China on digital governance and AI, poses a major challenge to forming global agreements. A neutral and balanced approach will help gain the acceptance of a wider range of countries.
- **Incorporate Flexibility for Digital Sovereignty:** Many countries are concerned about losing control over their digital policies. To gain their buy-in, the GDC must offer flexibility in implementation, allowing countries to adapt global norms to local contexts while maintaining international collaboration. Create a **tiered framework** where countries can opt into different levels of commitment based on their national priorities, while still aligning with the overall principles of the compact, similar to the Paris Agreement model for climate action.
- **Focus on Bridging the Digital Divide:** Establish a **Global Digital Development Fund**, supported by public and private sectors, to invest in infrastructure development, connectivity, and capacity-building initiatives in the Global South.
- **Strengthen Accountability and Monitoring Mechanisms:** Set up an independent body under the UN to oversee and report on the progress of member states and companies in meeting GDC commitments. This body should issue periodic reports, highlighting successes and areas needing improvement.
- **Develop Tailored Strategies for Emerging Technologies:** Establish global standards for the ethical use of emerging technologies, including AI accountability frameworks, transparency in algorithms, and international cooperation on data sharing and security.
- **Promote Digital Trust and Safety:** Create global guidelines for digital safety, backed by legal frameworks and industry commitments. Encourage collaboration between governments, tech companies, and civil society to address these issues comprehensively.
- **Focus on Inclusivity and Representation:** Establish advisory councils or working groups within the GDC that are composed of representatives from the Global South, marginalized communities, and SMEs. Encourage regular consultations to ensure their perspectives are integrated into the compact.
- **Ensure Alignment with Global Development Agendas:** Incorporate specific SDG-related metrics into the GDC's objectives, particularly focusing on education, healthcare, and poverty reduction through digital transformation efforts.

PRACTICE QUESTION

Q. "The Global Digital Compact (GDC) aims to create an inclusive and sustainable digital world. Discuss its key objectives and India's role in its framework. What challenges does

the GDC face, and what is the way forward for its effective implementation?" (15 marks, 250 words)

APPROACH



MODEL ANSWER

The **Global Digital Compact (GDC)** is a key initiative launched by the **United Nations** to establish shared principles for governing digital technologies, aiming for an inclusive, sustainable, and secure digital environment. The GDC, discussed at the **Summit of the Future (2024)**, proposes global cooperation in areas such as **digital trust, bridging the digital divide, and AI governance**.

KEY OBJECTIVES OF THE GLOBAL DIGITAL COMPACT (GDC):

1. **Bridging the Digital Divide:** The GDC prioritizes reducing global disparities in **digital infrastructure** and **internet access**, particularly focusing on **marginalized communities** and **developing nations**. It advocates for **Digital Public Goods**, including **open-source software, open data, and open AI models** to drive social change and enhance digital inclusion
2. **Advancing the Sustainable Development Goals (SDGs):** Digital inclusion is seen as a means to **accelerate progress** on the SDGs, especially in **education, healthcare, and poverty reduction**. The GDC aims to harness digital technologies to tackle global development challenges

3. **Strengthening Governance of Emerging Technologies:** The GDC seeks to develop global governance frameworks for emerging technologies like **Artificial Intelligence (AI)**, ensuring that their development is aligned with **ethical standards, human rights, and sustainability goals**
4. **Promoting Digital Trust and Safety:** A core focus of the GDC is to establish common standards for **digital trust**, countering **misinformation** and protecting user rights like **privacy** and **freedom of expression**
5. **Fostering Multistakeholder Collaboration:** The GDC encourages cooperation between **governments, private companies, civil society**, and international organizations to address challenges in digital governance. It emphasizes the need for inclusive global standards that all stakeholders can agree upon

INDIA'S ROLE IN THE GLOBAL DIGITAL COMPACT:

1. **Advocating for the Global South:** India has consistently championed equitable access to digital technologies for the **Global South**. Drawing on its experience in **global climate negotiations**, India pushes for principles such as **equity, accessibility, and differentiated responsibilities** in digital governance
2. **Leadership in Digital Public Infrastructure:** India is a leader in building **Digital Public Infrastructure (DPI)** and has committed to sharing its expertise with other developing nations. Through initiatives like the **Global DPI Repository**, India promotes the development of **digital infrastructures** across the Global South
3. **Influence in Global Digital Governance:** India actively participates in international fora such as the **G20** and **Global Partnership on Artificial Intelligence (GPAI)**. It advocates for **inclusive, human-centric AI governance**, ensuring that the interests of developing nations are well-represented in the global dialogue on digital technologies

CHALLENGES ASSOCIATED WITH THE GDC:

1. **Geopolitical Contestations:** **Geopolitical divides**—particularly between the United States and China—present a major challenge to forming a cohesive global framework. Both countries promote differing approaches to AI governance, with the U.S. focusing on **transparency and data protection**, while China emphasizes **equitable benefits** and **non-discriminatory trade**
2. **Digital Sovereignty Concerns:** Several countries, including India, have raised concerns about **digital sovereignty**, fearing that global digital governance frameworks may infringe upon their ability to control their own digital ecosystems. Balancing **global standards** with **national interests** is a critical challenge

3. **Digital Divide:** The vast differences in **digital infrastructure** and **AI innovation** between developed and developing nations further complicate the GDC's efforts to ensure equitable access. Developing countries must be empowered to participate fully in the global digital economy
4. **Implementation and Accountability:** The GDC's ambitious goals require robust mechanisms for **monitoring compliance** and **ensuring accountability**. Large multinational tech companies may resist oversight, and self-regulation has already proven ineffective in addressing challenges like **misinformation** and **data privacy**

WAY FORWARD FOR EFFECTIVE IMPLEMENTATION OF THE GDC:

1. **Promote a Multistakeholder Approach:** Digital governance should involve all stakeholders—**governments, private sector, civil society, and academia**. Establishing **formal consultation mechanisms** for stakeholders will enable more **meaningful dialogue** on digital governance and ensure that all views are considered in decision-making
2. **Address Geopolitical Divides:** The GDC should adopt a **neutral stance**, promoting **collaborative efforts** rather than favoring one geopolitical bloc over another. By acting as a platform for **bilateral and multilateral discussions**, the GDC can help find common ground on contentious issues like **data governance** and **AI regulation**
3. **Incorporate Flexibility for Digital Sovereignty:** The GDC must allow countries to maintain **autonomy** over their digital ecosystems while aligning with global norms. A **tiered framework**, similar to the **Paris Agreement**, could allow countries to opt into different levels of commitment based on their national priorities
4. **Focus on Bridging the Digital Divide:** A **Global Digital Development Fund** should be established to invest in digital infrastructure, connectivity, and capacity-building initiatives in developing countries, ensuring equitable access to digital technologies
5. **Strengthen Accountability and Monitoring:** An **independent body under the UN** should be created to oversee and report on the progress of member states and companies in meeting GDC commitments. **Periodic reports** would highlight successes and areas needing improvement
6. **Promote Digital Trust and Safety:** The GDC should establish **global guidelines** for digital safety, backed by **legal frameworks** and **industry commitments**. Collaboration between **governments, tech companies, and civil society** is essential to address issues such as **cybersecurity, misinformation, and privacy protection**.

The **Global Digital Compact** represents a critical initiative for shaping the future of global digital governance. By promoting inclusive, equitable, and secure digital spaces, the GDC seeks to address the complex challenges posed by emerging technologies. For India, the

GDC presents an opportunity to continue its leadership in digital infrastructure while advocating for the **Global South**. To ensure success, the GDC must address **geopolitical tensions**, respect **digital sovereignty**, and prioritize the **digital inclusion** of developing nations.

22. FLOOD

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Disaster Management > Floods

REFERENCE NEWS:

- Recent flooding in north Bihar has severely impacted nearly 1.5 million residents, with significant breaches in river embankments due to heavy rainfall and barrage discharges affecting districts like Purnea, Supaul, Saharsa, Darbhanga, and the Champarans. The release of water from the Kosi and Gandak barrages after rains in Nepal and Bihar has heightened the threat, despite reduced discharges since late September.

MORE ON NEWS:

- Currently, 1.46 million people in 429 villages across 17 districts are affected, prompting responses from 16 NDRF and 17 SDRF teams, with additional support from air force helicopters delivering rations to isolated areas. Approximately 260,000 people have been evacuated, and 18 relief camps are in operation.
- The state has received Rs 655 crore in central aid to combat the crisis, with health measures in place to prevent waterborne diseases. The Indian Meteorological Department predicts more rain until October 11, adding to the challenges, as the state manages a 20% rainfall deficit.

Key Factors Contributing to Frequent Flooding in Bihar

- **Geographical Location:** Bihar is situated at the foothills of the Himalayas, receiving high water discharge from rivers like the Kosi, Gandak, and Mahananda that originate in Nepal.
- **Terrain:** The flat Gangetic plains in Bihar exacerbate water accumulation during the monsoon.
- **Sedimentation:** High sedimentation rates from the Himalayas raise riverbeds, reducing their capacity to channel water effectively and increasing overflow during heavy rains.
- **Climate Change and Rainfall Patterns:** Erratic monsoon patterns and increased rainfall intensity, potentially linked to climate change, exacerbate flooding risks.
- **Infrastructure Challenges:** Embankments and dams intended to control river flows often exacerbate flooding when breached or when they impede natural sediment flow. Poorly maintained embankments and inadequate drainage systems contribute to the problem.
- **Management Practices:** Ineffective flood management and maintenance, along with encroachments on riverbeds and floodplains, increase susceptibility to flooding.
- **Socioeconomic Impact:** Recurrent floods severely impact agriculture, destroy

property, and cause loss of livestock, leading to economic distress and forced migrations. Substantial recovery efforts divert resources from development to relief and rehabilitation.

FLOOD PRONE REGIONS IN INDIA:

- India's unique **geo-climatic conditions and high socio-economic vulnerability** makes it extremely **vulnerable to floods**.
- Out of the total geographical area of 329 million hectares (mha), **more than 40 mha is flood prone**.
- This accounts for **12% of total land area of the country**.
- Floods are also **occurring in areas which were earlier not considered flood prone**.
- **Flood prone regions in India** can be broadly **divided into four regions**:
 - **The Brahmaputra River Region:**
 - This region consists of the **rivers Brahmaputra and Barak and their tributaries**, and covers the **Northeastern states** and northern parts of West Bengal. Floods in this region are **severe and quite frequent**.
 - **The Ganga River Region:**
 - This region consists of the **river Ganga and its tributaries**.
 - **The North-west River Region:**
 - The main rivers in this region are the **Indus, Sutlej, Beas, Ravi, Chenab and Jhelum**. Compared to the Ganga and the Brahmaputra river regions, **the flood problem is relatively less in this region**.
 - **The Central India and Deccan Region:**
 - Important rivers in this region are the **Narmada, Tapi, Mahanadi, Godavari, Krishna and Cauvery**
 - In addition, the **Andaman and Nicobar Islands and Lakshadweep** have peculiar characteristics, which result in drainage congestion, flooding and erosion in coastal areas



MITIGATION STRATEGIES:

- A multitude of measures are **adopted to reduce or mitigate the hazards arising from floods.**
- They can be broadly categorized into two: **Structural and Non-structural measures.**

	Structural	Non-structural
Concept	<ul style="list-style-type: none"> - Control over hazard - Protection of human settlement 	<ul style="list-style-type: none"> - Hazard mitigation/ avoidance - Adjustment of human activities
Measures	<ul style="list-style-type: none"> - Sea walls, levees, structure of dams, break water, flood storage reservoirs, dikes, pumps, channel improvements and diversions, and groins - Strengthening buildings through building codes - Building shelters 	<ul style="list-style-type: none"> - Land use management by planning tools (comprehensive plan, zoning, ordinance, incentives) - Infrastructure policy - Insurance - Awareness (education, information dissemination) and partnership - Protect natural areas (dunes, wetland, maritime forests, vegetation etc.) - Risk reduction and preparedness policies

EXISTING MITIGATION MEASURES IN INDIA:

- **Constitutional Provisions:** Flood control isn't directly listed in the 7th Schedule of the Indian Constitution, but measures like "Drainage and Embankments" are mentioned in Entry 17 of List II, placing primary flood control responsibility with the states.
- **Ministries Involved:**
 - **Ministry of Home Affairs (MHA):** Acts as the nodal ministry for disaster management.
 - **Ministry of Jal Shakti:** Handles technical aspects of flood management.
 - **Other Ministries:** Agriculture, Civil Aviation, Environment and Forests, Health, Space, Earth Sciences, Mines, Railways, etc., play significant roles in flood management within their respective areas.
 - States also have their own ministries and flood control boards for localized management.
- **National Disaster Management Authority (NDMA):**
 - Responsible for creating policies, plans, and guidelines for disaster management and ensuring their effective implementation.
 - It oversees the National Disaster Response Force, which responds to disasters, and has issued guidelines for managing floods.
 - Released the National Water Policy 2012, recommending reservoir operations that provide flood cushions and reduce sediment trapping during the flood season.
- **Central Water Commission (CWC):**
 - The apex agency for water resources, including flood management.
 - Its Flood Management Organisation appraises flood management projects and multipurpose projects with flood management components, issues flood bulletins, and develops flood forecasting techniques.
- **India Meteorological Department (IMD):**
 - Established in 1875, the IMD is the principal government agency for meteorology and related sciences.
 - It observes weather, provides predictions, and issues warnings for severe weather phenomena.
- **Brahmaputra Board:** Created under the Brahmaputra Board Act, 1980, to manage flood control, erosion, and water resources in the Brahmaputra valley.
- **Ganga Flood Control Commission (GFCC):** A subordinate office under the Ministry of Jal Shakti since 1972, focusing on flood management in the Ganga Basin states.

Other major initiatives:

- **Chennai:** In 2019, Chennai implemented CFLOWS-CHENNAI, which stands for Coastal Flood Warning System Chennai. This advanced system provides real-time, area-specific inundation data during monsoons, enhancing the city's ability to respond effectively to flooding.

- **Mumbai:** Launched in June 2020, Mumbai's Integrated Flood Warning System (IFLOWS) is a state-of-the-art webGIS-based decision support tool that enhances the city's resilience by providing early warnings for potential flooding, particularly during high rainfall and cyclones.
- **Guwahati:** The Energy and Resources Institute (TERI) and the National Disaster Management Authority (NDMA) introduced the Flood Early Warning System (FEWS) in Guwahati. This system is designed to alert local authorities about potential flash floods or heavy rainfall, aiding in proactive disaster management.

CHALLENGES IN FLOOD MANAGEMENT:

- **Unregulated development:**
 - Unabated encroachment of flood plains, reclamation of water bodies, construction of sprawling slums alongside rivers and the shoddy management of storm water drains have led to increased flood risk to lives and properties.
- **Relief-centric approach:**
 - Flood management measures are generally planned on an **ad hoc basis to give immediate relief** on public demand. Hence, flood management strategies continue to be **focused on post disaster relief measures than on pre-disaster planning.**
- **Unscientific dam management:**
 - Operation of reservoirs in India is often carried out in an unscientific and knee jerk manner. **Despite the mandate of the NDMA**, most dams in India do not have any Emergency Action Plans. For instance, high reservoir storage and sudden release of water were the root cause for **the devastating floods in Kerala in 2018.**
- **Interstate water disputes:**
 - Most river basins in India span across various states. However, there is lack of flow of information among the basin-states resulting in gaps in preparedness on their part to face incoming floods.
- **Lack of a central agency:**
 - There is no national or state level institution dealing with all facets of flood management exclusively and in a holistic and comprehensive manner.
- **Delays in completion of projects:**
 - In 2017, the CAG had **highlighted the delays in completion of projects under the Flood Management Programme (FMP)** due to various reasons such as non-release of funds from the Centre, delays in land acquisitions and inadequate planning.
- **Challenges to accurate forecasting:**
 - Climate change has complicated the flood forecasting and warning systems in India. Also, the network of the CWC, though developed on scientific basis,

does not cover all the flood prone rivers. Most of the existing flood forecasting stations are poorly maintained.

- **Data deficiency:**
 - A task force was set up by the CWC in 2006, but it did not complete the task of flood risk mapping. There is no proper documentation about floods, their impact and the manner in which these were tackled.

NITI AAYOG'S REPORT ON STRATEGY FOR FLOOD MANAGEMENT IN THE COUNTRY

The recommendations in the report of the committee constituted for **Formulation of Strategy for Flood Management Works in Entire Country and River Management Activities and Works Related to Border Areas (2021-26)** include,

- **Non-Structural Measures:** Emphasizes the adoption of cost-effective, non-structural strategies like flood forecasting, flood plain zoning, and flood proofing to manage water flow effectively across most regions.
- **National Water Model:** Proposes the development of an Indian version of the National Water Model (NWM), inspired by the U.S. model, to enhance flood prediction and management through a comprehensive decision support system.
- **Advanced Technologies:** Recommends utilizing advanced technologies such as artificial intelligence, satellites, remote sensing, and GIS for improving flood forecasting and warning systems.
- **Flood Cushion in Dams:** Suggests implementing a policy to create flood cushions in existing dams to mitigate flood impacts during peak times, aiming to prevent disasters similar to the Kerala floods.
- **Medium and Long-Term Measures:** Advocates for medium-term construction of embankments and levees to protect infrastructure like railways and highways, and stresses the need for long-term structural measures such as dams, reservoirs, and detention basins in critical areas for comprehensive flood defense.

WAY FORWARD:

- **Integrated Flood Management:** Emphasize a holistic approach that includes coordinated water management, land use, urban development, transport, agriculture, and nature conservation.
- **Preparedness-Centric Approach:** Recognize flood management as a critical element of good governance and integrate it into national development planning. Establish a national-level flood control authority.
- **Forecasting & Early Warning Systems:** Significantly enhance flood forecasting capabilities through maintenance of current systems and investment in new technologies. Utilize IT-based tools for real-time data sharing and flood warnings.

- **Conservation of Water Bodies:** Acknowledge the role of water bodies in managing urban floods by capturing stormwater runoff. Empower local bodies to protect and conserve these natural resources.
- **Better Cooperation:** Improve coordination with neighboring countries for better information sharing and management of excess water discharge. Develop robust interstate flood management mechanisms within India.
- **Develop Techno-Legal Regime:** Implement regulations to control development in flood-prone areas through specific land use policies and zoning regulations in flood plains.
- **National Flood Management Institute:** Establish an institute dedicated to all aspects of flood management, providing training for engineers and administrators.

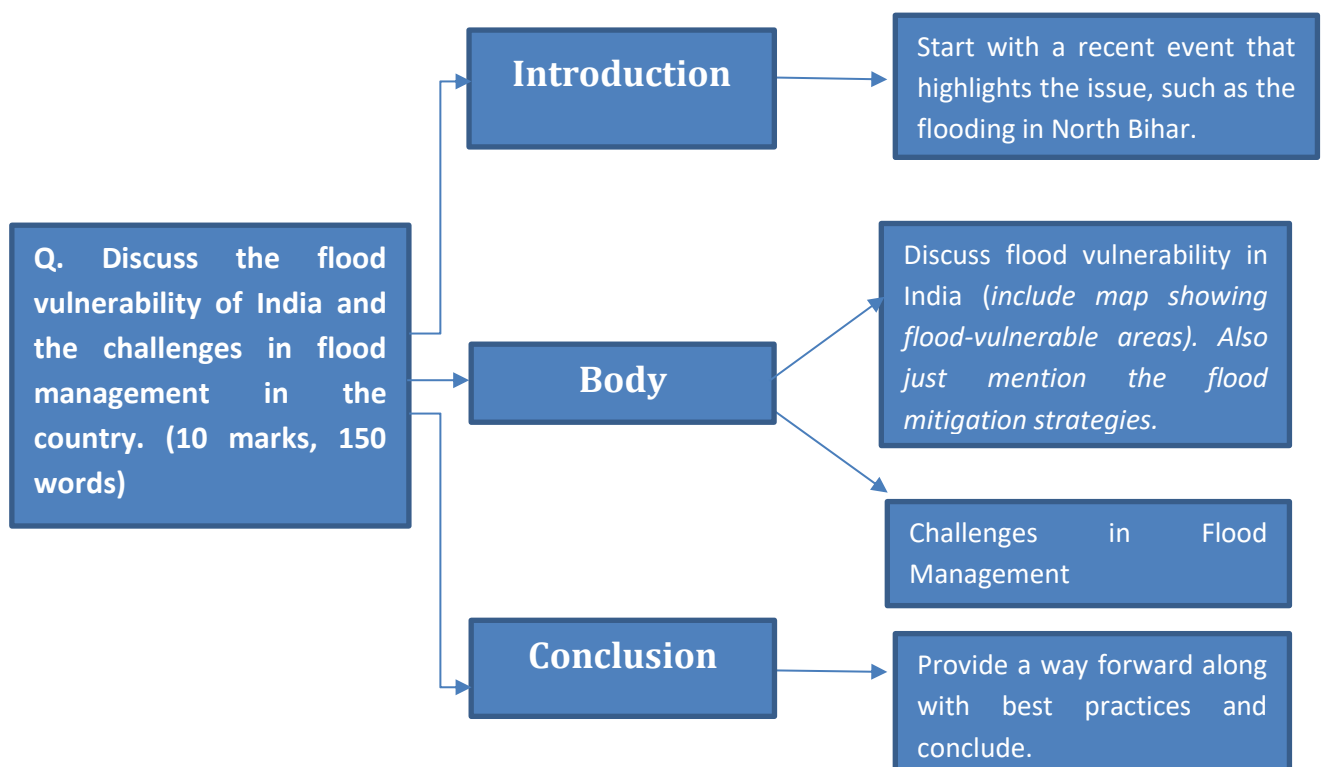
BEST PRACTICES:

- **Buoyant buildings or “amphibian houses”** — which sit on dry land but can **float vertically during flooding** — have been built in **Maasbommel, the Netherlands**.
- **Yonging River Park in Taizhou, China, and the Bishan-Ang Mo Kio Park in Singapore** are the **urban parks designed as wetlands or floodplains** to allow periodic flooding

PRACTICE QUESTION

Q. Discuss the flood vulnerability of India and the challenges in flood management in the country. (10 marks, 150 words)

APPROACH



MODEL ANSWER

Recent severe flooding in North Bihar, impacting nearly 1.5 million residents, has highlighted the ongoing challenges in India's flood management strategies. The floods, exacerbated by breaches in embankments and heavy discharges from the Kosi and Gandak barrages, underline the acute vulnerability of the region and necessitate a comprehensive approach to flood management.

