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# OFFICERS' PULSE

## October 2024 (IN-DEPTH)

## CURRENT AFFAIRS MONTHLY

**The PULSE of UPSC at your fingertips.**

# Foreword

Officers Pulse-In Depth provides detailed analyses of significant articles from a variety of sources including The Hindu, Indian Express, Business Standard, Down To Earth, Yojana, Kurukshetra, and others. These insights are extremely valuable for UPSC CSE Mains preparation. To ensure comprehensive preparation for both Prelims & Mains, we recommend studying Officers Pulse-In Depth along with Officers Pulse-Digest.

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## 1) A CASE FOR PRIVATE PARTICIPATION IN INDIA'S NUCLEAR ENERGY SECTOR

***(GS-III: Achievements of Indians in Science & Technology; Indigenization of Technology and Developing New Technology)***

### Background:

- Nuclear energy governance in India is based on the **Atomic Energy Act, 1962 (AEA),** which vests exclusive control over nuclear energy with the **central government.**
- According to Section 3(a) of the AEA, only the government can "produce, develop, use, and dispose of atomic energy."
- This framework centralizes nuclear operations under government bodies, primarily the **Department of Atomic Energy (DAE)** and its subsidiary, the **Nuclear Power Corporation of India Limited (NPCIL).**
    - These entities are responsible for the development, regulation, and operation of nuclear energy infrastructure across India.
- The AEA **restricts private sector involvement in nuclear energy**, especially in areas like research and development (R&D), where private participation is explicitly prohibited.
- **Private companies** have been **permitted** to engage in **engineering, procurement, and construction (EPC)** roles, helping to build infrastructure for government-owned nuclear plants.
- **Union Budget 2024-25** has made announcements on partnerships with the private sector for research and developing **Bharat Small Reactors (BSR)**, **Bharat Small Modular Reactors (BSMR)** as well as newer nuclear energy technologies.

### Reasons to include Private Sector in Nuclear Sector:

- **Decarbonization and Energy Targets**: India's commitment to achieving 500 GW of non-fossil fuel-based energy by 2030 needs building nuclear energy capacity. Private sector participation can help accelerate this expansion to meet ambitious climate goals.
- **Capital Requirements**: Expanding nuclear infrastructure is capital-intensive, requiring billions in investment. Private partnerships can attract the necessary capital and reduce the financial burden on the government, thus helping in faster development and deployment of nuclear power plants.
- **Advanced Technology and Expertise**: Private sector involvement can introduce innovative technologies and expertise from different parts of the world for developing small modular reactors (SMRs) and Bharat Small Reactors (BSRs). This helps in increasing the efficiency of the process.
- **Overcoming Resource and Skill Gaps**: Nuclear projects demand specialized skills, high safety standards, and sophisticated construction resources. Private partnerships can bring in international standards, skilled labor, and efficient construction practices to address existing gaps and ensure timely project completion.

### Challenges in including Private players:

- **Restrictive Legislative Framework**: The Atomic Energy Act, 1962, restricts private sector involvement in areas like research and development (R&D).
    - Amendments to this act will be required to help in full participation of private companies.
- **Regulatory Uncertainty and Lack of Independent Oversight**: The **Atomic Energy Regulatory Board (AERB)** oversees nuclear safety but has faced criticism for its lack of independence.
    - The failure to enact the **Nuclear Safety Regulatory Authority (NSRA) Bill** means that regulatory oversight may not fully satisfy private sector expectations for impartial and reliable governance, creating uncertainty.

- **Liability and Safety Concerns**: The **Civil Liability for Nuclear Damage Act, 2010 (CLNDA),** mandates a strict liability framework, placing significant financial responsibility on operators.
    - Public Interest Litigations (PILs) have been filed against CLNDA about the liability structure's clarity and long-term enforceability,
    - This can create fear of financial risks in the minds of private