Flood Vulnerability in India:

India's unique geo-climatic conditions make it exceptionally prone to floods. More than **40 million hectares, or 12% of the country's land area**, is flood-prone. This includes regions that traditionally were not considered at risk. The vast river systems like the Brahmaputra, Ganga, and their tributaries swell during the monsoon season, frequently inundating surrounding areas and causing widespread damage.

<Include a map showing flood-vulnerable areas in the country>

India employs several flood mitigation strategies, including:

- **Structural Measures:** Embankments, dams, reservoirs, and floodwalls to control water flow.
- **Non-Structural Measures:** Flood forecasting systems, flood insurance, and public awareness campaigns.
- **Integrated Management:** Bodies like the Brahmaputra Board and Ganga Flood Control Commission manage specific river basins.
- **Policies and Guidelines:** Developed by national and state disaster management authorities to guide flood management efforts.

<Can be presented in the form of a spider diagram>

Challenges in Flood Management:

- **Unregulated Development:** Uncontrolled encroachments and urbanization of floodplains, along with reclamation of water bodies and poor stormwater management, have significantly heightened flood risks, as seen in sprawling slum developments alongside rivers.
- **Relief-centric Approach:** Flood management often revolves around providing immediate relief rather than proactive risk management. This ad hoc strategy, focused on post-disaster responses, fails to address the underlying risks and enhance preparedness.
- **Unscientific Dam Management:** The management of dams and reservoirs often lacks scientific rigor, as evidenced by the catastrophic floods in Kerala in 2018, triggered by improper reservoir operations. Despite NDMA guidelines, many dams lack comprehensive Emergency Action Plans, leading to mismanagement during critical periods.

- **Interstate Water Disputes:** The sharing of river basin resources across states often leads to conflicts and insufficient collaboration, affecting the timely and effective management of floodwaters.
- **Lack of Central Agency:** There is no dedicated national or state-level agency tasked exclusively with managing all aspects of flood management, leading to fragmented and often inefficient responses.
- **Project Delays:** Delays in the completion of flood management projects, as highlighted by a 2017 CAG report, are common due to funding issues, land acquisition delays, and poor planning, further crippling response efforts.
- **Forecasting Challenges:** Accurate flood forecasting remains a challenge due to climate change impacts and a lack of comprehensive data coverage by the Central Water Commission. Many forecasting stations are poorly maintained, leading to gaps in early warning capabilities.
- **Data Deficiency:** A lack of detailed flood risk mapping and inadequate documentation of past floods and their management hampers effective planning and response strategies.

To enhance flood resilience, India must adopt an integrated management approach that includes:

- **Improved Forecasting and Early Warning Systems:** Leveraging modern technologies such as AI, GIS, and remote sensing to enhance the prediction and management of flood events.
- **Conservation of Water Bodies:** Protecting natural water bodies which play a crucial role in managing stormwater and reducing run-off.
- **Robust Policy Framework:** Establishing a techno-legal regime to regulate development in flood-prone areas and enforcing strict zoning and land use policies.

Best Practices

Internationally, several innovative practices have been successful in flood management:

- **Buoyant Buildings:** In the Netherlands, amphibian houses which float during floods have been effective in areas prone to flooding.
- **Urban Wetlands:** Parks like Yonging River Park in China and Bishan-Ang Mo Kio Park in Singapore serve dual purposes for recreation and as flood plains.

India's strategy for flood management must be multi-faceted, incorporating both traditional infrastructural measures and modern technological solutions. Learning from global best practices and fostering interstate and international cooperation are key to developing a resilient flood management system. With these strategies, India can significantly mitigate the impact of floods and enhance the safety and well-being of its vulnerable populations.

23. PRIVATE SECTOR PARTICIPATION IN DEFENCE SECTOR

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Science and Technology > Defence technology

REFERENCE NEWS:

- Recently, Defence Minister Rajnath Singh emphasized the strategic need to involve the private sector more significantly in India's defence production during an event hosted by the Society of Indian Defence Manufacturers (SIDM).

MORE ON NEWS:

- Rajnath Singh advocated for increasing the private sector's share in defence production to **at least 50% of the total output**. He stressed the importance of **self-reliance** and highlighted the need to learn from global conflicts, like the **Russia-Ukraine war**, to bolster the defence industrial base.
- The Defence Minister reported a "**record growth**" in the defence sector's output, reaching **Rs 1,26,887 crore** in the financial year 2023-24, marking a **16.8% increase** over the previous year.
- The current contributions from public sector undertakings (PSUs) and defence public sector undertakings (DPSUs) stand at **Rs 1 lakh crore**, with the **private sector contributing about Rs 27,000 crore**.
- The address also covered various initiatives like the **corporatisation of the Ordnance Factory Board**, establishment of **two industrial defence corridors**, and measures by the Defence Acquisition Plan (DAP) to foster private industry participation.
- Singh highlighted the release of five **positive indigenisation lists (PILs)**, where 509 pieces of equipment have been identified for domestic production. These efforts aim to **reduce import dependency and bolster domestic manufacturing** capabilities. As of June 2024, over 36,000 defence items were offered to the industry for indigenisation by DPSUs and Service Headquarters (SHQs), with more than 12,300 items having been indigenised in the last three years.
- The Defence Minister urged the private sector to **assess and potentially enhance its role in these indigenisation efforts**. He emphasized that these lists are dynamic and encouraged the private sector to engage actively in achieving the set goals of self-reliance and enhanced participation.

SIGNIFICANCE OF PRIVATE SECTOR PARTICIPATION IN DEFENCE MANUFACTURING:

- **Self-Reliance in Defence Manufacturing:**
 - According to the **Stockholm International Peace Research Institute (SIPRI)**, India was the **world's second-largest arms importer between 2017 and 2021**.
 - This reliance on imports makes India vulnerable to external shocks like sanctions and supply chain disruptions. The **Atmanirbhar Bharat initiative** aims to reduce this dependence by **encouraging private sector participation to build a domestic defence manufacturing base**.
- **Promoting Research and Development (R&D):**
 - Private sector involvement is key to fostering innovation and competition in defence. Companies like **Larsen & Toubro (L&T) and Bharat Forge** have **invested heavily in R&D**, leading to advancements in artillery systems and aerospace components.
 - This promotes domestic capability building and **strengthens India's defence technology base**, crucial for self-reliance and enhancing export potential.
- **Collaboration with Global Firms:**
 - Indian private firms have entered into joint ventures with global defence companies.
 - For instance, **Tata Advanced Systems Ltd. (TASL) has partnerships with Lockheed Martin and Boeing** to manufacture fighter jets and helicopters. Such collaborations introduce cutting-edge technologies to India's defence ecosystem.
- **Boosting Defence Exports:**
 - The government aims to increase **defence exports to \$5 billion by 2025**.
 - Private sector participation is essential in achieving this goal, as firms like Bharat Forge, Mahindra Defence, and TASL have **already begun exporting** components to global markets.
- **Job Creation:**
 - The expansion of the private sector in defence production stimulates economic growth and generates employment.
 - The establishment of **two Defence Industrial Corridors** (in Uttar Pradesh and Tamil Nadu) is expected to **attract investment and create jobs** in high-tech industries.
- **Lessons from the Russia-Ukraine War:**
 - The ongoing war has highlighted the importance of a strong domestic defence industrial base. Global supply chain disruptions have shown that countries cannot solely rely on imports for critical defence equipment. India, with increasing private sector involvement, can mitigate such risks and strengthen its strategic autonomy.

CHALLENGES:

- **Capital Intensity and Long Gestation Periods:**
 - Defence projects are **capital-intensive**, requiring substantial upfront investment and long lead times before returns are realized. This can be a significant deterrent for private firms, especially small and medium-sized enterprises (SMEs), which often lack the financial resources to sustain large-scale defence projects.
- **Underdeveloped Private Sector:**
 - Despite being **opened for 100% participation in 2001**, only a few Indian firms have established themselves in defence manufacturing. Companies like Tata and L&T are leading, but most private firms **lack experience in producing complex systems like fighter jets or submarines**.
 - The capital-intensive nature of defence projects, long gestation periods for returns, and **dependence on foreign technology** further hamper growth. The sector still **lags behind PSUs like HAL and BEL**, making it difficult to achieve self-reliance without substantial investment in R&D and capacity building.\
- **Bureaucratic Red Tape and Regulatory Hurdles:**
 - While the **Defence Acquisition Procedure (DAP) 2020** aims to simplify procurement processes, **delays in acquiring licenses and approvals still persist**. This regulatory complexity slows down production timelines and creates entry barriers for new private firms, limiting their ability to compete with established public sector undertakings (PSUs).
- **Constrained R&D Capabilities:**
 - India spends only **5-6% of its defence budget on R&D**, far lower than countries like the **US and China, which spend over 10%**.
 - This underinvestment hampers the private sector's ability to innovate independently and build cutting-edge technology, forcing reliance on foreign technology transfers.
- **Lack of Indigenous R&D Ecosystem:**
 - The private sector's R&D capabilities are underdeveloped, and reliance on foreign OEMs remains high.
 - For example, the **failure of the Kaveri engine project** to meet expected standards highlights the need for greater investment in homegrown R&D. Without a strong indigenous innovation ecosystem, the private sector struggles to meet the demands of high-tech defence manufacturing.
- **Organisational Shortcomings:**
 - **The Rama Rao Committee report** pointed out inefficiencies and lack of coordination within India's defence innovation structures, particularly the DRDO. The absence of a streamlined higher organisational structure leads to

duplication of efforts, waste of resources, and ad-hoc decision-making, which stifles innovation and private sector collaboration.

- **Deficit of Human Resources:**
 - The **DRDO, central to defence innovation, faces human resource challenges**, including a poor scientist-to-staff ratio, high attrition rates, and inadequate training. This talent deficit impacts not just the public sector but also limits the growth of the private sector, which relies on collaboration with institutions like the DRDO for expertise and technology development.
- **Stiff Global Competition:**
 - Established defence manufacturers from countries like the **US, Russia, France, and China dominate the international arms market**. For India's private sector to compete globally, it needs to develop advanced products at competitive prices, a significant challenge given its current technological limitations and nascent international presence.

Government Initiatives for Private Sector Participation in Defence Manufacturing

- **Defence Production and Export Promotion Policy (DPEPP) 2020:** Aims to boost defence production, reduce imports, and achieve \$5 billion in defence exports by 2025, encouraging active private sector involvement.
- **Defence Acquisition Procedure (DAP) 2020:** Simplifies procurement processes, prioritizes indigenous products, and fast-tracks approvals to facilitate private sector participation.
- **Corporatisation of Ordnance Factory Board (OFB):** Converts OFB into seven companies, fostering collaboration with private firms to enhance efficiency and competitiveness.
- **ADITI Scheme (Acing Development of Innovative Technologies with iDEX):** Provides grants up to Rs 25 crore to start-ups for defence R&D, fostering innovation and reducing reliance on imports.
- **Strategic Partnership (SP) Model:** Allows private firms to partner with foreign OEMs for manufacturing key military platforms, fostering technology transfer.
- **Positive Indigenisation Lists:** Identifies 509 items for domestic manufacturing, creating demand for locally produced defence equipment by private companies.
- **Defence Industrial Corridors:** Establishes hubs in Uttar Pradesh and Tamil Nadu to attract private investment, promote innovation, and create jobs in defence manufacturing.
- **Make in India and Atmanirbhar Bharat:** Encourages domestic manufacturing with financial incentives and ease of doing business, driving private sector growth in defence.
- **Production-Linked Incentive (PLI) Scheme:** Provides financial incentives to private firms for manufacturing high-tech defence equipment, boosting production and exports.

WAY FORWARD:

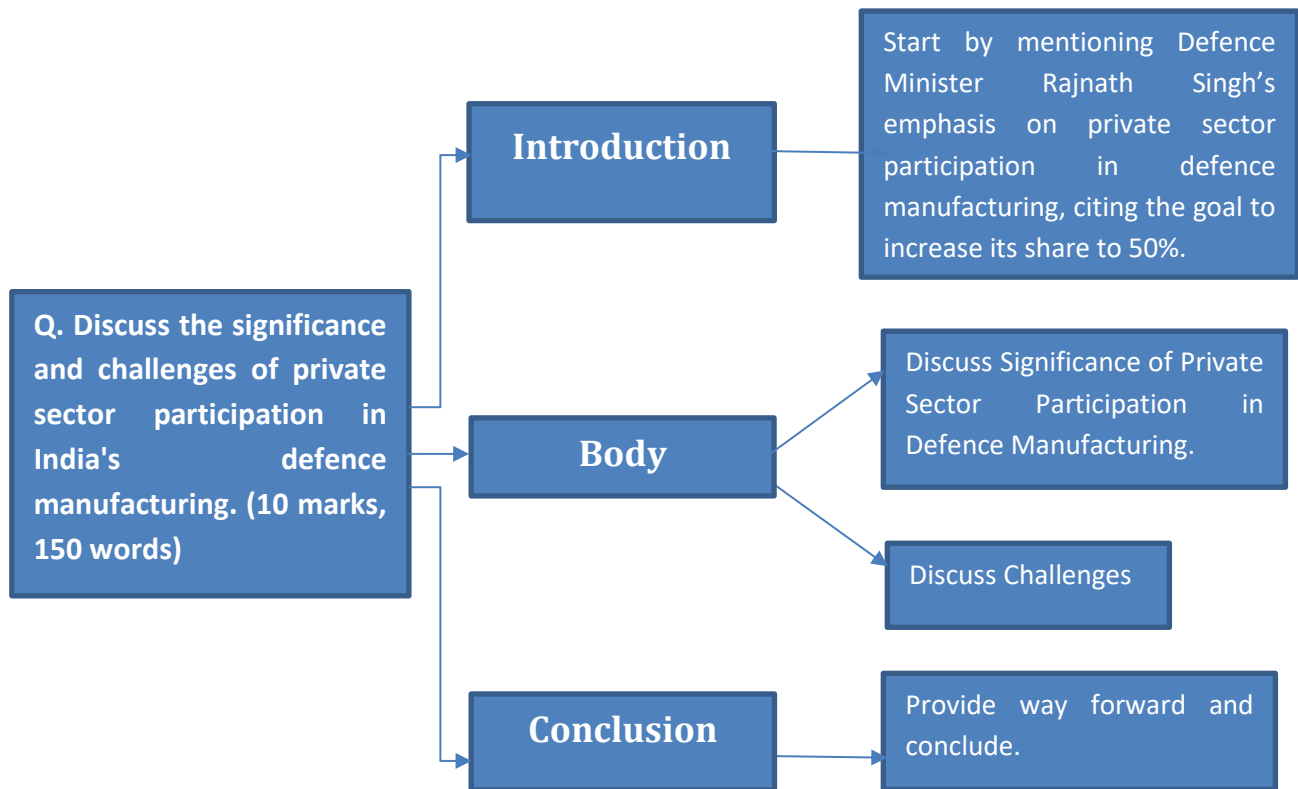
- **Streamlining Regulatory Approvals:** Simplify and fast-track the clearance process for licences and approvals through a dedicated defence manufacturing portal, reducing bureaucratic delays.
- **Encouraging Investment in R&D:** Provide tax incentives, subsidies, and grants to private firms investing in indigenous R&D for advanced technologies, thus reducing dependency on foreign technology transfers.
- **Public-Private Collaboration:** Promote joint ventures and public-private partnerships, particularly in high-tech fields like cyber defence, AI, and aerospace. Collaborative research centres could bridge the gap between public sector expertise and private sector innovation.
- **Strengthening Defence Corridors:** Accelerate the development of Defence Industrial Corridors in Uttar Pradesh and Tamil Nadu to attract more investments, create manufacturing clusters, and reduce logistics costs for defence production.
- **Expanding Global Partnerships:** Continue to build strategic defence partnerships with global OEMs, allowing for technology transfers and co-development opportunities that boost the domestic manufacturing ecosystem.
- **Increased Focus on Exports:** Strengthen export promotion strategies for Indian defence products through diplomatic channels and trade agreements, ensuring Indian private firms can access global markets.
- **Capacity Building for SMEs:** Create a supportive ecosystem for Small and Medium Enterprises (SMEs) in defence manufacturing by providing them access to government contracts, financial support, and technology transfers from larger firms.

CONCLUSION: The private sector's participation in defence manufacturing is key to transforming India's capabilities and achieving self-reliance. Government initiatives like indigenisation lists, defence corridors, and public-private partnerships offer a strong framework, but challenges such as regulatory hurdles, high costs, and dependence on foreign technology remain. By fostering innovation, streamlining policies, and encouraging global collaborations, India can emerge as a global defence manufacturing hub, ensuring long-term strategic autonomy.

PRACTICE QUESTION

Q. Discuss the significance and challenges of private sector participation in India's defence manufacturing. (10 marks, 150 words)

APPROACH



MODEL ANSWER

Recently, Defence Minister Rajnath Singh emphasized the importance of increasing private sector participation in India's defence production during an event hosted by the Society of Indian Defence Manufacturers (SIDM). He advocated for raising **the private sector's share in defence production to 50% of the total output**, stressing the need for self-reliance and drawing lessons from global conflicts like the Russia-Ukraine war to bolster India's defence industrial base. The private sector's role is critical for reducing import dependency and enhancing India's strategic autonomy.

Significance of Private Sector Participation in Defence Manufacturing:

1. **Achieving Self-Reliance in Defence:** According to SIPRI, India was the world's second-largest arms importer between 2017 and 2021, making it vulnerable to external disruptions. Private sector participation, under the **Atmanirbhar Bharat** initiative, is crucial for reducing this dependency and building a strong domestic defence manufacturing base.
2. **Promoting R&D and Innovation:** Private firms such as **Larsen & Toubro (L&T)** and **Bharat Forge** have invested heavily in R&D, leading to advancements in artillery systems and aerospace components. This innovation is essential for improving India's defence technology and export potential.
3. **Collaboration with Global Firms:** Indian firms, like **Tata Advanced Systems Ltd. (TASL)**, have partnered with global defence giants such as **Lockheed Martin** and **Boeing**, facilitating the transfer of cutting-edge technologies for manufacturing fighter jets and helicopters, thus boosting India's technological capabilities.

4. **Boosting Defence Exports:** India aims to increase defence exports to \$5 billion by 2025. Private sector participation is vital in achieving this goal, with firms like **Bharat Forge, Mahindra Defence,** and **TASL** already exporting components globally, thereby enhancing India's international market presence.
5. **Job Creation and Economic Growth:** The development of **Defence Industrial Corridors** in Uttar Pradesh and Tamil Nadu is expected to attract significant private investment, creating jobs in high-tech industries and contributing to economic growth.

Major government initiatives:

- Defence Production and Export Promotion Policy (DPEPP) 2020
- Defence Acquisition Procedure (DAP) 2020
- Corporatisation of Ordnance Factory Board (OFB)
- ADITI Scheme (Acing Development of Innovative Technologies with iDEX)
- Strategic Partnership (SP) Model
- Positive Indigenisation Lists
- Defence Industrial Corridors

Challenges to Private Sector Participation in Defence Manufacturing:

1. **Capital Intensity and Long Gestation Periods:** Defence projects are highly capital-intensive and have long lead times before returns are realised, which can deter smaller private firms, especially **SMEs**, from entering the market due to limited financial resources.
2. **Underdeveloped Private Sector:** Despite the sector being opened to 100% private participation in 2001, only a few firms like **Tata** and **L&T** have established themselves. Most private firms lack experience in producing complex systems like fighter jets or submarines, hindering their growth.
3. **Bureaucratic Red Tape and Regulatory Delays:** While the **Defence Acquisition Procedure (DAP) 2020** simplifies procurement, delays in acquiring necessary licenses and approvals remain, creating barriers for private firms and slowing down production timelines.
4. **Constrained R&D Capabilities:** India spends only 5-6% of its defence budget on R&D, compared to over 10% by countries like the US and China. This limits the private sector's ability to innovate independently, forcing reliance on foreign technology transfers.
5. **Lack of Indigenous R&D Ecosystem:** Reliance on foreign OEMs remains high due to underdeveloped domestic R&D. The failure of projects like the **Kaveri engine** underscores the need for greater investment in homegrown R&D to meet the demands of high-tech defence manufacturing.

Way Forward:

- **Streamlining Regulatory Approvals:** Establish a dedicated defence manufacturing portal to fast-track licenses and approvals, reducing bureaucratic delays.
- **Encouraging R&D Investment:** Provide tax incentives and grants to private firms investing in indigenous R&D for advanced defence technologies.
- **Public-Private Collaboration:** Promote joint ventures between public entities like **DRDO** and private firms in areas such as AI and cyber defence, fostering innovation.
- **Strengthening Defence Corridors:** Accelerate the development of Defence Industrial Corridors to attract private investment, create manufacturing clusters, and reduce logistics costs.
- **Focus on Exports:** Strengthen export strategies for Indian defence products through diplomatic channels, ensuring global market access for private firms.

Private sector participation in defence manufacturing is essential for transforming India's defence capabilities and achieving self-reliance. While government initiatives like indigenization lists, defence corridors, and public-private partnerships provide a strong foundation, challenges such as regulatory hurdles, high costs, and reliance on foreign technology remain. By fostering innovation, simplifying policies, and enhancing global collaborations, India can emerge as a global defence manufacturing hub, ensuring long-term strategic autonomy.

24. 10 YEARS OF MAKE IN INDIA

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Economic Development > Indian Economy and issues > Manufacturing sector

REFERENCE NEWS:

- The 'Make in India' initiative celebrated its tenth anniversary on September 25, 2024, marking a significant milestone since its launch aimed at transforming India into a global manufacturing hub.

MORE ON NEWS:

- On this milestone, Prime Minister Modi credited the success of the 'Make in India' initiative to the collective effort of pioneers who made **India a global manufacturing leader**, as stated in his blog.
- Union Minister of Commerce and Industry, Shri Piyush Goyal, noted significant advancements in **manufacturing, investment, and employment**, highlighting the **ease of doing business** improvements from **digitization** and the country's status as the **world's second-largest mobile phone manufacturer**. He also expressed optimism about future investments poised to enhance the manufacturing sector significantly.
- Launched during an economic downturn, 'Make in India' was designed to boost investment and innovation. Now, as it enters the 'Make in India 2.0' phase with 27 sectors included, the initiative seeks to maintain its momentum and strengthen India's global manufacturing stature.

ABOUT MAKE IN INDIA:

- Make in India is the flagship programme of the Government of India designed to **facilitate investment, foster innovation, enhance skill development, protect intellectual property** and **build best in class manufacturing infrastructure** in the country.
- The primary objective of this initiative is to **attract investments from across the globe and strengthen India's manufacturing sector**.
- It is being led by the **Department for Promotion of Industry and Internal Trade (DPIIT)**, Ministry of Commerce and Industry, Government of India.
- **The three major objectives are:**
 - (a) To increase the **manufacturing sector's growth rate to 12-14% per annum** in order to increase the sector's share in the economy
 - (b) To create **100 million additional manufacturing jobs** in the economy by 2022

- (c) To ensure that the **manufacturing sector's contribution to GDP is increased to 25% by 2022** (revised to 2025)
- The initiative is an **open invitation to potential investors and partners** across the globe to participate in the growth story of 'New India'.
- **Make in India has substantial accomplishments across 27 sectors.** These include **strategic sectors of manufacturing and services as well.**

Pillars of 'Make in India'

❖ **New Processes:** The "Make in India" initiative identified 'ease of doing business' as a crucial factor for promoting entrepreneurship. Several measures were implemented to enhance the business environment, making it more conducive for startups and established enterprises alike.

❖ **New Infrastructure:** The government focused on developing industrial corridors and smart cities, integrating state-of-the-art technology and high-speed communication to create world-class infrastructure. Innovation and research were supported through streamlined registration systems and improved intellectual property rights (IPR) infrastructure. Efforts were made to identify industry skill requirements and develop the workforce accordingly.

❖ **New Sectors:** Foreign Direct Investment (FDI) was significantly opened up in various sectors including Defence Production, Insurance, Medical Devices, Construction, and Railway infrastructure. This expansion also included easing FDI regulations in Insurance and Medical Devices, encouraging international investment and growth.

❖ **New Mindset:** The government embraced a role as a facilitator rather than a regulator, partnering with industry to drive the country's economic development. This shift aimed to foster a collaborative environment that supported industrial growth and innovation.

MAJOR INITIATIVES TAKEN TO ENABLE MAKE IN INDIA:

- **Production Linked Incentive (PLI) Schemes:** These schemes aim to boost the manufacturing sector with an allocation of **₹1.97 lakh crore** (over US\$26 billion). Covering **14 key sectors**, the PLI schemes are designed to attract investments, incorporate advanced technology, and ensure operational efficiency. The sectors include Mobile Manufacturing, Pharmaceuticals, Specialty Steel, and Food Products, among others. As of mid-2024, these schemes have approved 755 applications, leading to an investment realization of **₹1.23 lakh crore and generating employment for about 800,000 individuals.**
- **PM GatiShakti:** Launched in 2021, this strategic initiative targets creating a **US \$5 trillion economy by 2025** through enhanced multimodal and last-mile connectivity infrastructure. It involves coordinated efforts across **36 Ministries/Departments**, focusing on sectors like Railways, Roads, and Airports to streamline project implementation and enhance logistics efficiency.

- **Semiconductor Ecosystem Development:** Initiated in 2021 with a financial outlay of **INR 76,000 crore**, this program aims to develop a sustainable semiconductor and display manufacturing ecosystem in India. It includes schemes for setting up semiconductor fabs, display fabs, and facilities for semiconductor assembly, testing, marking, and packaging.
- **National Logistics Policy (NLP):** Introduced in 2022 to enhance India's logistics sector's soft infrastructure. The NLP **supports the PM GatiShakti plan** and focuses on reducing logistics costs and improving India's ranking in the **Logistics Performance Index** by leveraging technology and improving processes.
- **National Industrial Corridor Development Programme:** This ambitious infrastructure initiative aims to create "Smart Cities" and advanced industrial hubs across India, promoting growth in manufacturing and systematic urbanization.
- **Startup India:** Since its launch in 2016, this initiative has significantly contributed to building a robust startup ecosystem in India, making it **the third-largest globally with over 148,931 DPIIT Recognized Startups** that have created more than 1.55 million jobs.
- **Tax Reforms:** The implementation of the Goods and Services Tax (GST) in 2017 was a major step in simplifying the tax regime, unifying the country into a single market which has enhanced the ease of doing business and made local manufacturing more competitive.
- **Unified Payments Interface (UPI):** UPI has revolutionized digital payments in India, accounting for 46% of the global real-time payment transactions and processing nearly ₹81 lakh crore between April and July 2024 alone.
- **Foreign Direct Investment (FDI):** Record-breaking FDI inflows have been witnessed under the Make in India initiative, with total FDI amounting to **\$70.95 billion in FY 2023-24**, indicating robust international confidence in India's market.

ACHIEVEMENTS OF MAKE IN INDIA:

- **Ease of doing business:**
 - Steps taken to improve ease of doing business include simplification and rationalisation of existing rules.
 - As a result of the measures taken to improve the country's investment climate, **India's rank in ease of doing business according to World Bank report has improved from 142 in 2014 to 63 in 2022.**
- **Increase in investment:**
 - To attract foreign investments and thereby strengthen Make in India initiative, Government of India has put in place a **liberal and transparent policy wherein most sectors are open to FDI under the automatic route.**
 - From \$45.14 billion in 2014-15, FDI inflows peaked at **\$84.83 billion in 2021-22.**

- Between April 2014 and March 2024, India received \$667.41 billion in FDI, about **67% of the total received in the last 24 years**. In FY 2023-24 alone, total **FDI was \$70.95 billion**, with equity inflows of \$44.42 billion, highlighting India's strong position as a global investment destination.
- **Boost to MSMEs:**
 - The **'zero defect zero effect'** phrase which came with Make in India campaign has shown positive impact on the Micro, Small and Medium Enterprises (MSMEs) of India.
 - As a result, many companies are **manufacturing goods with 'zero defects' and ensuring that the goods have 'zero effect' on the environment**.
- **Accountability:**
 - **The implementation of Goods and Services Tax (GST) and demonetisation** has made the industry as a whole much more transparent and accountable.
 - Now the processes have been simplified such as obtaining licenses and clearances that have brought in more transparency into the system.
 - **The digitisation initiative** that is part of Make in India has helped make processes much more transparent and easier to implement.
- **Achievements across various sectors:**
 - **Pharmaceuticals and Vaccine Production:** India has been pivotal in vaccine manufacturing, particularly during the COVID-19 pandemic, achieving swift vaccination coverage and becoming a major exporter of life-saving vaccines. Currently, India produces nearly **60% of the world's vaccines** (Source: Ministry of Commerce & Industry), solidifying its status as a global pharmaceutical hub.
 - **Advanced Rail Technology:** The Vande Bharat Trains, India's first indigenous semi-high-speed trains, showcase state-of-the-art technology offering enhanced travel experiences. With 102 services running, these trains demonstrate India's capabilities in modern rail technology and infrastructure.
 - **Defence Production:** The launch of **INS Vikrant**, India's first domestically produced aircraft carrier, marks a significant achievement in defense. The defense sector's output soared to **₹1.27 lakh crore in 2023-24, with products reaching over 90 countries**, highlighting India's commitment to self-reliance and substantial growth in this sector (Source: Ministry of Commerce & Industry). Also, 'Made in Bihar' boots being used by the Russian Army exemplify Indian manufacturing's reach and standards in the global defense market.
 - **Electronics Manufacturing:** The electronics sector has seen rapid growth, with production values soaring from **USD 48 billion in FY17 to USD 155 billion in FY23**. This growth is driven by local manufacturing of **mobile phones**, which now accounts for **43% of the total electronics production**,

making India the **second-largest** mobile phone manufacturer globally(Source: Ministry of Commerce & Industry).

- **Trade and Exports:** India recorded merchandise exports worth **\$437.06 billion in FY 2023-24**, underlining its expanding role in international trade(Source: Ministry of Commerce & Industry). This reflects a robust export strategy and the global demand for Indian goods.
- **Engineering and Design:** Indian bicycles have received global acclaim, with significant exports to the UK, Germany, and the Netherlands. This success underscores the quality and competitiveness of Indian engineering and design.
- **Dairy Products:** Amul, an iconic Indian brand, has successfully expanded its market by launching dairy products in the US, promoting Indian flavors on a global platform.
- **Textile Industry:** The textile sector has created an astounding 14.5 crore jobs(Source: Ministry of Commerce & Industry), significantly contributing to India's employment landscape and demonstrating the sector's capacity to support the economy.
- **Toy Manufacturing:** With an annual production of 400 million toys(Source: Ministry of Commerce & Industry), and creating 10 new toys every second, India is rapidly becoming a key player in the global toy industry.

CHALLENGES AND CONCERNS ASSOCIATED WITH MAKE IN INDIA:

- **Too much reliance on foreign capital:**
 - Most of the schemes under Make in India relied too much on foreign capital for investments and global markets for produce.
 - **This created an inbuilt uncertainty**, as domestic production had to be planned according to the demand and supply conditions elsewhere
- **'Make in India' has been plagued by a large number of under-prepared initiatives:**
 - The implementation deficit has resulted in **large number of stalled projects in India**
- **Loss of policy focus:**
 - The initiative brought in too many sectors into its fold. **This led to a loss of policy focus.**
 - Further, it was seen as a policy devoid of any understanding of the comparative advantages of the domestic economy.
- **The initiative is ill-timed:**
 - Given the uncertainties of the global economy and ever-rising trade protectionism, the initiative was spectacularly ill-timed.
- **Negligence of Agriculture**
 - The most negative impact of the Make in India campaign will be in the agriculture sector of India.

- It is a well-known fact that **Indian Territory has 61% cultivable land**. With the **introduction of industrial sectors, the agriculture in India will be neglected**.
- **Bureaucratic Delays:**
 - The initiative has been criticized for slow bureaucratic processes that delay the approval and implementation of projects, particularly in the defense sector where vital equipment purchases are stalled, affecting India's military capabilities.
- **Dependency on Imports in Defense:**
 - Despite the initiative's aim for self-reliance, the defense sector still heavily relies on imports. For example, **nearly 90% of aircraft parts and components used by Hindustan Aeronautics Limited (HAL) are imported**, which underscores the ongoing dependence on foreign technology and components.
- **Economic Viability and Policy Impact:**
 - The initiative has struggled to meet its economic targets. Manufacturing's share of India's GDP was expected to rise to **25% by 2025**; however, it was reported at **only around 15% in recent years**.
 - Additionally, the initiative aimed to create **100 million jobs in manufacturing** by 2022, a target that has not been reached due to slower-than-expected industrial growth and investment.
- **Depletion of Natural Resources**
 - Since Make in India is primarily based on manufacturing industries, it demands the set-up of various factories. Usually, **such projects consume the natural resources such as water, land etc. on a large scale**.
- **Disruption of Land**
 - With the emphasis being given to the Make in India campaign, thousands of companies would come forth to **set up their factories on the land which could be used for cultivation**. Eventually, this set up of manufacturing factories would lead to the **permanent disruption of the agrarian land in the near future**.
- **Pollution**
 - One of the biggest problems which are prevailing in India is pollution.
 - With the make in India movement, **this pollution level is likely to arise in a couple of years**.

WAY FORWARD:

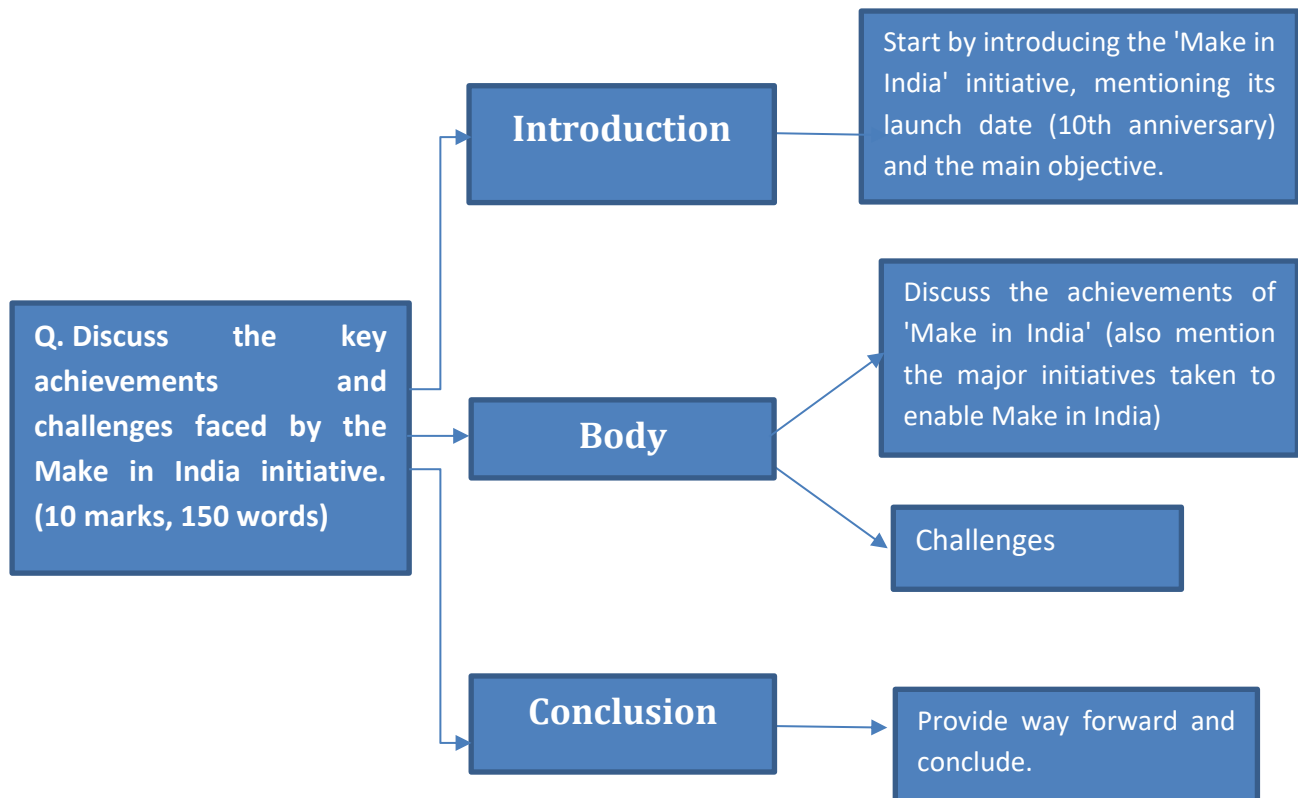
- **Balanced Capital and Investment Strategy:** Focus on fostering domestic investment and developing a robust financial market to support SMEs, while continuing to attract foreign capital.

- **Diversification of Manufacturing:** Diversify manufacturing across products and regions within India to mitigate global economic risks and manage regional disparities.
- **Strengthening R&D and Innovation:** Increase government spending on R&D and incentivize private sector involvement. Establish research hubs and innovation districts for globally competitive technologies.
- **Enhancing Skill Development:** Expand vocational training and upskilling programs, especially in rural areas, to align workforce skills with future manufacturing needs.
- **Simplifying the Tax System:** Streamline the taxation process by reducing the number of taxes, minimizing paperwork, rationalizing GST rates, and tackling corruption to alleviate investor concerns.
- **Land Reforms:** Amend stringent land acquisition laws to facilitate easier land purchases for defense and development projects, ensuring the rights of farmers are protected to attract more investors in the manufacturing sector.
- **Improving Infrastructure:** Invest in infrastructure improvements such as roads, ports, and power, focusing on sustainable practices to minimize environmental impacts.
- **Policy Coherence and Simplification:** Make policies more coherent and sector-specific, streamline procedures, and enhance transparency to improve the ease of doing business.
- **Promoting Sustainable Practices:** Incorporate green manufacturing and promote renewable energy use and efficient waste management in industrial processes.
- **Focusing on High-Value Industries:** Target investments in high-value sectors like semiconductors, aerospace, and pharmaceuticals to enhance industry capabilities.
- **Addressing Regional Imbalances:** Focus on developing underrepresented regions by setting up manufacturing hubs and offering incentives for local investments.
- **Leveraging Technological Advancements:** Adopt Industry 4.0 technologies such as IoT, AI, and robotics to boost productivity and maintain a competitive edge globally.
- **Improving Trade Ties:** Strengthen trade relationships and explore new markets to cushion against global economic shocks.
- **Effective Utilization of PLI Schemes:** Maximize the impact of Production Linked Incentive schemes to boost quality manufacturing and exports.

PRACTICE QUESTION

Q. Discuss the key achievements and challenges faced by the Make in India initiative. (10 marks, 150 words)

APPROACH



MODEL ANSWER

Launched on September 25, 2014, the 'Make in India' initiative recently celebrated its **10th anniversary**, a significant milestone that underscores its enduring impact on India's economic trajectory. Aimed at transforming India into a **global manufacturing powerhouse**, this ambitious program was designed to facilitate investment, foster innovation, enhance skill development, protect intellectual property, and build best-in-class manufacturing infrastructure.

Achievements of 'Make in India':

- **Enhanced Global Manufacturing Presence:** The 'Make in India' initiative has significantly boosted India's global manufacturing stature, for instance, making it the world's second-largest mobile phone manufacturer. This growth is attributed to tailored incentives that attracted major global players to India.
- **Record Levels of Foreign Direct Investment (FDI):** The initiative has successfully attracted unprecedented levels of FDI, with inflows peaking at \$84.83 billion in 2021-22. Over the decade, India received \$667.41 billion in FDI, underscoring strong international confidence in the Indian market.
- **Infrastructure Development:** 'Make in India' has spurred considerable improvements in infrastructure through programs like the National Industrial Corridor Development Programme, aiming to create smart cities and industrial hubs that promote systematic urbanization.

- **Innovation and Technology Advancement:** The initiative has significantly fostered innovation, particularly in high-tech sectors like semiconductors and pharmaceuticals. Programs aimed at developing a sustainable semiconductor ecosystem and India's pivotal role in global vaccine production during the COVID-19 pandemic highlight this success.
- **Job Creation and Skill Development:** 'Make in India' has been instrumental in job creation, aiming to add 100 million new jobs in the manufacturing sector. Initiatives like Skill India enhance employability by aligning workforce skills with modern economic demands.
- **Broad Sectoral Improvements:** Substantial advancements across various sectors—such as pharmaceuticals, defense production, and electronics—demonstrate the initiative's broad impact. For example, the defense sector's output soared to ₹1.27 lakh crore in 2023-24, and the electronics sector's production value reached USD 155 billion in FY23.



Challenges Facing 'Make in India'

- **Over-Reliance on Foreign Capital:** The initiative's heavy reliance on foreign capital for investments has introduced economic vulnerabilities, influenced by global market fluctuations, which occasionally overshadow domestic investment.
- **Neglect of the Agricultural Sector:** The industrial focus of 'Make in India' risks marginalizing the agricultural sector, which employs a substantial portion of the Indian population, potentially threatening food security and rural livelihoods.
- **Environmental Concerns:** Rapid industrial growth under 'Make in India' has exacerbated issues like pollution, land degradation, and resource depletion, raising significant environmental concerns as the country industrializes.
- **Implementation Gaps:** Significant discrepancies between policy formulation and execution have led to stalled projects and slow bureaucratic processes, particularly affecting sectors like defense where timely procurement is crucial.
- **Inequitable Regional Development:** The benefits of 'Make in India' have been unevenly distributed, with most development concentrated in specific urban and industrialized regions, leading to socio-economic disparities across the country.

Way forward:

- **Balancing Investment Sources:** Focus on diversifying investment sources by supporting SMEs and reducing dependence on foreign capital to ensure sustainable growth.
- **Promoting Sustainable Practices:** Emphasize sustainable manufacturing and renewable energy to lessen the environmental impacts of industrial activities.
- **Enhancing Technological Self-Reliance:** Invest in R&D to decrease reliance on foreign technology, especially in critical sectors like defense.
- **Streamlining Implementation and Reducing Bureaucracy:** Improve bureaucratic efficiency and ensure policy coherence to accelerate the implementation of projects.
- **Addressing Regional Disparities:** Develop policies that promote balanced industrial growth across all regions to achieve inclusive economic development.

The 'Make in India' initiative has transformed India's manufacturing landscape, catalyzing economic growth and technological advancement. However, addressing its challenges through strategic adjustments and a balanced development approach will be essential for ensuring its long-term success and sustainability.

25. INDIA'S FERTILIZER REGIME

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Economic Development > Indian Agriculture

REFERENCE NEWS:

With the crisis continuing in Ukraine and Gaza, experts and policymakers are concerned about further increases in the prices of the components used for making **petroleum-based chemical fertilizers**. Recently, Senior Economist of the Food and Agriculture Organization Nicholas Sitko told The Hindu that **India has to increase its own fertilizer production capacity**.

The Agriculture Minister of the country's **largest foodgrains producing Uttar Pradesh** recently complained that the State has the **stock of fertilizers for only 10 more days**. The sowing of winter rabi crops has started in almost all the wheat-growing States and fertilizers such as Diammonium phosphate (DAP) and NPK [Nitrogen, Phosphorus, and Potassium] are essential for its growth.

FERTILIZER REGIME IN INDIA:

India is one of the largest consumers of fertilizers globally, driven by the need to ensure food security for its vast population.

- **Total Consumption:** India consumed approximately **62 million tonnes** of fertilizers in 2022-23, including **Urea (Nitrogen - N)**, **Di-Ammonium Phosphate (DAP - Phosphorus - P)**, and **Muriate of Potash (MOP - Potassium - K)**.
- **Urea** accounts for **55-60%** of total fertilizer consumption, indicating a preference for nitrogen-based fertilizers.
- Standing Committee of Parliament on Chemicals and Fertilizers, in 2023, tabled a report on 'Planning for Fertilizers Production and Import Policy on Fertilizers Including GST and Import Duty Thereon', expressed the concern of **gap between demand and supply which is met through imports**. According to the report, about **20% of the domestic requirement of urea, 50-60% of the domestic requirement of DAP, and 100% of the domestic requirement of Muriate of Potassium (MOP, or Potash) is met through imports**.
- **Subsidy Regime:** The Centre allocated **₹ 1.79 lakh crore as fertilizer subsidy** under the Budget estimates for 2023-24. Out of this, for indigenous P&K Fertilizers, the subsidy amount was ₹25,500 crore and ₹18,500 crore for imported P&K Fertilizers.

For indigenous Urea, the subsidy was ₹1,04,063.20 crore while the subsidy for imported urea was ₹ 31,000 crore.

- **Nutrient Based Subsidy regime:** Under the NBS scheme, farmers are provided subsidised fertilizers based on their nutrient content, namely, Nitrogen (N), Phosphate (P), Potash (K), and Sulphur (S). Moreover, fertilizers fortified with secondary and micronutrients receive additional subsidy. Objectives of NBS scheme are to ensure nation's food security, improve agricultural productivity and ensure the balanced application of fertilizers. It covers all phosphatic and potassic (P&K) fertilisers except urea.

SIGNIFICANCE OF FERTILIZERS TO INDIAN AGRICULTURE AND ECONOMY:

Boosting Agricultural Productivity and Food Security

- **Higher Crop Yields:** Fertilizers provide essential nutrients such as **nitrogen, phosphorus, and potassium (NPK)**, necessary for plant growth.
 - The **Green Revolution (1960s)**, which transformed India from a food-deficit to a food-surplus country, was driven by **chemical fertilizers** and high-yielding crop varieties.
- **Increase in Production:** According to the **Ministry of Agriculture**, fertilizers have contributed to a **40-50% increase in crop yields** over the past few decades.
- **Ensuring Food Security:** With a growing population of **1.4 billion**, fertilizers are essential to meet the rising demand for food.
 - India produced **136 million tonnes** of rice and **112 million tonnes** of wheat in 2022-23, with fertilizers playing a key role in achieving these targets.

Economic Growth and Rural Employment

- **Contribution to GDP:** Agriculture accounts for about **17-18%** of India's **GDP**, and fertilizers directly support the sector's productivity. The **fertilizer industry** itself provides jobs across **manufacturing, distribution, and retail networks**, creating employment in rural areas.
- **Rural Employment and Livelihoods:** **54.6% of the workforce** depends on agriculture, and improved crop yields through fertilizers ensure stable farm incomes.
 - Fertilizer use has enabled the success of **Punjab and Haryana's wheat-rice cropping system**, which supports millions of farmers.

Enabling Crop Diversification

- **Support for High-Value Crops:** Fertilizers allow farmers to shift from traditional crops to **high-value crops** like fruits, vegetables, and cash crops (cotton, sugarcane).
 - In Maharashtra, fertilizers have facilitated the expansion of **sugarcane farming**, boosting the state's economy.
- **Horticulture Development:** Fertilizers are essential for improving the yield of **horticultural crops** (fruits, vegetables, flowers), contributing to **food processing industries** and exports.
 - India is the second-largest producer of fruits and vegetables globally, with fertilizers playing a key role in achieving high yields.

Reducing Dependence on Food Imports

- **Self-Sufficiency in Food Production:** India moved from importing **10 million tonnes of food grains** annually in the 1950s to being an **exporter of rice and wheat** today.
- **Buffer Stock Creation:** Fertilizers enable the production of surplus food grains, allowing the government to build **buffer stocks** under schemes like the **Public Distribution System (PDS)**.

Contribution to Export Earnings and Foreign Exchange

- **Agricultural Exports:** Fertilizer-driven crop production contributes to the export of **agricultural products**, such as **basmati rice, cotton, and spices**.
 - In 2022-23, agricultural exports from India reached **\$50 billion**, with rice being a major contributor.
- **Allied Sector Growth:** Fertilizers support allied sectors such as **food processing and textiles** (through cotton production), enhancing India's **export basket** and generating foreign exchange.

Addressing Climate and Yield Variability

- **Mitigating Yield Losses:** Fertilizers help maintain crop yields in the face of **climatic uncertainties** and **soil degradation**. Fertilizer use in drought-resistant varieties of rice and wheat has ensured stable production despite erratic rainfall in regions like Maharashtra and Rajasthan.
- **Precision Agriculture and Sustainability:** New developments such as **neem-coated urea** and **nano-fertilizers** reduce nitrogen losses and ensure **sustainable farming practices**.
 - The government reported that neem-coated urea has reduced **nitrogen wastage by 10-15%**, promoting efficient use of resources.

Facilitating Government Food Procurement and Social Welfare Programs

- **Support for Public Distribution System (PDS):** High crop productivity enabled by fertilizers ensures a steady supply of grains to the PDS, benefiting millions of poor households.
 - India procures **more than 60 million tonnes** of wheat and rice annually for distribution under the **National Food Security Act (NFSA)**.
- **Price Stabilization:** Surplus agricultural production due to fertilizers helps stabilize prices of essential commodities, reducing inflationary pressures.

CHALLENGES OF FERTILIZER REGIME IN INDIA:

- **Imbalanced Use of Fertilizers:** India's fertilizer consumption is heavily skewed towards **nitrogen-based fertilizers**, particularly **urea**, due to its lower price.
 - In 2022-23, the **N:P:K ratio** was 6.5:2.5:1 instead of the ideal 4:2:1, reflecting overuse of nitrogen and underuse of phosphorus and potassium.
- **Impact on Crop Yields:** Imbalanced fertilizer use leads to **nutrient depletion in the soil**, impacting yields over time. Reports from the **Indian Council of Agricultural Research (ICAR)** show that productivity gains from fertilizer use have plateaued due to **nutrient imbalances**.
- **High Fertilizer Subsidies:** The **disproportionate subsidy on urea** distorts the market and discourages the use of **balanced fertilizers**.
 - Urea is sold at ₹5,628 per tonne, far cheaper than non-urea fertilizers, leading to farmers opting for more urea even when it is not required.
- **Financial Pressure on the Government:** The rising fertilizer subsidy is a major fiscal concern, limiting resources available for other agricultural or developmental schemes. The **Economic Survey 2022-23** highlighted that fertilizer subsidies accounted for **1.3% of GDP**.
- **Dependence on Imports:** India imports over **50% of Di-Ammonium Phosphate (DAP)** and **100% of Muriate of Potash (MOP)**, making the market vulnerable to **global price fluctuations** and **supply disruptions**.
 - During the Russia-Ukraine war in 2022, global fertilizer prices surged, increasing the cost of fertilizer imports for India.
- **Supply Chain Vulnerabilities:** Any disruption in **global supply chains**—as witnessed during the COVID-19 pandemic—affects the availability and pricing of key fertilizers, placing pressure on the domestic market.

- **Supply Chain Inefficiencies:** Fertilizer distribution in India is heavily dependent on government-controlled systems, leading to delays in delivery during the peak agricultural season.
 - Farmers often face delays in receiving DAP fertilizers during the **Kharif season**, leading to crop losses.
- **Black Marketing of Subsidized Urea:** Subsidized fertilizers like urea are sometimes diverted for **industrial use** or sold illegally in the black market, depriving farmers of timely access.
 - According to a **CAG report**, nearly **15-20% of urea** distributed is misused or diverted for non-agricultural purposes.
- **Soil and Water Pollution:** Over-application of fertilizers leads to **soil salinization** and **pollution of water bodies** through runoff. Excess nitrogen also contributes to **greenhouse gas emissions** in the form of nitrous oxide.
 - The **Yamuna river** experiences eutrophication due to fertilizer runoff from agricultural fields in northern India, impacting aquatic ecosystems.
- **Declining Soil Health:** Excessive use of urea without sufficient organic inputs leads to **loss of microbial diversity** in the soil, reducing fertility over time.
- **Low Adoption of Organic and Bio-fertilizers:** Despite the government's push for **organic farming** and **bio-fertilizers** through schemes like **Paramparagat Krishi Vikas Yojana (PKVY)**, adoption remains low due to **lack of awareness and incentives**.
- **Limited Use of Precision Agriculture:** Technologies like **drone-based fertilizer spraying** and **soil testing** are underutilized, preventing efficient fertilizer application.
 - Although the **Soil Health Card (SHC) Scheme** has distributed over 22 crore cards, follow-up support for farmers is lacking, reducing the impact of soil testing.
- **Uneven Consumption Patterns:** Fertilizer use is concentrated in **high-yield states** like **Punjab, Haryana, and Uttar Pradesh**, while states like **Rajasthan** and **Odisha** witness under-usage, leading to regional disparities in productivity.
 - Punjab's fertilizer consumption is 243 kg per hectare, much higher than the national average of 135 kg per hectare, leading to skewed agricultural development.

WAY FORWARD:

Government Initiatives for an Economical and Sustainable Fertilizer Regime

- **Neem-Coated Urea:** Mandated the production of **100% neem-coated urea** to reduce **nitrogen wastage** through gradual nutrient release. It reduced fertilizer consumption by **8-10%** and curbed black marketing of subsidized urea.
- **Soil Health Card (SHC) Scheme** Launched in 2015 to promote **judicious fertilizer use** by providing farmers with soil analysis and nutrient recommendations.
- **Nutrient-Based Subsidy (NBS) Scheme:** Provides subsidies on **non-urea fertilizers** (like DAP and MOP) to encourage balanced fertilizer use.
- **Promotion of Nano-Fertilizers:** In 2021, the government approved **IFFCO's nano-urea**, which reduces nitrogen wastage and promotes **sustainable agriculture**. Field trials show **reduced urea use by 50%** with the same crop yields, improving resource efficiency.
- **Encouraging Organic and Bio-Fertilizers:** Campaigns like **Paramparagat Krishi Vikas Yojana (PKVY)** promote organic farming and bio-fertilizers to reduce chemical fertilizer dependency.

Recommendations by Committees and Think Tanks

- **NITI Aayog:** Recommended on **Reduced Urea Subsidies** by gradually **decontrol urea pricing** and bring it under the **Nutrient-Based Subsidy (NBS)** framework to encourage balanced fertilizer use. **Promote Water-Soluble Fertilizers (WSF)** to improve nutrient efficiency and are environment-friendly, especially for **horticultural crops**.
- **Shanta Kumar Committee Report (2015):** Recommended **direct cash transfers (DBT)** of fertilizer subsidies to farmers instead of manufacturers to reduce leakage and ensure efficient use. Suggested **reducing government procurement of fertilizers** and encouraging **private sector innovation** in fertilizer production.
- **Economic Survey (2022-23):** Stressed the need for **balanced fertilizer use** to prevent soil degradation and sustain productivity. Recommended **nano-technology adoption**, incentivizing **precision agriculture**, and **diversifying towards organic fertilizers**.

Best Practices India Can Follow

- **Japan's Balanced Fertilizer Use Policy:** Japan focuses on **integrated nutrient management** with a combination of organic and chemical fertilizers to maintain soil health.
- **Germany's Fertilizer Quotas and Regulatory Framework:** Germany enforces **strict fertilizer quotas** to prevent nutrient overuse, especially nitrogen, and mandates **environmental audits** for farms.

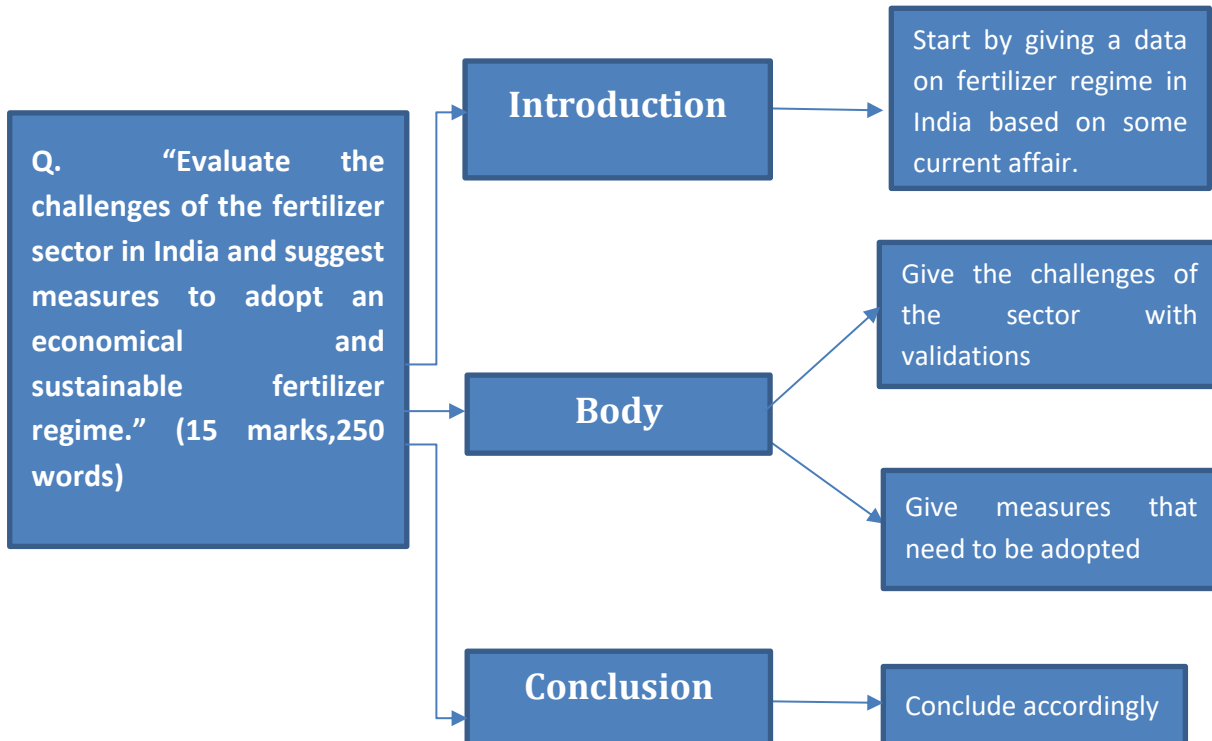
- **Canada's Precision Agriculture Model:** Canada leverages **GPS-based soil monitoring, drones, and sensors** to optimize fertilizer application, reducing wastage.
- **Cuba's Community-Based Organic Fertilizer Production:** Cuba focuses on **community-level composting units** to reduce chemical fertilizer dependency and improve soil health.

India must adopt a **holistic approach** to build an economical and sustainable fertilizer regime. This includes **policy reforms, technological interventions, and lessons from global best practices**. Reducing the **dependence on chemical fertilizers**, promoting **nano-technology**, and integrating **organic inputs** are essential for long-term agricultural sustainability. Through targeted interventions, India can achieve **balanced fertilizer use**, safeguard soil health, and ensure **sustainable agricultural growth** aligned with the **UN Sustainable Development Goals (SDGs)**.

PRACTICE QUESTION

Q. "Evaluate the challenges of the fertilizer sector in India and suggest measures to adopt an economical and sustainable fertilizer regime." (15 marks,250 words)

APPROACH



MODEL ANSWER

India, one of the largest consumers of fertilizers globally, relies heavily on **chemical fertilizers** like **urea, DAP, and MOP** to meet its agricultural needs. However, the **imbalance in fertilizer use, rising subsidies, and import dependence** pose challenges that impact agricultural productivity, the environment, and **fiscal sustainability**.

CHALLENGES IN THE FERTILIZER SECTOR

1. **Imbalanced Fertilizer Use:** The N:P:K ratio in 2022-23 stood at **6.5:2.5:1** instead of the ideal 4:2:1, showing an **overuse of nitrogen-based fertilizers** like urea. Soil degradation and reduced productivity, as seen in **Punjab's wheat-rice belt**.
2. **High Subsidy Burden:** The government allocated **₹1.79 lakh crore** for fertilizer subsidies in 2023-24, with **disproportionate subsidies on urea**, distorting the market.
3. **Dependence on Imports:** India imports over **50% of DAP and 100% of MOP**, exposing the market to **global price fluctuations**.
4. **Environmental Degradation:** Over-application of fertilizers causes **water pollution, soil salinization, and greenhouse gas emissions**.

MEASURES FOR AN ECONOMICAL AND SUSTAINABLE FERTILIZER REGIME

1. **Recommendations from Committees and Think Tanks:**
 - **NITI Aayog:** Bring urea under the **Nutrient-Based Subsidy (NBS)** framework to promote balanced fertilizer use and encourage **water-soluble fertilizers (WSF)**.
 - **Shanta Kumar Committee (2015):** Introduce **Direct Benefit Transfer (DBT)** for fertilizer subsidies to reduce leakage and improve efficiency.
2. **Technological Interventions:** **Nano-fertilizers** will promote **nano-urea** to reduce nitrogen wastage by 50% without compromising yields.
 - **Soil Health Card (SHC) Scheme:** Improve follow-up support for farmers to enhance the scheme's impact.
3. **Global Best Practices for India to Adopt:**
 - **Japan:** Use **integrated nutrient management** combining organic and chemical fertilizers.
 - **Canada:** Employ **precision agriculture tools** like drones and sensors for efficient fertilizer application.

- **Cuba:** Promote **community-based organic fertilizer production** to reduce chemical dependency.

India's fertilizer regime must strike a balance between **productivity, sustainability, and fiscal prudence**. By **reducing urea subsidies, scaling up nano-fertilizers, and adopting global best practices**, India can achieve a **sustainable agricultural model** aligned with the **UN Sustainable Development Goals (SDGs)**.

26. FLORICULTURE INDUSTRY IN INDIA

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Agriculture

REFERENCE NEWS:

Lucknow-based National Botanical Research Institute pitches in with scientific inputs to make the floriculture sustainable in Jujumara region of Sambalpur.

FLORICULTURE IN INDIA:

India is bestowed with several **agro-climatic zones** conducive to the production of sensitive and delicate floriculture products. During the decade after liberalization floriculture industries took giant steps in the export arena. This era has seen a dynamic shift from sustenance production to commercial production.

- The government of India has identified floriculture as a **sunrise industry** and accorded it 100% export-oriented status.
- Owing to the steady increase in demand for flowers, floriculture has become one of the important Commercial trades in Agriculture.
- Hence commercial floriculture has emerged as a hi-tech activity-taking place under controlled climatic conditions inside a greenhouse.
- Floriculture in India is being viewed as a high growth Industry. Commercial floriculture is becoming important from the export angle.
- The new seed policy already made it feasible to import planting materials of international varieties.
- The Indian floriculture industry has been shifting from traditional flowers to cut flowers for export purposes.
- As per National Horticulture Database published by National Horticulture Board, during 2023-24 the area under floriculture production in India was 285 thousand hectares with a production of 2284 thousand tonnes loose flowers and 947 thousand tonnes cut flowers.
- Floriculture is now commercially cultivated in several states with Tamil Nadu (21%), Karnataka (16%), Madhya Pradesh (14%) and West Bengal (12%), having gone ahead of other producing states like Mizoram, Gujarat, Andhra Pradesh, Orissa, Jharkhand, Haryana, Assam and Chhattisgarh.
- More than 50% of the floriculture units are based in Karnataka, Andhra Pradesh and Tamil Nadu. Indian floriculture industry comprises of flowers such as Rose, Tuberose, Glads, Anthurium, Carnations, and Marigold etc.

- Due to the exceptional performance of the sector, it is expected to grow to **\$5.9 Bn by 2030** with a CAGR of 7.4% (2021-2030). Cultivation is undertaken in open farm conditions as well as state-of-the-art poly and greenhouses.
- India's total export of floriculture was USD 86.63 Million in 2023-24. The major importing countries were U.S.A, Netherland, UAE, U.K and Canada. There are more than 300 export-oriented units in India.

Agricultural and Processed Food Products Export Development Authority (APEDA) is responsible for export promotion and development of floriculture in India.

FACTORS CONTRIBUTING TO FLORICULTURE IN INDIA:

- **Favourable Agro-Climatic Conditions:** India's diverse climate and soil types support the cultivation of a wide range of flowers, including tropical, temperate, and sub-tropical species. States like Karnataka, Tamil Nadu, Maharashtra, and West Bengal are leaders in floriculture production due to favourable weather.
- **Growing Domestic Demand for Flowers:** There is increasing demand for flowers in India for religious ceremonies, festivals, weddings, and decorative purposes. Floriculture products are also in demand for personal care, perfumes, and essential oils industries.
- **Export Potential:** India is emerging as a key player in the global floriculture market, exporting flowers to countries such as Netherlands, UAE, Germany, and the UK. Cut flowers like roses, orchids, and gerberas are in high demand internationally. India is geographically located between two major export markets viz, Europe and Asia-Pacific providing an ample amount of opportunities for the floriculture industry.
- **Supportive Government Policies and Schemes:** The Indian government promotes floriculture under schemes like the Mission for Integrated Development of Horticulture (MIDH), National Horticulture Board (NHB), and Agricultural Export Policy. Subsidies and financial support are provided for infrastructure like greenhouses, nurseries, cold storage, and packaging facilities.
 - CSIR Floriculture Mission is a nationwide mission being implemented in 22 states to enhance the income of farmers and develop entrepreneurship through high-value floriculture utilizing CSIR technologies.
 - Integrated Development of Commercial Floriculture Scheme provides access to quality planting material, promotes off-season cultivation, and enhances post-harvest management.
- **Emergence of Protected Cultivation:** The adoption of greenhouse technology and polyhouses has allowed year-round flower production, enhancing productivity and

quality. Protected cultivation ensures control over temperature and humidity, reducing crop loss.

- **Rise of Urbanization and Changing Lifestyles:** Urbanization has increased demand for ornamental plants, landscaping, and indoor plants. Floriculture products are now part of modern lifestyles and aesthetics, contributing to the sector's growth.
- **Technological Advancements and R&D:** Research institutions like the Indian Agricultural Research Institute (IARI) and IIHR Bengaluru are working on improving flower varieties and cultivation practices. Techniques like tissue culture have enhanced the propagation of flowers such as orchids and lilies.
- **Employment Generation and Rural Development:** Floriculture offers significant employment opportunities for women and small farmers. It has become a key driver of rural development, especially in areas where traditional agriculture faces challenges.
- **Rising Interest in Organic and Sustainable Floriculture:** There is a growing trend toward organic floriculture, driven by demand for flowers free from harmful chemicals. Sustainable practices in floriculture are also gaining popularity, aligning with global environmental goals.

CHALLENGES FACED BY INDIA'S FLORICULTURE INDUSTRY:

- **High Initial Investment and Infrastructure Issues:** Greenhouses, polyhouses, irrigation systems, and cold storage facilities are essential for commercial floriculture, but they involve **high capital costs**.
 - Setting up a polyhouse for flower cultivation can cost between **₹10-20 lakh per acre**, making it unaffordable for small and marginal farmers. According to the National Horticulture Board, only **6-8% of flower cultivation in India** is under protected farming, indicating infrastructure challenges.
 - A large number of floriculture farmers have small land holdings, limiting their ability to invest in large-scale, modern cultivation practices.
- **Post-Harvest Losses and Inadequate Storage Facilities:** Flowers are highly **perishable**, and the absence of **cold chains, storage, and packaging** infrastructure results in significant post-harvest losses.
 - Studies indicate that **30-40% of flowers** are lost post-harvest due to poor storage and transportation conditions. Growers in Karnataka reported significant losses in rose production due to a lack of cold storage units during peak demand seasons.
- **Lack of Quality Standards and Certification for Export:** Indian flower exports often

struggle to meet **international quality standards** and phytosanitary regulations, limiting their market reach.

- India's **cut flower exports** account for only **1% of the global market**, compared to countries like the Netherlands, which dominate the global trade. According to the **APEDA**, Indian flower exports were valued at **₹771 crore** in 2021-22, but further growth is constrained by certification issues.
- **Pest and Disease Management Problems:** Flowers are highly susceptible to pests, diseases, and fungal infections, resulting in crop loss and increased input costs.
 - Farmers growing marigold and gerberas in Tamil Nadu have reported losses due to pests like thrips and spider mites. Due to limited access to **biopesticides and sustainable pest management**, farmers often rely on chemical pesticides, which increase costs and reduce sustainability.
- **Market Fluctuations and Price Volatility:** Flower prices are highly volatile due to **seasonality** and **market demand**, especially during festivals and weddings. **Oversupply or weather disruptions** can lead to price crashes, hurting farmers.
 - During the COVID-19 pandemic, flower markets in Karnataka and Tamil Nadu witnessed a **90% drop in demand**, leading to unsold stocks and heavy losses for growers. Prices for roses can vary drastically, from **₹2-3 per stem** during non-peak times to **₹10-15 per stem** during Valentine's week.
- **Limited Awareness and Training among Farmers:** Many growers lack **awareness** about advanced floriculture practices, modern technologies, and **market opportunities**. This limits productivity and the adoption of sustainable farming practices.
 - In states like **West Bengal and Odisha**, floriculture remains traditional, with limited use of polyhouses or greenhouse technology. According to the **ICAR**, there is a significant gap in skill development and technology transfer in the floriculture sector.
- **Competition from Global Markets:** Indian flowers face **stiff competition** from countries like the **Netherlands, Kenya, Colombia, and Ecuador**, which have superior infrastructure, logistics, and established export markets.
 - Dutch flower auctions control nearly **60% of the global cut flower market**, making it challenging for Indian exports to compete. India's floriculture exports contribute only **0.6% to the total agricultural exports**, indicating limited global competitiveness.
- **Lack of Market Linkages and Dependence on Middlemen:** Farmers often rely on

middlemen to sell their produce, reducing their profit margins. Inadequate **direct market access** to florists, retailers, or exporters limits their earnings.

- Floriculture growers in Maharashtra reported that middlemen take **10-15% of profits**, affecting the income of farmers.
- **Limited Adoption of Technology and R&D Support:** The sector lacks sufficient **research and development (R&D)** on new flower varieties, climate-resilient species, and advanced cultivation practices like **hydroponics** and **tissue culture**.
- The adoption of **tissue culture technology** for orchids and gerberas is limited to select regions, despite its potential to enhance production.

WAY FORWARD:

- **Strengthening Cold Chain Infrastructure:** The Netherlands leads the global flower trade through efficient cold chain systems and advanced logistics. Dutch flower auctions rely on temperature-controlled storage and transportation to minimize post-harvest losses.
- **Market Linkages and E-Commerce Platforms:** Kenya exports over 70% of its flowers, largely through well-organized export channels and direct market linkages with European buyers. Kenyan growers leverage e-commerce to reach global markets and avoid middlemen.
- **Sustainable Practices and Certification:** Colombia has adopted eco-friendly cultivation practices to ensure sustainable flower production, using water-efficient irrigation and biological pest control. Colombian exporters also emphasize Fairtrade certification, which improves market access.
- **Advanced Research and Development:** Israel, despite its arid conditions, excels in floriculture through cutting-edge R&D in flower genetics, hydroponics, and tissue culture. The development of climate-resilient varieties has enabled high productivity.
- **State Funding and Incentives:** The European Union provides financial support and subsidies to flower growers, promoting high-tech agriculture and ensuring competitive pricing in the global market.
- **Skill Development and Farmer Training:** Japan's flower industry is known for its precision farming techniques and high-quality standards. Farmers receive regular training in modern techniques, including post-harvest handling and packaging.
- **Promote Export Competitiveness:** Ethiopia and Ecuador have focused on low-cost production and special economic zones (SEZs) dedicated to floriculture, making their flowers globally competitive.

CASE STUDIES IN INDIA:

Jujumara Economy: With over 10 acres dedicated to floriculture, the village is witnessing the early signs of a quiet revolution. They created a WhatsApp group where real-time updates on market trends and demand for specific flower species are shared. This initiative is motivating more farmers to get involved, as they feel more confident in managing their production and sales effectively. To make the floriculture sustainable, the CSIR-NBRI has now introduced apiculture among farmers distributing 150 honeybee boxes and other toolkits.

The Lavender Revolution is a specialized agricultural movement that focuses on the cultivation of lavender flowers to extract essential oils, which have applications in cosmetics, pharmaceuticals, and perfumery industries. The initiative is driven under Phase-I and Phase-II of the Aroma Mission, which aims to promote high-value cash crops in regions with limited agricultural productivity.

Karnataka a Leader in Rose cultivation and Export

Tamil Nadu pioneer in marigold production for cosmetic industry

Maharashtra's floriculture success with Gerbera and Carnations

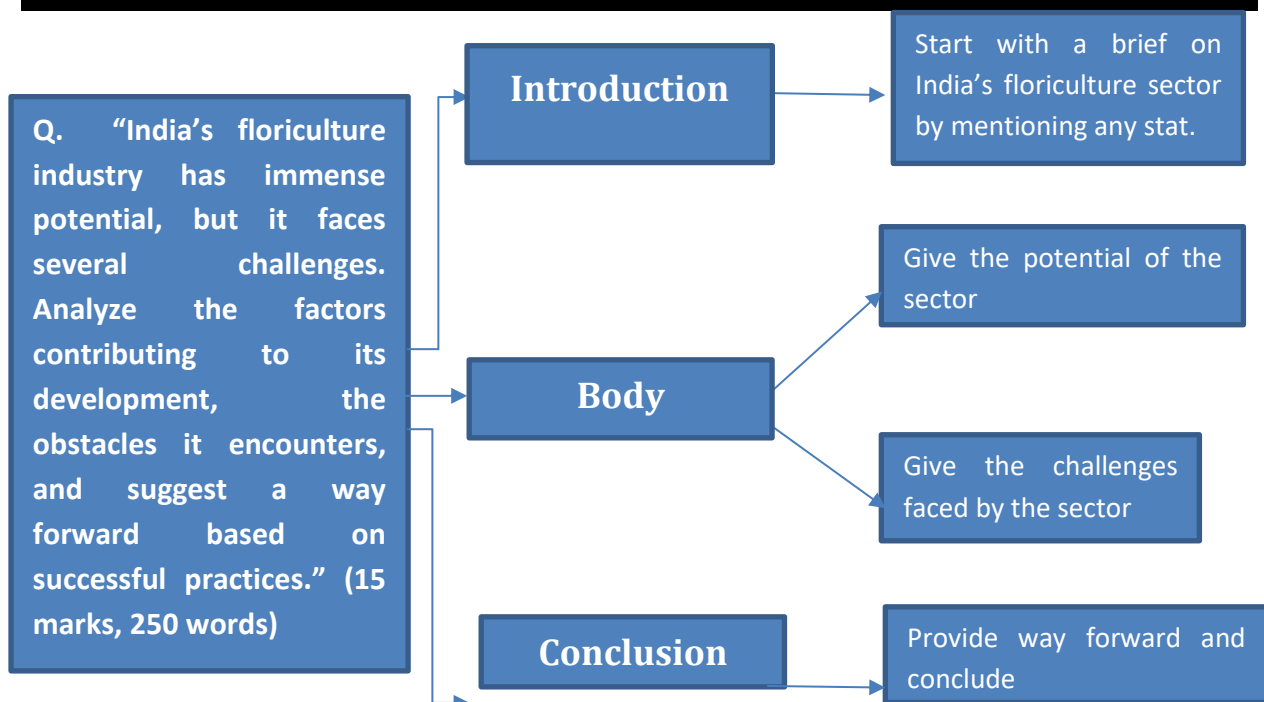
West Bengal model in export of Gladiolus and Tuberose

Sikkim promotes organic floriculture

Andhra Pradesh succeeded in Tissue culture for orchid production

PRACTICE QUESTION

Q. "India's floriculture industry has immense potential, but it faces several challenges. Analyze the factors contributing to its development, the obstacles it encounters, and suggest a way forward based on successful practices." (15 marks, 250 words)

APPROACH

MODEL ANSWER

India's **floriculture industry** has transitioned from subsistence agriculture to **commercial cultivation**, making significant contributions to **employment, rural development**, and exports. With over **285 thousand hectares** under cultivation and a production of **3.2 million tonnes of flowers**, India has become a key player in the global market. However, challenges related to **infrastructure, market access, and pest control** impede its full potential.

FACTORS CONTRIBUTING TO THE DEVELOPMENT OF FLORICULTURE IN INDIA:

- 1. Favourable Agro-Climatic Conditions:** India's diverse climate supports the cultivation of **tropical, temperate, and subtropical flowers**, including roses, tuberose, and gerberas.
 - States like **Karnataka, Tamil Nadu, and West Bengal** lead in flower production due to favorable weather conditions.
- 2. Rising Domestic and Global Demand:** Growing **domestic demand** for flowers during **festivals, weddings**, and religious ceremonies.
 - **Export growth** driven by countries such as **the Netherlands, UAE, and the UK**. India's floriculture exports reached **USD 86.63 million** in 2023-24
- 3. Government Support and Policies:** Initiatives like **Mission for Integrated Development of Horticulture (MIDH)** and **National Horticulture Board (NHB)** provide financial support for infrastructure development (greenhouses, nurseries, cold storage).
 - **100% export-oriented status** granted to the floriculture industry further boosts growth.
- 4. Technological Advancements and Protected Cultivation:** Use of **greenhouses and polyhouses** allows year-round flower production by controlling temperature and humidity.
 - **Research institutions** like **IARI** and **IIHR Bengaluru** are improving flower varieties using **tissue culture** techniques.
- 5. Employment Generation and Rural Development:** Floriculture creates significant **employment opportunities** for women and small farmers. It has become a key driver of **rural development**, particularly in regions where traditional agriculture is not profitable.

CHALLENGES FACED BY INDIA'S FLORICULTURE INDUSTRY:

1. **High Initial Investment and Limited Protected Farming:** Setting up **greenhouses or polyhouses** costs ₹10-20 lakh per acre, making it unaffordable for small farmers. Only **6-8% of flower cultivation** in India is under protected farming, highlighting the need for infrastructure development.
2. **Post-Harvest Losses and Inadequate Storage Facilities:** **30-40% of flowers** are lost post-harvest due to poor **storage and transportation** conditions. Lack of cold storage leads to spoilage, especially during **peak seasons**. Farmers in **Karnataka** reported heavy losses in rose production due to the absence of cold storage facilities during high-demand periods.
3. **Lack of International Certification and Market Access:** Indian flowers often struggle to meet **global phytosanitary standards**. Certification challenges limit exports to high-demand markets. India's share in the global cut flower trade is only **1%**, far below that of countries like **the Netherlands**.
4. **Pest and Disease Management Issues:** Flowers are highly susceptible to **pests and fungal infections**, resulting in crop loss. Limited access to **biopesticides** forces farmers to rely on chemical inputs, increasing production costs. Gerbera growers in Tamil Nadu faced significant losses due to pest infestations like thrips and spider mites.
5. **Market Volatility and Dependence on Middlemen:** Prices for flowers fluctuate based on **seasonality and demand**. Farmers often depend on **middlemen**, reducing their profits. During the COVID-19 pandemic, flower growers in Karnataka and Tamil Nadu reported **90% demand reduction**, leading to unsold stocks and financial losses.

WAY FORWARD:

1. **Strengthening Cold Chain Infrastructure (Netherlands Model):** Develop temperature-controlled **cold storage units** and **transport networks** to minimize post-harvest losses. Public-private partnerships can establish regional cold chain hubs, following the **Dutch auction system** to streamline exports.
2. **Promoting E-Commerce and Market Linkages (Kenya Model):** Encourage farmers to sell directly through **e-commerce platforms**, avoiding middlemen. Kenyan growers use online platforms to connect with global buyers, ensuring better prices.
3. **Adopting Sustainable Practices (Colombia Model):** Promote **organic farming** and **eco-friendly pest control techniques** to align with global demand for sustainable products.
4. **Advanced Research and Technology (Israel Model):** Invest in **R&D on flower genetics and tissue culture** to develop **climate-resilient varieties**. Israel's success

with hydroponics and tissue culture can inspire the development of advanced cultivation techniques in India.

5. **Expanding State Funding and Incentives (EU Model):** Provide **subsidies and low-interest loans** for infrastructure development. Introduce **export incentives** and tax benefits to attract investments in the floriculture sector.
6. **Training and Capacity Building (Japan Model):** Organize **skill development programs** to train farmers in post-harvest handling and modern farming techniques. Collaborate with **ICAR** and **NHB** to offer training modules on sustainable floriculture practices.

India's floriculture industry is poised for significant growth, but addressing challenges related to **infrastructure, market volatility, and pest management** is essential. Learning from **global best practices** and implementing **policy reforms** will ensure the sector's sustainability and competitiveness. With **targeted investments, market linkages, and capacity building**, India can emerge as a major player in the global floriculture market, benefiting **farmers, exporters, and consumers** alike.

27. TEXTILE INDUSTRY

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Economic Development > Indian Economy and issues > Manufacturing sector

REFERENCE NEWS:

India has launched its Textile Policy for 2024, focusing on strengthening the textile sector with a range of financial incentives. The policy highlights two main areas: technical textiles, including clothing and apparel and various manufacturing processes like weaving and dyeing. The policy also includes measures for quality certification, energy and water conservation savings and technology acquisition support.

TEXTILE INDUSTRY OF INDIA:

- **Economic Contribution:** The textile industry accounts for 2.3% of India's GDP, 13% of industrial production, and 12% of total exports. India is set to achieve **\$250 bn textiles production and \$100 bn exports by 2030.**
- **Employment Generation:** The industry provides employment to over 45 million people directly and 100 million indirectly, making it the **second-largest employer** after agriculture.
 - The handloom sector in Varanasi and Assam supports the livelihood of millions of traditional weavers.
- **Export and Foreign Exchange Earnings:** India exported USD 44 billion worth of textile and apparel products in 2022-23. Key markets include the USA, European Union, UAE, and Japan. India is the world's **second-largest producer of textiles and garments.** It is also the **sixth-largest exporter** of textiles spanning apparel, home, and technical products, having a **4% share of the global trade** in textiles and apparel.
 - India is the largest exporter of cotton yarn and the second-largest exporter of handloom products globally.
- **Cultural and Heritage Preservation:** The industry preserves India's rich cultural heritage through traditional crafts such as Kanchipuram silk, Pashmina shawls, Banarasi sarees, and Khadi fabrics.
 - Traditional textiles are integral to Indian festivals, weddings, and ceremonies, symbolizing cultural pride of which the Ambani wedding rituals is an example where Indian traditional costumes and styles were celebrated.

- **Promoting Rural and Agricultural Development:** Cotton cultivation, a primary input for the textile industry, supports 6 million farmers. The industry also generates demand for jute, silk, and wool from rural areas.
 - Textile hubs in Punjab, Maharashtra, and West Bengal drive rural economic development through cotton and jute production.
- **Boosting Technical and Modern Textiles:** India is expanding in the technical textile sector, which includes products used in healthcare, agriculture, defence, and infrastructure.
 - India's rapid production of PPE kits during the COVID-19 pandemic showcased its potential in technical textiles.
- **Contribution to Sustainable Development Goals (SDGs):** The textile industry plays a role in achieving SDG 8 (Decent Work and Economic Growth) by creating jobs and fostering entrepreneurship. Efforts to promote organic cotton and eco-friendly dyes align with SDG 12 (Responsible Consumption and Production).
 - Initiatives like Khadi and Village Industries promote sustainable livelihoods through eco-friendly production.
- **Linkages with Other Industries:** The textile sector supports allied industries, including chemicals (dyes), agriculture (cotton), logistics, and fashion retail, creating multiplier effects across the economy.
 - Growth in textile exports stimulates demand for ports, warehouses, and retail outlets across India.

CHALLENGES FACED BY INDIAN TEXTILE INDUSTRY:

- **Outdated Technology and Infrastructure:** The Indian textile industry, especially the **power loom and handloom sectors**, suffers from **outdated machinery** and **lack of automation**. This results in lower productivity and higher production costs compared to global competitors.
 - According to the Textiles Committee Report (2020), 75% of weaving units are semi-automatic or manual, reducing their efficiency compared to modern textile industries. The World Bank estimated that around **30% of India's looms** are technologically obsolete, affecting the quality and volume of production.
- **Global Competition and Export Challenges:** India faces stiff competition from countries like Bangladesh, Vietnam, and China, which offer cheaper labour and better infrastructure.

- Bangladesh's textile exports to Europe have grown significantly due to preferential trade agreements, reducing India's market share. India's cotton yarn exports to China declined by over 30% in 2022, as China increased imports from Vietnam at lower prices.
- **Volatility in Raw Material Prices:** Fluctuations in the prices of cotton, wool, and synthetic fibres affect production costs and profitability.
 - Cotton prices in India increased by 25-30% in 2021, impacting the cost of cotton garments and yarn production. Many small textile units in Gujarat and Maharashtra temporarily closed during the 2022 cotton price surge, leading to job losses.
- **Environmental Issues and Sustainability Concerns:** The textile industry is water-intensive and generates pollution from chemical dyes and untreated wastewater.
 - The industry consumes around 200 litres of water to produce 1 kilogram of fabric, contributing to water stress in major production hubs like Tiruppur, Tamil Nadu. Tiruppur faced severe environmental issues, with over 700 dyeing units being shut down temporarily due to pollution violations in 2011.
- **Poor Integration Across the Value Chain:** The Indian textile industry is largely **fragmented** and dominated by small and medium enterprises (SMEs), making it difficult to achieve **economies of scale**. This reduces their global competitiveness compared to large-scale manufacturers in China and Vietnam.
 - According to the Ministry of Textiles, about 80% of textile units in India are small-scale operations, limiting their ability to integrate and streamline production processes.
- **Limited Access to Global Markets and Trade Barriers:** Exporters face non-tariff barriers such as stringent environmental regulations in Europe and high duties in key markets like the USA.
 - Indian garments face a 9.6% tariff in the European Union, while Bangladesh enjoys duty-free access under the Generalized System of Preferences (GSP).
- **Labor Issues and Skill Gaps:** Although the industry provides large-scale employment, informal labour and lack of skilled workers affect productivity and quality.
 - Around 80% of workers in the garment sector are women, but many work without formal contracts, social security, or benefits. The **Textiles Ministry** identified the need for **over 1 million skilled workers** by 2024 to meet the growing demands of the industry

- **Policy and Regulatory Challenges:** Inconsistent government policies and delays in incentive disbursement under schemes like the Technology Upgradation Fund Scheme (TUFS) hinder growth.
 - Delays in refunding export incentives under the Remission of Duties and Taxes on Exported Products (RoDTEP) scheme affected exporters' working capital in 2021.
- **Inadequate Focus on Technical Textiles:** Although technical textiles are emerging as a key segment, India lags in R&D and product development compared to global players.
 - The technical textile sector contributes only 10% to India's total textile output, compared to 40-50% in developed countries.
- **Compliance and Labour Standards:** India's textile industry often faces challenges related to **labour rights violations**, including low wages, poor working conditions, and child labour in certain segments. This affects India's global image and can lead to **trade restrictions** from international buyers.
 - Several global fashion brands have pulled out sourcing contracts from India due to **labour violations** and non-compliance with **international labour standards**. The **Global Slavery Index (2018)** reported that India is home to a large number of labourers working in poor conditions, especially in sectors like textiles and garments.

NATIONAL TEXTILE POLICY 2024:

The policy highlights two main areas: technical textiles, including clothing and apparel and various manufacturing processes like weaving and dyeing.

The policy provides financial support mechanisms for businesses including capital subsidies ranging from 10% to 35% of eligible fixed capital investments, capped at Rs. 100 crores based on taluka and activity.

It offers credit linked interest subsidies of 5%-7% for 5-8 years.

It also include measures for quality certification, energy and water conservation and technology acquisition support.

The policy places a strong emphasis on labour intensive units defined as new industrial units that employ at least 4000 registered individuals under EPF scheme with minimum 1000 women.

They additionally provide electricity tariff subsidies, wage assistance and additionally SHGs also receive similar financial support

WAY FORWARD:

- **Promote Circular Economy and Waste Management:** Adopt Recycling and Upcycling Models by encouraging textile recycling units and waste-to-fibre processes to reduce waste. India generates 1 million tonnes of textile waste annually, highlighting the need for a circular economy.
 - Brands like Adidas have adopted recycled polyester from plastic waste, a model India can replicate extending the current Extended Producer Responsibility (EPR)
- **Green Manufacturing and Use of Sustainable Fibers:** Encourage farmers to grow organic cotton and adopt non-toxic dyes for textiles.
 - Better Cotton Initiative (BCI) works with Indian farmers to promote sustainable cotton practices. Promote the use low impact fibres like bamboo, jute, hemp, and recycled polyester, which have lower environmental footprints compared to conventional cotton.
- **Implement Energy-Efficient Technologies and Renewable Energy:** Introduce Energy-Efficient Machines. Textile hubs can shift to solar and wind energy to reduce dependence on fossil fuels. India's textile sector accounts for 10% of industrial energy consumption.
 - The Tiruppur garment cluster has implemented rooftop solar projects to power textile factories.
- **Strengthen Water Conservation Practices** like Zero Liquid Discharge (ZLD) Systems to treat and reuse wastewater from dyeing and processing units. Use air-dye technology and digital printing to reduce water consumption during fabric processing.
 - Textile units in Tiruppur, Tamil Nadu, adopted ZLD systems after facing a government-imposed shutdown due to pollution.
- **Promote Fair Labour Practices and Skill Development:** Encourage companies to obtain Fairtrade certification, ensuring ethical labour practices and improving India's global reputation.
- **Strengthen Market Diversification and Export Competitiveness:** Explore New Markets and Trade Agreements. Reduce over-reliance on the EU and USA by exploring African, Latin American, and ASEAN markets.
- **Promote Technical Textiles:** Focus on medical, agro, and defence textiles, which are growing segments globally.

- India's rapid production of PPE kits during the pandemic showcased the potential of technical textiles.
- **Strengthen Compliance and Certification Systems:** Adopt Environmental Certifications. Promote compliance with global certifications like OEKO-TEX, GOTS (Global Organic Textile Standard), and Bluesign for sustainable production.
- **Encourage Public-Private Partnerships (PPPs):** Develop Textile Parks with Sustainability Goals. Establish green textile parks with shared infrastructure for waste treatment, renewable energy, and logistics.
 - The Integrated Textile Parks (SITP) can adopt eco-friendly practices to boost sustainability.
- **Policy Support and Incentives for Sustainability:** Introduce Green Subsidies and Tax Incentives. Provide subsidies and low-interest loans for textile units adopting sustainable practices and renewable energy.

SCHEMES BY GOVERNMENT TO INCENTIVISE TEXTILE SECTOR:

Pradhan Mantri Mega Integrated Textile Region and Apparel (PM MITRA) Parks Scheme aims to develop world-class infrastructure including plug and play facility with an outlay of Rs. 4445 crores for a period up to 2027-28.

PLI Scheme for Textiles (2021-2030) is intended to promote the production of MMF Apparel & Fabrics and Technical Textiles products in India to enable the textile industry to achieve size and scale and become globally competitive.

The National Technical Textile Mission seeks to enhance domestic technical textile consumption while establishing the nation as a global leader in the field. By 2024, it hopes to increase the size of the domestic market to between \$40 billion and \$50 billion USD.

Amended Technology Upgradation Fund Scheme (ATUFS) to modernize the textile industry's technology, the government approved the "Amended Technology Upgradation Fund Scheme (ATUFS)" in 2015.

100% FDI (automatic route) is allowed in the textile and apparel sector in India.

The SAMARTH (Scheme for Capacity Building in the Textile Sector) for capacity building in the textile sector to alleviate the scarcity of trained people.

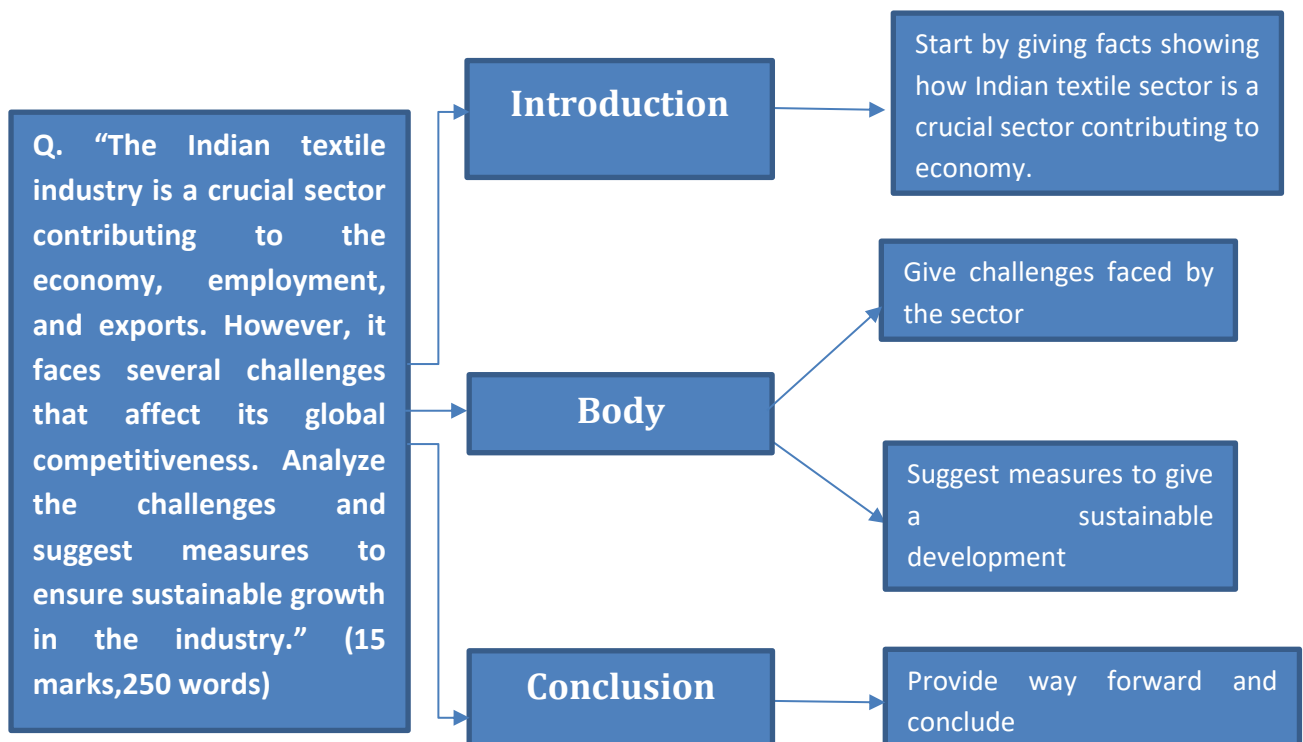
The **North East Region Textile Promotion Scheme (NERTPS)** is a program that supports all areas of the textile industry with infrastructure, capacity building, and marketing assistance.

Power-Tex India includes innovative power-loom textile research and development, new markets, branding, subsidies, and worker welfare programs.

PRACTICE QUESTION

Q. "The Indian textile industry is a crucial sector contributing to the economy, employment, and exports. However, it faces several challenges that affect its global competitiveness." Analyze the challenges and suggest measures to ensure sustainable growth in the industry. (15 marks,250 words)

APPROACH



MODEL ANSWER

The Indian textile industry contributes **2.3% of GDP**, **13% of industrial production**, and **12% of total exports**, providing employment to **45 million people directly** and **100 million indirectly**. The recently launched **National Textile Policy 2024** seeks to address the issues by promoting **technical textiles**, **sustainable practices**, and **technology upgrades**.

CHALLENGES FACED BY INDIAN TEXTILE INDUSTRY:

1. **Outdated Technology and Infrastructure:** The handloom and power loom sectors rely on **obsolete machinery**, reducing productivity and increasing costs.
 - **75% of weaving units** in India are semi-automatic or manual, making them less efficient than counterparts in **Bangladesh and China**

2. **Global Competition and Export Challenges:** India faces stiff competition from **Bangladesh, Vietnam, and China**, which have better infrastructure and **cheaper labor**.
 - India's textile exports to **Europe** have declined due to **Bangladesh's preferential trade agreements** under the **GSP scheme**
3. **Volatility in Raw Material Prices:** Fluctuations in the prices of **cotton, wool**, and synthetic fibers impact production and profitability.
 - Cotton prices rose by **25-30%** in 2021, leading to temporary shutdowns of units in Gujarat and Maharashtra
4. **Environmental and Sustainability Concerns:** The industry is **water-intensive** and generates pollution from untreated chemical waste.
 - **Tiruppur's dyeing units** were shut down in 2011 for environmental violations.
5. **Labor Issues and Skill Gaps:** The sector relies heavily on informal labor without adequate **social security** and faces **skill shortages**.
 - Around **80% of workers** in the garment sector are women, but many lack formal contracts or benefits

MEASURES TO ENSURE SUSTAINABLE GROWTH

1. **Technology Upgradation and Green Manufacturing:** Promote **energy-efficient machines** and introduce **capital subsidies** under the **National Textile Policy 2024** for upgrading looms and machinery.
 - **Example: Rooftop solar projects** in Tiruppur power textile factories sustainably
2. **Adopt Circular Economy Practices:** Encourage **recycling and upcycling** to reduce textile waste.
 - **Example:** Brands like **Adidas** have adopted recycled polyester from plastic waste—India can replicate similar models
3. **Diversify Markets and Strengthen Technical Textiles:** Explore new markets in **Africa, Latin America**, and **ASEAN** to reduce dependence on the EU and USA.
 - Focus on **technical textiles** for medical, defense, and agricultural sectors.
 - **Example:** India's rapid production of **PPE kits** during COVID-19 showcased its potential in technical textiles

4. **Strengthen Skill Development Programs:** Launch **skill development programs** for modern textile techniques and **sustainable practices**.
 - Encourage **Fairtrade certification** to improve labor standards and enhance global reputation.
5. **Water Conservation and Sustainable Practices:** Implement **Zero Liquid Discharge (ZLD) systems** and adopt **air-dye technology** to reduce water usage.
 - **Example:** After environmental violations, textile units in **Tiruppur** adopted ZLD systems, ensuring compliance
6. **Leverage Policy Support and Public-Private Partnerships (PPP):** Develop **green textile parks** with shared infrastructure for **waste management and renewable energy** under **PPP models**.
 - Introduce **green subsidies** and **tax incentives** to encourage sustainable practices and technology acquisition.

The **Indian textile industry** holds immense potential for growth, but addressing challenges related to **technology, environmental sustainability, labor standards, and global competition** is essential for long-term success. By adopting **green technologies, promoting technical textiles**, and ensuring **market diversification**, the industry can align with **SDG goals** and become globally competitive. With proactive policy support and **public-private partnerships**, India can position itself as a leader in sustainable textile production.

28. RAIL SAFETY

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Economic Development >> Infrastructure

REFERENCE NEWS:

Yet another train accident, this time involving the Mysuru-Darbhanga Express, has resulted in injuries to at least 19 persons, and again drawn attention to the safety problems dogging the railways. Thirteen coaches of the train derailed after it rammed into a stationary goods train, in an accident reminiscent of the one in Balasore in 2023 in which about 300 passengers died. The presence of a brake van at the rear of the freight train and speed regulation near the Kavarapetta station prevented a bigger disaster. A signalling failure is thought to have led to the accident, though it has to be confirmed by the investigations now underway.

RAIL INFRASTRUCTURE IN INDIA:

Indian Railways was established in **1853** and is one of the world's largest railway networks. The first railway on the Indian sub-continent ran over a stretch of **21 miles from Bombay to Thane**.

- India is projected to account for **40% of the total global share of rail activity** by 2050.
- India has the largest rail network in Asia and world's second largest railway network in the world, covering 108,706 km of track under one management.
- It operates over **11,000 trains** daily, carrying **23 million passengers** and transporting **3.3 million tonnes** of freight.
- Indian Railways uses **broad gauge** (most common), **meter gauge**, and **narrow-gauge** tracks. Broad gauge lines constitute **over 90%** of the total network.
- The Indian railways is one of the world's largest employers with over 1.4 million employees.
- Over 90% of broad-gauge routes have been electrified, contributing to energy efficiency and reducing carbon emissions. Indian Railways is targeting net-zero carbon emissions by 2030.
- Digital technologies like Real-Time Train Information System (RTIS) and Kavach (automatic train protection) enhance safety and operational efficiency.
- Projects like **Vande Bharat Express** and **Bullet Train (Mumbai-Ahmedabad)** aim to improve speed and quality of passenger services

- Freight traffic is carried on **Dedicated Freight Corridors (DFCs)**, such as the **Eastern and Western DFCs**. These corridors ensure faster movement of goods like coal, cement, and agricultural products.
- Rail accounts for **40% of freight transport** in India, with growing focus on **containerized cargo** and multi-modal logistics.
- Digital technologies like **Real-Time Train Information System (RTIS)** and **Kavach (automatic train protection)** enhance safety and operational efficiency.
- The **Mumbai-Ahmedabad Bullet Train** project, India's first high-speed rail, aims to revolutionize travel.
- **Metro rail systems** in cities like Delhi, Mumbai, Bengaluru, Chennai, Kochi are expanding urban transit infrastructure.

National Rail Vikas Yojana

With a view to complete strategically important projects within a stipulated period of time, a non-budgetary investment initiative for the development of Railways has been launched.. Under the scheme all the capacity bottlenecks in the critical sections of the railway network will be removed at an investment of Rs.15,000 crore over the next five years. These projects would include:

- 1.Strengthening of the golden Quadrilateral to run more long-distance mail/express and freight trains at a higher speed of 100kmph.
- 2.Strengthening of rail connectivity to ports and development of multi-modal corridors to hinterland.
- 3.Construction of four mega bridges - two over River Ganga, one over River Brahmaputra, and one over River Kosi.
- 4.Accelerated completion of those projects nearing completion and other important projects.

CHALLENGES OF RAIL SAFETY IN INDIA:

- **Track Infrastructure Issues: Aging tracks** and insufficient maintenance result in **track failures** and derailments, a leading cause of accidents. According to official reports, **60% of rail accidents** are caused by derailments, often linked to **track defects**.
 - In the **Odisha Balasore train accident** (2023), involving the Coromandel Express, faulty signal interlocking and poor maintenance caused a derailment and a tragic **loss of 293 lives**.
- **Lack of Advanced Signalling and Communication Systems:** Outdated signalling systems increase the chances of human error, leading to collisions. The absence of real-time communication between trains and control centres worsens the situation. Indian Railways is deploying the **Kavach System**, an Automatic Train Protection (ATP) mechanism, but it currently covers only a **small fraction** of the network.

- The **Amritsar tragedy** (2018), where a train hit people standing on tracks during a Dussehra celebration, highlighted gaps in communication between railway staff and event organizers.
- **Unmanned Level Crossings:** Indian Railways eliminated **3,479 unmanned level crossings** on broad gauge routes between **2014 and 2022**, but safety at **manned crossings** also remains a concern.
 - In **Uttar Pradesh (2016)**, a school van was hit by a train at an unmanned crossing, killing 13 children.
- **Overcrowding on Trains and Platforms:** Indian Railways carries **23 million passengers** daily, creating significant pressure on infrastructure.
 - The **Elphinstone Road Station stampede** (Mumbai, 2017) occurred during peak hours, leading to **23 deaths** and exposing the need for better crowd management.
- **Fire and Electrical Hazards:** Fires on trains are caused by **short circuits, illegal carriage of inflammable goods**, and improper passenger behaviour.
 - In 2023, a fire on the **Madurai-bound train** from Lucknow, carrying a private tour group, killed 9 people. Investigations revealed improper handling of a **gas cylinder** used for cooking on board.
- **Human Error and Staff Fatigue:** Human error remains a major contributor to rail accidents, especially due to **overworked staff** and lack of training. Drivers and station masters often work long shifts, increasing the chance of mistakes. The **Comptroller and Auditor General (CAG)** found that many train drivers work **beyond their prescribed duty hours**, raising safety concerns.
 - In the **Kanpur derailment** (2016), which killed 150 people, an inquiry pointed to human error as a contributing factor.
- **Vandalism and Trespassing:** Trespassing on tracks, stone pelting, and theft of railway assets (e.g., signalling equipment) cause accidents and disrupt services.
 - Stone pelting incidents on the **Vande Bharat Express** have damaged its windows, compromising passenger safety.
- **Inadequate Safety Audits and Data Management:** There are gaps in conducting regular **safety audits** and analysing accident data to implement preventive measures effectively.
 - The CAG has raised concerns over the absence of a **comprehensive accident data management system**, making it difficult to formulate targeted policies.

WAY FORWARD:

- **Adopt Advanced Train Protection Systems (Kavach Implementation at Scale):** **European Train Control System (ETCS)**, Europe provides automatic control over train speed, reducing human error and preventing collisions. It operates on real-time communication between trains and signalling systems, enhancing safety.
- **Strengthen Rail Track Monitoring (AI and IoT-Based Solutions):** **Japan's Shinkansen Bullet Train** uses **IoT-based sensors and AI** to monitor track conditions in real-time, minimizing derailments. **Drones** are also used for inspections, ensuring timely maintenance.
- **Focus on Human Resource Management and Training:** **UK's National Rail Training Program** focuses on continuous **driver training programs** and fatigue management to minimize human errors. Staff undergo simulation-based training for emergency situations.
- **Upgrade Level Crossings with Automation (Reduce Human Dependence):** **Switzerland's Automatic Level Crossings** has installed fully **automated level crossings** with real-time alerts and barriers, eliminating human involvement and preventing accidents.
- **Develop Integrated Accident Data Management Systems:** **FRA (Federal Railroad Administration) Safety Information System, USA** maintains a centralized system for real-time data on rail accidents, enabling **data-driven policy decisions**.
- **Improve Fire Safety and Passenger Awareness:** **Germany's ICE Trains Fire Safety Protocols** are equipped with **fire detection and suppression systems**. Staff and passengers are trained to respond swiftly during emergencies.
- **Enhance Freight Safety with Dedicated Corridors:** **Dedicated Freight Network, China** reduces congestion on passenger routes, ensuring safer operations. Freight trains run on separate corridors, minimizing risks.
- **Implement Smart Station Initiatives to Manage Crowds:** **Tokyo Metro, Japan** uses **AI-powered crowd management systems** to monitor and control passenger flow at stations, reducing stampede risks.

Way Forward for India's Rail Safety Improvement:

- **Public-Private Partnerships (PPPs):** Involve the **private sector** in station modernization, track maintenance, and infrastructure development through PPPs.
- **Increased Investment in Technology:** Allocate funds for the **upgradation of signalling systems, fire safety equipment, and digital infrastructure**.
- **Regular Safety Audits and International Collaborations:** Conduct **safety audits** in collaboration with **international organizations**, learning from countries with advanced rail networks.

- **Focus on Sustainability:** Rail safety improvements must align with **SDG goals** by ensuring **low-emission operations, energy-efficient trains, and climate-resilient infrastructure.**

STEPS TOWARDS SAFETY AND SECURITY: Safety of 13 million passengers that Indian Railways serve every day is of paramount importance to the system.

- Constitution of Rs.17,000 crore non-lapsable Special Railway Safety Fund (SRSF) to replace the arrears of aging assets of Railways over the next six years has been a historical move in this direction
- Security of railway passengers is at present a shared responsibility of the Railway Protection Force (RPF) and the Government Reserve Police (GRP).
- National Train Enquiry System" has been started in order to provide upgraded passenger information and enquiries.
- Freight Operations Information System (FOIS) Computerisation of freight operations by Railways has been achieved by implementing Rake Management System (RMS). Such FOIS terminals are available at 235 locations.
- Mission Raftaar is an **Indian Railway's project**, to increase the **speed of trains on busy routes**, to reduce travel time. It was introduced in the Railway Budget of 2016-17 and approved by NITI Aayog in 2017. It aims to offer semi-high speed trains to passengers, by running trains at a speed of 160-200 km/h in the selected corridors of the country.

Indian Railways crafted the **National Rail Plan for India-2030** to develop a modern railway system.

In **Budget 2024-25**, capital outlay of **Rs. 2.52 lakh crore (USD 30.3 billion)** has been allocated to the **Ministry of Railways** to make advancements in railways. Government has allowed **100% FDI** in the railway sector

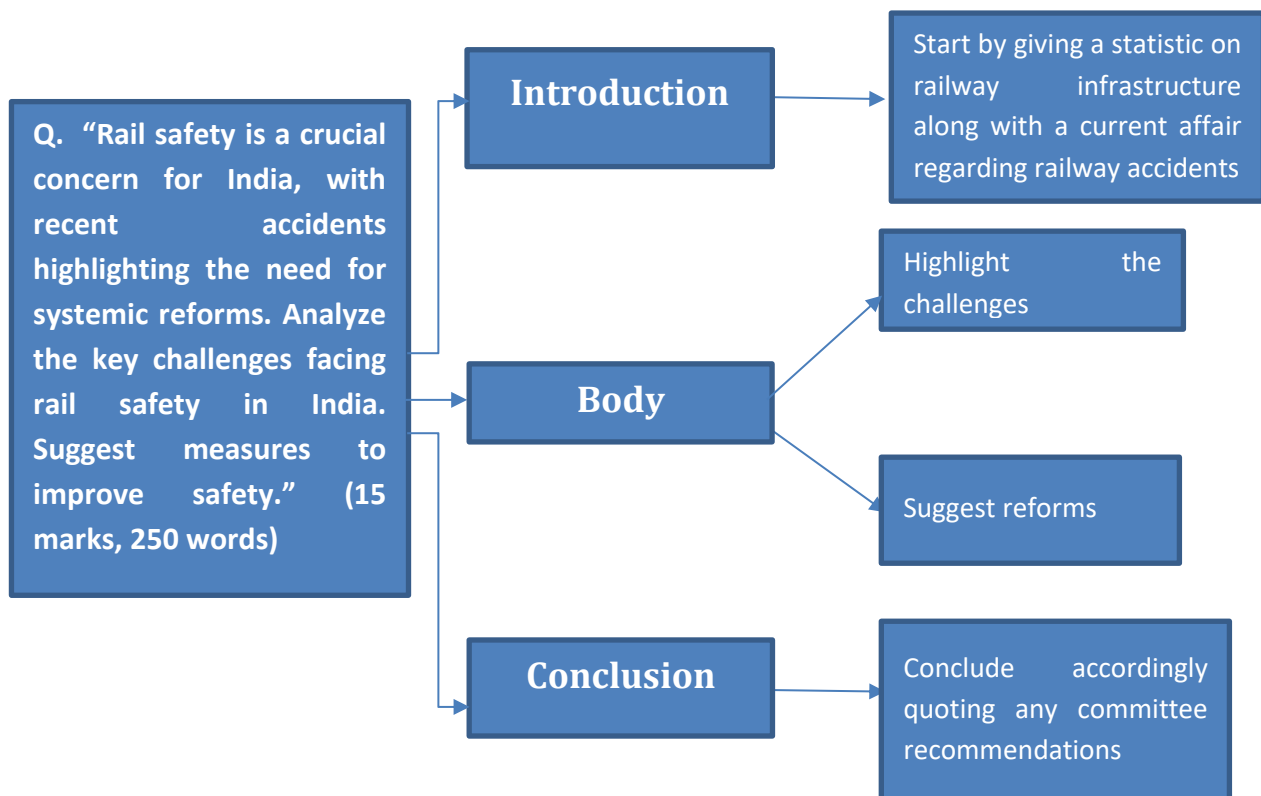
Kakodkar Committee (2012): Establishing a statutory **Railway Safety Authority**. Forming a **non-lapsable Rashtriya Rail Sanraksha Kosh (RRSK)** of Rs. 1 lakh crores over 5 years for safety projects. Adopting advanced technologies for track maintenance and inspection. Enhancing human resource development and management. Ensuring independent accident investigations.

Bibek Debroy Committee (2014): Separating the railway budget from the general budget. Outsourcing non-core activities. Establishing a **Railway Infrastructure Authority of India**.

PRACTICE QUESTION

Q. "Rail safety is a crucial concern for India, with recent accidents highlighting the need for systemic reforms. Analyze the key challenges facing rail safety in India. Suggest measures to improve safety." (15 marks, 250 words)

APPROACH



MODEL ANSWER

Indian Railways, with a network spanning **108,706 kilometers** and carrying **23 million passengers daily**, is the backbone of India's transport infrastructure. However, **rail accidents** such as derailments, collisions, and level-crossing mishaps expose the vulnerabilities in the system. The **Balalore accident (2023)**, which killed nearly 300 people, underlines the need for comprehensive reforms to ensure rail safety.

CHALLENGES IN RAIL SAFETY IN INDIA:

1. **Track Infrastructure Issues: Aging tracks** and poor maintenance result in frequent derailments, contributing to **60% of rail accidents**.
 - In the **Balalore accident (2023)**, poor track maintenance and faulty signaling systems caused a collision.
2. **Outdated Signaling and Communication Systems:** India lacks a comprehensive **Automatic Train Protection (ATP)** mechanism across its entire network. This increases the likelihood of human error.
 - **Kavach System**, an ATP initiative, currently covers only a small fraction of the network.
3. **Unmanned and Poorly Managed Level Crossings: Unmanned level crossings** remain a significant safety hazard, especially in rural areas. Though Indian Railways

eliminated **3,479 unmanned crossings** from 2014 to 2022, risks at manned crossings persist.

- **Example:** In **Uttar Pradesh (2016)**, a school van was hit by a train at an unmanned crossing, killing 13 children.
4. **Overcrowding and Infrastructure Pressure:** With **23 million passengers** traveling daily, trains and platforms are often overcrowded, leading to accidents and stampedes.
 - **Example:** The **Elphinstone Road Station stampede (Mumbai, 2017)** resulted in 23 deaths due to inadequate crowd management.
 5. **Human Error and Staff Fatigue:** Overworked drivers and station masters often exceed their prescribed duty hours, increasing the risk of mistakes.
 - **Example:** The **Kanpur derailment (2016)**, which killed 150 people, was partly attributed to human error.
 6. **Inadequate Safety Audits and Data Management:** **Lack of regular safety audits** and a centralized data system hampers the formulation of preventive policies.
 - The **CAG report** flagged the absence of a comprehensive accident data management system.

MEASURES TO IMPROVE RAIL SAFETY:

1. **Advanced Train Protection Systems : European Train Control System (ETCS)** provides automatic control over train speed, preventing collisions through real-time communication between trains and control centers.
2. **AI-Based Track Monitoring:** Japan's **Shinkansen** uses **AI-powered sensors** and drones for real-time track monitoring, reducing derailments.
3. **Automated Level Crossings (Switzerland's Approach):** Switzerland eliminated human error by installing **fully automated level crossings** with real-time alerts and barriers.
4. **Enhanced Fire Safety (Germany's ICE Trains Protocols):** German high-speed trains are equipped with **fire detection and suppression systems**, and passengers are trained in emergency protocols.
5. **Training and Human Resource Management (UK's National Rail Model):** The **UK Rail Training Program** emphasizes fatigue management and simulation-based driver training.

6. **Integrated Data Management (FRA System, USA):** The **Federal Railroad Administration (FRA)** in the USA uses a centralized data system to track rail accidents and formulate safety policies.
7. **Freight Safety with Dedicated Corridors (China's DFC Model):** China's dedicated freight network reduces congestion on passenger routes, ensuring safer operations.

WAY FORWARD FOR SUSTAINABLE RAIL SAFETY IN INDIA:

1. **Public-Private Partnerships (PPPs):** Encourage private sector involvement in **station modernization, track maintenance, and technology upgrades.**
2. **Safety Audits and International Collaboration:** Conduct **regular safety audits** in collaboration with international experts and adopt **global best practices.**
3. **Technology-Driven Infrastructure Development:** Invest in **digital infrastructure, including AI-based safety tools, Kavach, and real-time communication systems.**
4. **Sustainable Operations:** Align rail safety initiatives with **Sustainable Development Goal (SDG) 9**, focusing on **energy-efficient, low-emission operations,** and climate-resilient infrastructure.

Ensuring **rail safety** is essential for **public trust, economic growth, and sustainable development.** India must **learn from global best practices** by modernizing infrastructure, adopting **technology-driven solutions,** and strengthening human resources. A **comprehensive safety framework** aligned with **SDG goals** will transform Indian Railways into a safer, more efficient, and sustainable transport system following recommendations of Bibek Debroy Committee.

29. ARMED FORCES (SPECIAL POWERS) ACT, 1958

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Internal Security

REFERENCE NEWS:

The Manipur government has extended the Armed Forces (Special Powers) Act (AFSPA) in the hill districts of the State for another six months, a government notification said. Effective from October 1, the provisions of the Act will be extended to the whole State, except 19 police station limits in seven valley districts, thus maintaining the status quo, since three such notifications were passed since March 2023.

The Union Home Ministry also recently extended the Armed Forces (Special Powers) Act (AFSPA) in parts of Nagaland and Arunachal Pradesh for another six months. The areas under the purview of the Act remain unchanged since the last notification issued in March.

WHAT IS AFSPA?

The Armed Forces (Special Powers) Act (AFSPA) is a law in India that grants special powers and immunity to the armed forces to maintain public order in "disturbed areas." AFSPA gives security forces sweeping powers to arrest, search, and even shoot to kill in situations where public order is under threat.

- An area can be considered to be disturbed due to differences or disputes among different religious, racial, language, or regional groups or castes or communities.
- **The Central Government, or the Governor of the State or Administrator of the Union Territory**, can declare the whole or part of the State or Union Territory as a disturbed area.
- It can be applied only after an area has been declared "disturbed" under section 2 of the Act.
- The 'special powers' of armed forces under AFSPA are:
 - They have the authority to prohibit a gathering of five or more persons in an area, can use force, or even open fire after giving due warning if they feel a person is in contravention of the law.
 - If reasonable suspicion exists, the army can also arrest a person without a warrant, enter or search a premises without a warrant, and ban the possession of firearms.

- Any person arrested or taken into custody may be handed over to the officer in charge of the nearest police station along with a report detailing the circumstances that led to the arrest.
- Security personnel acting under AFSPA are protected from legal action without the prior approval of the central government. This means they cannot be prosecuted or sued for actions taken in the line of duty unless sanctioned by the government.
- The law allows the use of **force, even to the extent of causing death**, against individuals who violate laws or carry out violent acts.

ARGUMENTS IN FAVOUR OF ARMED FORCES SPECIAL POWERS ACT:

- **Maintaining Internal Security:** AFSPA is seen as a vital tool for the armed forces in **combating insurgencies** in regions where normal law enforcement agencies are unable to maintain public order. It is intended to help the armed forces operate effectively in highly volatile and conflict-ridden areas.
 - In **Nagaland**, where multiple insurgent groups have sought secession from India, AFSPA has been used to maintain order and suppress insurgent activities.
- **Combating Militancy and Insurgency:** The law has played a role in controlling militancy and insurgency in regions like **Jammu & Kashmir** and the northeastern states. It allows for swift action, including **search and detention**, which is considered essential in regions where insurgents may blend in with the local population.
 - In **Manipur**, where several insurgent groups operate, AFSPA has provided the armed forces with the authority to detain suspected militants and prevent potential terrorist attacks.
- **Protection of National Integrity:** AFSPA is regarded as essential for **protecting national integrity** in border areas where insurgencies are fuelled by **foreign support**, especially in states bordering China, Pakistan, and Myanmar. The armed forces are seen as the last line of defence in these sensitive regions.
 - In **Jammu & Kashmir**, where cross-border terrorism is a constant threat, AFSPA has enabled the military to carry out operations against militants entering the region from **Pakistan**.
- **Maintaining Public Order in Disturbed Areas:** In areas declared as **disturbed**, local law enforcement agencies may lack the resources or capacity to handle internal disturbances, armed conflict, or militant activities. AFSPA empowers the armed forces to intervene and restore order where the police and civil administration cannot.

- In **Manipur** and **Nagaland**, where multiple insurgent groups operate, the presence of the armed forces under AFSPA has helped control insurgency activities and maintain public order in otherwise lawless regions.
- **Operational Flexibility for Armed Forces:** AFSPA grants the armed forces the authority to **arrest without a warrant, search premises, and use force**, including lethal force, if necessary, to maintain order. These powers are vital for security operations in conflict zones, where threats may arise suddenly, and rapid action is required.
 - In anti-terrorist operations, militants often use civilians as human shields, hide in civilian areas, or engage in guerilla warfare tactics. The flexibility provided by AFSPA allows the army to act swiftly, preventing escalation and loss of life.
- **Deterring Insurgent Activity:** The presence of armed forces with special powers acts as a **deterrent to insurgent groups**, who may otherwise escalate violence or recruit more aggressively. Insurgents are less likely to take over towns, attack security forces, or engage in open combat knowing that the military has **enhanced operational powers**.
 - In **Punjab**, during the period of militancy in the 1980s, AFSPA helped suppress violent insurgent activities by **Khalistani separatist groups**, eventually restoring peace in the region by the mid-1990s.
- **Temporary Nature of the Law:** AFSPA is not a permanent law for the entire country. It is imposed selectively in areas officially declared "**disturbed**" by the central or state government, based on prevailing security conditions. Once the situation improves, AFSPA can be withdrawn, making its use a temporary measure during periods of instability.
 - In **Punjab**, AFSPA was lifted in **1997** after insurgency was brought under control. Similarly, in parts of the Northeast, AFSPA has been lifted from many areas where the security situation has improved.
- **Ensuring Effective Counterinsurgency Strategy:** AFSPA ensures that the armed forces can **coordinate effectively with local law enforcement** and civil administration. This coordination helps in **intelligence gathering, joint operations**, and the establishment of **lawful control over disturbed regions**.
 - In **Nagaland**, a combination of military action under AFSPA and **political negotiations** led to a ceasefire agreement with several insurgent groups, allowing for peace talks.

ARGUMENTS AGAINST AFSPA:

- **Allegations of Human Rights Violations:** The biggest criticism against AFSPA comes from allegations of **human rights violations**. The immunity granted to security forces is often seen as leading to **excesses** such as arbitrary arrests, extrajudicial killings, torture, and sexual violence.

- The **Malom Massacre in Manipur (2000)**, where 10 civilians were allegedly shot dead by security forces, led to protests against AFSPA. The **Irom Sharmila** hunger strike, which lasted for 16 years, was a notable protest against the law in Manipur.
- **Santosh Hegde Committee (2013)** recommended to properly reviewing the act every six months to see if its implementation is necessary. It found that all seven deaths in the six cases it investigated were extrajudicial executions and highlighted widespread abuse of AFSPA by security forces in Manipur.
- **Alienation of Local Populations:** The enforcement of AFSPA has led to **resentment and alienation** among local populations in regions like Jammu & Kashmir and the Northeast. Locals often feel **targeted** and oppressed under the act, leading to distrust between civilians and the security forces.
 - In **Kashmir**, where the law has been in force for over three decades, AFSPA has contributed to the perception of an **oppressive military presence**. The **Kunan Poshpora incident** was a mass rape that occurred on 23 February 1991 when a unit of the Indian security forces, after being fired upon by militants, launched a search operation in the twin villages of Kunan and Poshpora.
- **Legal Immunity and Lack of Accountability:** The legal immunity granted to security personnel is a major concern. Since armed forces cannot be prosecuted without central government approval, many cases of **alleged abuse** remain unaddressed, leading to a **culture of impunity**. Section 4 of AFSPA grants specific powers to authorised officers including use of firearms against individuals.
 - In **Nagaland**, the **Oting incident** in 2021, where 14 civilians were killed in a botched army operation, renewed calls for the repeal of AFSPA in the Northeast.
- **Prolonged Enforcement:** Another criticism is that AFSPA was initially introduced as a **temporary measure** to address insurgencies but has been extended indefinitely in many areas. The **lack of a time frame** for reviewing and lifting AFSPA has been a cause of concern.
 - The recent extension of AFSPA for another 6 months in Nagaland, Arunachal etc leads to perpetuity of the legislation and status quo.
- **Undermines state autonomy:** Section 3 of AFSPA grants the central government the authority to designate any area as a Disturbed Area without requiring the consent of the respective state

WAY FORWARD:

- **Phased Withdrawal:** This has already been done in states like Tripura and parts of Assam and Manipur. The government can continue this approach by conducting regular security reviews to assess if the law is still necessary.

- In Meghalaya, AFSPA was withdrawn in 2018 after years of relative peace. A similar model could be applied in other states where insurgency levels have declined.
- **Amendment of the Law:** Rather than a complete repeal, AFSPA could be amended to reduce its more draconian provisions, such as giving unchecked powers to the military. The amendment could include:
 - **Time-Bound Deployment:** Introduce a sunset clause that mandates a periodic review of the necessity of AFSPA in any region. This ensures that its application remains temporary and based on the actual security situation.
- **Establish Independent Oversight Committees:** Create independent review bodies at the central or state level to investigate allegations of human rights abuses by the armed forces under AFSPA. These bodies should be empowered to conduct thorough investigations, issue recommendations, and ensure accountability.
- **Judicial Review:** Implement a system where cases of alleged excesses by the armed forces can be subjected to judicial review without requiring prior approval from the central government. This would improve transparency and accountability.
 - The **Supreme Court of India** has taken up several cases regarding **human rights abuses** under AFSPA. In a 2016 ruling, the court stated that **excessive force** should not be used under the cover of AFSPA and ordered investigations into certain cases of alleged extrajudicial killings in Manipur.
- **Greater Civilian Involvement:** Encourage civilian involvement in security-related decision-making in AFSPA-imposed areas. By increasing collaboration between civil authorities and the military, the use of force can be more proportionate and targeted.
- **Build Trust with Local Communities:** The armed forces should invest in community engagement programs aimed at building trust with local populations. This could include:
 - **Development Projects:** Undertaking or supporting local development projects like building infrastructure, providing healthcare, and improving education can help reduce the resentment caused by prolonged military presence.
- **Follow Through on Expert Recommendations:** Various committees have been formed to review AFSPA over the years, including the Justice Jeevan Reddy Committee (2005) and the Second Administrative Reforms Commission (2007). Both recommended either the repeal or significant amendment of AFSPA.

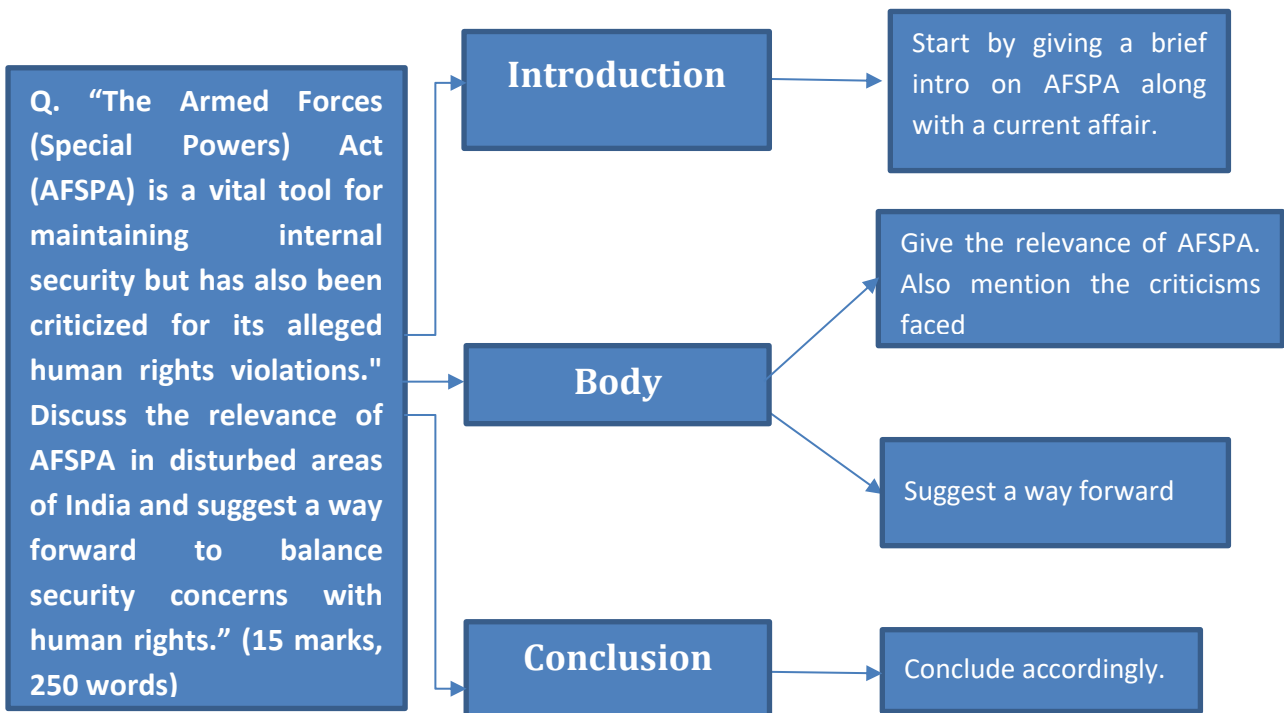
- **The Justice Reddy Committee** called for AFSPA's repeal, recommending that its provisions be incorporated into the Unlawful Activities (Prevention) Act (UAPA), which already covers many similar issues.
 - The **Second Administrative Reforms Commission** recommended a more humane approach to dealing with insurgencies, emphasizing winning the hearts and minds of local populations.
 - **Justice Verma Committee** (2013) recommended that any sexual violence against women by members of the armed forces must be brought within the purview of ordinary criminal law.
- **Human Rights Commissions:** Strengthen the role of national and state human rights commissions in investigating complaints related to AFSPA. These bodies should be given greater autonomy and resources to ensure proper investigation and timely resolution of grievances.
 - **Training Armed Forces on Human Rights:** Ensure that members of the armed forces deployed in disturbed areas receive training on human rights, rules of engagement, and conflict de-escalation techniques. This would help reduce the potential for excessive force and build a more humane approach to maintaining law and order.
 - **Political Solutions over Military Action:** The government should prioritize political dialogue and negotiations with insurgent groups rather than relying solely on military force. A political settlement that addresses grievances related to autonomy, economic development, and identity can help resolve long-standing conflicts.
 - In Nagaland, the signing of a ceasefire agreement in 1997 between the government and the NSCN-IM has led to relative peace and ongoing political negotiations. Political solutions like these are more sustainable than prolonged military deployment.
 - **Economic Development and Infrastructure:** Insurgencies often thrive in areas with economic underdevelopment and social marginalization. The government should focus on improving infrastructure, employment opportunities, and basic services in disturbed areas to address the socioeconomic causes of insurgency.
 - In the Northeast, regions like Assam and Arunachal Pradesh are seeing growing investments in infrastructure, education, and tourism, which can help reduce insurgency by providing economic alternatives to armed rebellion.
 - **Use of Technology to Minimize Civilian Harm:** Advances in surveillance technology, drone-based monitoring, and non-lethal crowd control measures can help reduce the need for excessive military force under AFSPA. By using better intelligence and

surveillance, the armed forces can minimize collateral damage during operations and avoid civilian casualties.

PRACTICE QUESTION

Q. "The Armed Forces (Special Powers) Act (AFSPA) is a vital tool for maintaining internal security but has also been criticized for its alleged human rights violations." Discuss the relevance of AFSPA in disturbed areas of India and suggest a way forward to balance security concerns with human rights." (15 marks, 250 words)

APPROACH



MODEL ANSWER

The **Armed Forces (Special Powers) Act (AFSPA)**, enacted in 1958, provides special powers to the armed forces to maintain public order in **disturbed areas**. It has been a critical tool in combating insurgency and terrorism, especially in **northeastern India, Jammu & Kashmir**, and previously, in **Punjab**. However, AFSPA has faced severe criticism for alleged **human rights violations** and its indefinite extension, raising concerns about its necessity and impact on civil liberties.

RELEVANCE OF AFSPA IN DISTURBED AREAS:

1. **Maintaining Internal Security:** AFSPA provides the **legal framework** for the armed forces to restore order in regions affected by insurgencies or terrorist activities. In **Nagaland** and **Manipur**, AFSPA has played a crucial role in suppressing insurgent activities and ensuring **territorial integrity**.

2. **Combatting Militancy and Insurgency:** The act allows for **swift military action**, including arrest without a warrant and use of force, which is critical in areas like **Jammu & Kashmir** where militants blend in with the local population. It has helped **prevent cross-border terrorism** and militant infiltration from **Pakistan**.
3. **Operational Flexibility:** The armed forces are granted **operational flexibility** to act in real-time without the constraints of civilian law enforcement, which is essential in conflict zones where threats may arise suddenly. This flexibility has been crucial in **counter-insurgency operations** in areas like **Manipur** and **Nagaland**.
4. **Protection of National Integrity:** In border states like **Arunachal Pradesh** and **Jammu & Kashmir**, AFSPA has been important in protecting national security against foreign-backed insurgencies. It has enabled the military to conduct anti-insurgency operations and **preserve sovereignty**.

CRITICISM OF AFSPA:

1. **Allegations of Human Rights Violations:** The **Malom Massacre** (2000) and the **Kunan Poshpora incident** (1991) are examples where AFSPA was allegedly misused, leading to **extrajudicial killings, torture, and sexual violence**. Such incidents have led to **alienation** among local populations and fuelled distrust of the armed forces.
2. **Legal Immunity and Lack of Accountability:** AFSPA grants **immunity** to security forces from prosecution, which has been criticized for promoting a **culture of impunity**. Cases of abuse often go unpunished, leading to further alienation of local populations, as seen in the **Oting incident in Nagaland** (2021).
3. **Prolonged Enforcement:** Originally meant as a **temporary measure**, AFSPA has been extended indefinitely in many regions, causing resentment among locals. In **Nagaland** and parts of **Manipur**, the law has been in place for decades, despite changes in the security situation.
4. **Alienation of Local Populations:** The prolonged presence of the military under AFSPA has created a perception of an **oppressive regime**, particularly in **Jammu & Kashmir** and the **Northeast**, leading to **alienation** of the local population and **distrust** in the government.

WAY FORWARD:

1. **Phased Withdrawal and Review:** As security conditions improve, AFSPA should be gradually **phased out** in regions where it is no longer necessary. Regular **security reviews** should be conducted to assess whether the act's provisions are still required.

- **Example:** In **Meghalaya**, AFSPA was lifted in 2018 after the security situation improved, providing a model for gradual withdrawal in other areas.
2. **Amendment of the Law:** AFSPA can be **amended** to introduce provisions that ensure **greater accountability** and **judicial oversight**. A **sunset clause** should be introduced, mandating periodic review of AFSPA's necessity in a particular area. **Independent oversight committees** can be established to investigate human rights violations, ensuring that security forces are held accountable for any misuse of power.
 3. **Building Trust with Local Communities:** The armed forces should invest in **community engagement programs** and support local development projects. This will help build trust between the military and local populations, reducing the perception of the military as an occupying force. Undertaking local infrastructure, healthcare, and education projects can address some of the socioeconomic grievances that fuel insurgencies.
 4. **Greater Civilian Involvement:** Encourage **civilian involvement** in decision-making related to AFSPA implementation. This can be done by improving collaboration between the armed forces and local authorities to ensure that the use of force is proportionate and justified.
 5. **Political Solutions Over Military Action:** In the long term, the government should prioritize **political dialogue** and **negotiations** with insurgent groups, rather than relying solely on military action. A **political settlement** addressing grievances related to **autonomy, identity, and development** can provide a more sustainable solution to conflicts.
 - **Example:** In **Nagaland**, the **ceasefire agreement** with insurgent groups has created a more peaceful environment, emphasizing the importance of political engagement over prolonged military presence.
 6. **Strengthening Human Rights Mechanisms:** Strengthen the role of **national and state human rights commissions** to ensure that complaints related to AFSPA are investigated promptly. The military should also receive **training in human rights and conflict de-escalation**, ensuring that operations are carried out in a humane and lawful manner.

While AFSPA has played an important role in maintaining internal security and combatting insurgencies, its prolonged use and alleged misuse have caused alienation and human rights violations in some regions. The way forward lies in **reforming the law**, ensuring **greater accountability**, and focusing on **political solutions** and **development** to address the root causes of insurgency. Balancing the needs of national security with respect for human rights is essential for ensuring lasting peace and stability in the affected regions.

30. AGROFORESTRY SECTOR IN INDIA

IMPACT ANALYSIS

SYLLABUS:

GS 3 > Environment

REFERENCE NEWS:

Recent research by TERI (The Energy and Resources Institute) suggests that if adequate policies, financial support and incentives are implemented, the agroforestry sector could contribute an additional carbon sink of over 2.5 billion tons of CO₂ equivalent by 2030. India's vast potential in the agroforestry sector is a unique opportunity to integrate with carbon finance projects through Afforestation, Reforestation and Revegetation initiatives.

AGROFORESTRY:

Agroforestry refers to the integrated practice of growing trees and shrubs alongside crops or livestock on the same land. It combines agriculture and forestry to create more **sustainable land-use systems**, improving productivity, biodiversity, and resource efficiency. Agroforestry can involve various practices such as planting trees on farms, growing crops under forest canopies, or integrating livestock with tree and crop systems.

Types of Agroforestry Systems:

- **Agri-silviculture:** Trees and agricultural crops are cultivated together.
- **Silvo-pastoral Systems:** Trees, pasture, and animals are integrated on the same land.
- **Agri-silvo-pastoral Systems:** Combines crops, trees, and livestock on the same plot.
- **Homegardens:** Small-scale agroforestry systems where trees and crops are grown around homes.
- **Alley Cropping:** Crops are grown between rows of trees that provide protection and nutrients to the crops.

AGROFORESTRY IN INDIA

India has a long history of traditional agroforestry practices, especially in rural areas where farmers have managed trees alongside crops for centuries. With a rising emphasis on sustainable agricultural practices and climate resilience, agroforestry has gained significant attention from policymakers.

Current Status of Agroforestry in India:

- **Policy Support:** The Government of India launched the **National Agroforestry Policy (NAP) in 2014**, aimed at encouraging tree planting on farmland, reducing pressure on forests, and increasing tree cover. This was the first such policy in the world, underscoring India's commitment to integrating forestry and agriculture.
- **Sub-Mission on Agroforestry (SMAF):** This is part of the National Mission for Sustainable Agriculture (NMSA). SMAF promotes the expansion of tree-based farming practices through financial support for farmers, focusing on smallholders. The scheme emphasizes land management through agroforestry models suitable for various agro-ecological zones in India.
- India's agroforestry sector covers 28.4 million hectares, representing 8.65% of the country's land area. Agroforestry contributes 19.3% of India's total carbon stocks, showing its environmental significance.
- The sector has potential for expansion to 53 million hectares by 2050. Research suggests it could create an additional carbon sink of over 2.5 billion tons of CO₂ by 2030 with proper policies and support.
- **Agroforestry Systems in India:**
 - **Taungya System:** Practiced in states like West Bengal and Kerala, it integrates forestry and agriculture where crops are grown between young tree plantations.
 - **Home Gardens:** Common in the southern states like Kerala, Tamil Nadu, and Karnataka, home gardens are small agroforestry systems where families grow fruits, vegetables, and trees around their homes.
 - **Agri-silvicultural Systems:** Practiced in Uttar Pradesh and Punjab, this system integrates tree species such as poplar and eucalyptus with wheat, sugarcane, and other crops.
- **Regional Examples:**
 - **Poplar-Based Agroforestry:** This system is popular in northern India, especially in Uttar Pradesh, Punjab, and Haryana. Poplar trees are grown with wheat, sugarcane, and other crops, providing additional income from timber sales.
 - **Eucalyptus Agroforestry:** Eucalyptus trees are grown in various parts of India, including Maharashtra, Andhra Pradesh, and Tamil Nadu. These fast-growing trees are used for pulp, paper, and construction.

[SIGNIFICANCE OF CARBON FINANCE FOR AGROFORESTRY:](#)

Carbon finance refers to the financial incentives provided for activities that reduce or sequester carbon emissions, such as agroforestry. In the context of agroforestry, carbon finance plays a significant role by monetizing the carbon sequestration capabilities of trees, making it a viable source of income for farmers and landholders.

- **Financial Incentives for Farmers:**
 - **Direct Payments for Carbon Sequestration:** Farmers and landowners can receive payments through carbon credits, which are issued based on the amount of carbon sequestered by trees in agroforestry systems. These credits can be sold in carbon markets, providing a new income stream for farmers. For many smallholders, this creates a strong financial incentive to adopt agroforestry practices.
 - **Increased Livelihood Opportunities:** Carbon finance diversifies income sources beyond traditional crop yields, making farming more resilient to price fluctuations and market instability.
- **Promotes Large-Scale Adoption of Agroforestry:**
 - **Scaling Agroforestry Practices:** By monetizing the carbon sequestration potential of agroforestry, carbon finance encourages more farmers to adopt these systems.
 - **Support for Sustainable Land-Use Systems:** Carbon finance helps promote agroforestry as a sustainable land-use practice, encouraging long-term investment in maintaining tree cover alongside crops, which improves environmental outcomes.
- **Climate Change Mitigation:**
 - **Carbon Sequestration:** Agroforestry systems absorb significant amounts of carbon dioxide from the atmosphere, storing carbon in both biomass (trees, plants) and soil. This contributes to global efforts to mitigate climate change by reducing atmospheric carbon levels.
 - Agroforestry projects can be part of **REDD+ (Reducing Emissions from Deforestation and Forest Degradation)** or **Clean Development Mechanism (CDM)** schemes, which provide financial incentives for activities that reduce deforestation or sequester carbon.
 - **Offsets for Agricultural Emissions:** Traditional agriculture is a significant source of greenhouse gases, particularly methane and nitrous oxide. Carbon finance helps offset these emissions by encouraging practices like

agroforestry, which neutralize part of the carbon footprint of agricultural activities.

○ **Environmental Co-Benefits:**

- **Biodiversity Conservation:** Trees in agroforestry systems create habitats for wildlife, contributing to biodiversity conservation. Agroforestry can be integrated with carbon finance projects like Afforestation, Reforestation, and Revegetation (ARR) initiatives. If proper policies and financial support are in place, it could create an additional carbon sink.
- The **Green India Mission** and **National Agroforestry Policy** are working to integrate agroforestry practices with carbon finance mechanisms
- **Soil and Water Conservation:** Agroforestry reduces soil erosion, enhances soil fertility, and improves water retention. These environmental services further align with the goals of carbon finance, as healthier ecosystems can sequester more carbon.

○ **Alignment with Global Climate Agreements:**

- **Paris Agreement Goals:** Many countries, including India, have committed to reducing their greenhouse gas emissions under the Paris Agreement. Agroforestry, supported by carbon finance, can play a crucial role in achieving these emission reduction targets by increasing carbon sequestration.
- **Carbon Markets:** Under voluntary or regulated carbon markets, agroforestry projects can generate carbon credits that are traded globally. By tapping into these markets, agroforestry practitioners can contribute to both local livelihoods and global climate goals.

○ **Attracts Investment in Rural Development:**

- **Private Sector Investment:** Carbon finance can attract private sector investment into rural areas, particularly from companies looking to offset their carbon emissions. This can boost rural economies by providing funding for agroforestry initiatives, capacity building, and infrastructure development.
- **Public-Private Partnerships:** Governments can partner with private entities to scale agroforestry projects that are eligible for carbon finance, creating synergies between environmental goals and rural development.

CHALLENGES OF AGROFORESTRY SECTOR IN INDIA:

- **Lack of Awareness and Knowledge:** There is a shortage of extension services to educate farmers on suitable tree-crop combinations, planting techniques, and long-term management strategies. Without proper guidance, farmers may not see immediate benefits and may hesitate to adopt agroforestry practices.
- **Policy and Regulatory Barriers:** Agroforestry regulations and policies vary significantly between states, leading to confusion and difficulties in scaling up agroforestry practices across regions. Some states have more liberal policies, while others impose restrictions that create obstacles for farmers.
- **Land Tenure and Ownership Issues:** Agroforestry requires a long-term commitment to growing trees alongside crops, and without secure land rights, farmers may be reluctant to adopt such systems. Tenant farmers, sharecroppers, and landless farmers often do not have the authority or incentive to plant trees, as they may not benefit from the long-term yields or income from timber.
- **Economic Constraints and Limited Financial Support:** Although agroforestry provides long-term benefits, farmers often prioritize short-term crop yields due to immediate financial needs. Financial institutions often do not recognize agroforestry as a viable investment option. Farmers face difficulties in accessing credit or loans specifically for agroforestry, as lenders may not understand the economic benefits of such systems.
- **Environmental and Climate Constraints:** In regions with limited water availability, farmers may prioritize water use for crops over trees. Agroforestry systems require careful water management to ensure that trees do not compete with crops for water resources, particularly in arid and semi-arid regions. Droughts, floods, and other extreme weather events can adversely affect both crops and trees in agroforestry systems.
- **Fragmented Landholdings:** In India, a significant proportion of agricultural land is fragmented into small plots, making it difficult to implement agroforestry on a scale that would yield significant environmental and economic benefits. In India, **86.1% of farmers are small and marginal with less than two hectares**, practicing scattered agroforestry
- **Lack of Incentives and Institutional Support:** While the government has introduced policies like the National Agroforestry Policy (2014) and schemes like the Sub-Mission on Agroforestry (SMAF), the implementation on the ground has been slow. Farmers often do not receive adequate financial or technical support to make agroforestry viable.

WAY FORWARD:

- **Policy Reforms and Simplification of Regulations:** Rwanda's Land Tenure Regularization Program has made it easier for small farmers to obtain legal rights to land, encouraging long-term investments in agroforestry. **Brazil's decentralized**

forest governance allows more community involvement in decision-making, simplifying the regulatory framework for small farmers.

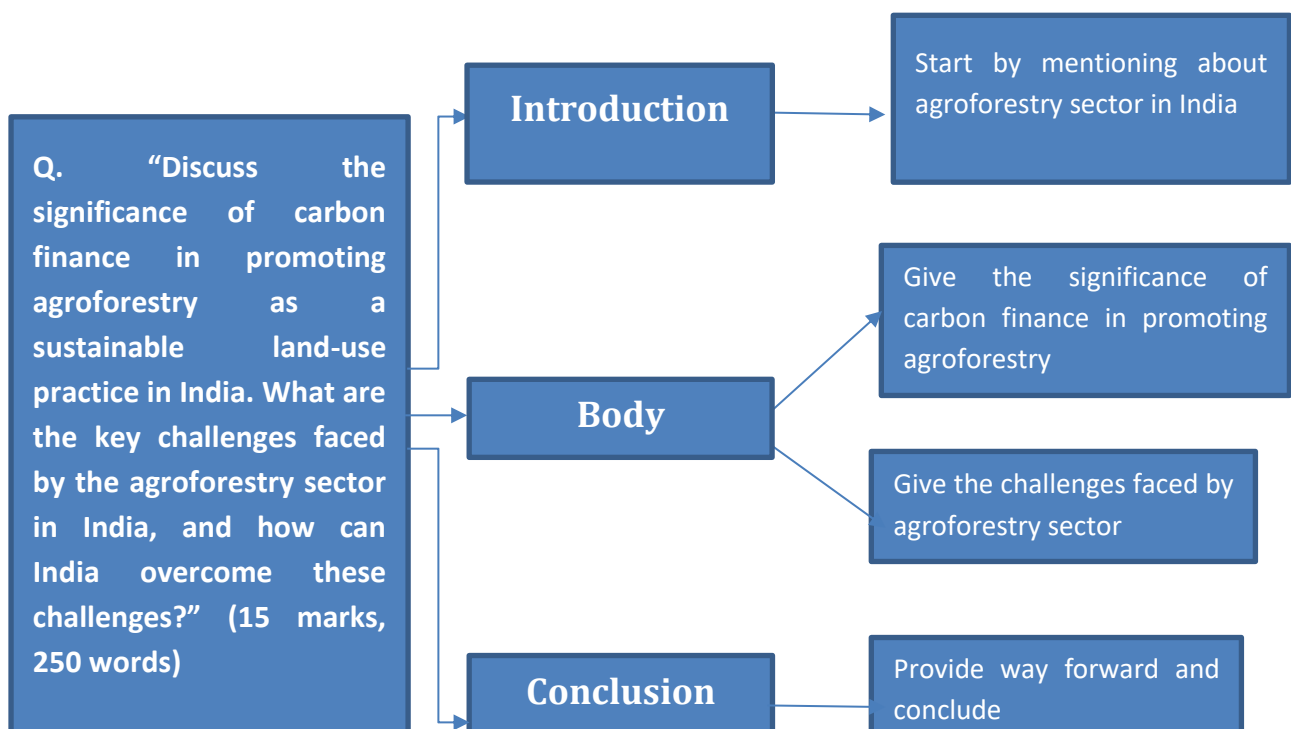
- **Promoting Secure Land Tenure and Land Use Rights: Tanzania's Village Land Forest Reserves** system grants communities legal rights to manage agroforestry on village land, ensuring security of tenure. **Mexico's Payment for Ecosystem Services (PES)** programs incentivize indigenous communities to maintain forested lands by paying them for ecosystem services like carbon sequestration.
- **Incentivizing Agroforestry through Financial Mechanisms: Costa Rica's National Fund for Forest Financing (FONAFIFO)** provides direct payments to farmers who implement agroforestry practices, backed by carbon credits and payments for ecosystem services. In **China**, agroforestry systems like the Grain for Green program offer farmers subsidies and financial support for converting cropland to forests.
- **Capacity Building and Extension Services: Kenya's Farmer Field Schools** offer peer-to-peer learning where farmers learn sustainable agroforestry practices, providing hands-on training and encouraging innovation. In **Peru**, a **community-led extension model** offers localized training in agroforestry techniques, helping farmers improve yields and increase tree coverage.
- **Fostering Public-Private Partnerships and Market Access: Colombia's agroforestry cooperatives** help smallholders gain access to global timber and fruit markets by organizing collective sales, reducing market risks for individual farmers. In **Brazil**, public-private partnerships through programs like the **Amazon Fund** have helped create value chains for sustainable forest products, promoting agroforestry among local communities.
- **Leveraging Carbon Finance and International Carbon Markets:** In **Africa**, the World Bank's **BioCarbon Fund** has successfully integrated small-scale agroforestry projects with carbon finance, enabling smallholders to earn carbon credits. **Ecuador's Socio Bosque Program** links forest conservation with carbon credits and has helped rural communities benefit financially from ecosystem services.
- **Encouraging Climate-Resilient Agroforestry Models: Ethiopia's Climate-Smart Agriculture Initiative** promotes the use of drought-tolerant tree species in agroforestry systems to enhance resilience in semi-arid regions. **Vietnam's Integrated Mangrove and Shrimp Farming Model** combines mangrove reforestation with aquaculture to balance livelihoods and environmental sustainability.
- **Research and Innovation in Agroforestry Systems: Australia's Agroforestry R&D Network** focuses on developing scientifically validated agroforestry systems tailored to different climates and farming needs. The **European Agroforestry Federation** encourages research collaboration across countries to develop innovative agroforestry systems and techniques.
- **Integrating Agroforestry into National and International Climate Commitments: Costa Rica** has integrated agroforestry into its national climate policies and its commitment to achieving carbon neutrality by 2050. **Norway's forest policy** is

closely tied to international climate agreements, incentivizing sustainable forestry practices that also contribute to global climate goals.

PRACTICE QUESTION

Q. “Discuss the significance of carbon finance in promoting agroforestry as a sustainable land-use practice in India. What are the key challenges faced by the agroforestry sector in India, and how can India overcome these challenges?” (15 marks, 250 words)

APPROACH



MODEL ANSWER

Agroforestry, the integrated practice of growing trees alongside crops or livestock, offers significant environmental and economic benefits, particularly in carbon sequestration. In India, **86.1% of farmers are small and marginal with less than two hectares**, practicing scattered agroforestry

Carbon finance incentivizes this practice by providing financial compensation for carbon sequestration, thus promoting its large-scale adoption. India, with its vast agroforestry potential, can leverage carbon finance to enhance both rural livelihoods and climate action.

SIGNIFICANCE OF CARBON FINANCE IN AGROFORESTRY:

1. **Incentives for Carbon Sequestration:** Carbon finance allows farmers to receive payments through carbon credits based on the amount of carbon sequestered by

trees. These credits can be traded in carbon markets, creating an additional revenue stream for farmers.

2. **Promotion of Large-Scale Agroforestry:** By monetizing carbon sequestration, carbon finance encourages more farmers to adopt agroforestry systems. This aligns with sustainable land-use practices, enhances biodiversity, and contributes to long-term environmental goals.
3. **Climate Change Mitigation:** Agroforestry systems sequester carbon both in biomass and soil, contributing to global climate mitigation efforts. Carbon finance also offsets emissions from traditional agriculture by promoting practices that neutralize part of the carbon footprint of agricultural activities.
4. **Attracting Investment:** Carbon finance attracts both public and private investment in rural development, particularly from companies seeking to offset their carbon emissions. This can boost local economies through funding agroforestry initiatives and improving infrastructure.
5. **Alignment with Global Climate Agreements:** Agroforestry, supported by carbon finance, helps India achieve its commitments under the Paris Agreement by enhancing carbon sinks and reducing greenhouse gas emissions.

CHALLENGES IN INDIA'S AGROFORESTRY SECTOR:

1. **Lack of Awareness and Knowledge:** Many farmers are unaware of the benefits of agroforestry or lack technical knowledge, limiting its adoption.
2. **Policy and Regulatory Barriers:** Complex and inconsistent tree felling and transit regulations across states discourage farmers from integrating trees into their farming systems.
3. **Land Tenure Issues:** Unsecure land tenure, particularly for smallholders and tenant farmers, restricts long-term agroforestry investment due to uncertain benefits from trees.
4. **Limited Financial Support:** Farmers often prioritize short-term crop yields due to immediate financial needs, while agroforestry systems have long gestation periods. Access to credit specifically for agroforestry is limited.
5. **Environmental Constraints:** Water scarcity and fragmented landholdings in India make it difficult to scale agroforestry practices, particularly in regions prone to climate variability.
6. **Market Access:** Limited market infrastructure for agroforestry products such as timber and fruits discourages farmers from investing in such systems.

PRACTICES TO OVERCOME CHALLENGES:

1. **Policy Reforms and Simplification of Regulations:** Inspired by **Rwanda's Land Tenure Regularization Program**, India can simplify tree felling and transit regulations, making it easier for farmers to integrate trees into their farms.
2. **Secure Land Tenure: Tanzania's Village Land Forest Reserves** can serve as a model to grant Indian communities secure land-use rights, fostering long-term agroforestry investments.
3. **Financial Mechanisms: Costa Rica's National Fund for Forest Financing (FONAFIFO)** demonstrates how direct payments for ecosystem services can be used to incentivize farmers. India can expand its financial support through carbon finance mechanisms.
4. **Extension Services: Kenya's Farmer Field Schools** offer peer-to-peer learning, which India can replicate to build farmer capacity for agroforestry practices.
5. **Public-Private Partnerships and Market Access: Brazil's Amazon Fund** showcases how public-private partnerships can enhance market access for agroforestry products. India should foster partnerships to create value chains for timber, fruits, and other agroforestry products.
6. **Leveraging Carbon Finance:** Programs like the **World Bank's BioCarbon Fund** in Africa can be adapted to support smallholder agroforestry in India, allowing farmers to earn carbon credits and participate in global carbon markets.

Agroforestry, supported by carbon finance, has the potential to create a sustainable land-use system that contributes to carbon sequestration, rural development, and climate resilience in India. However, the challenges of policy, finance, and knowledge need to be addressed. By adopting global best practices, India can unlock the full potential of agroforestry, ensuring both economic benefits for farmers and environmental sustainability for future generations.

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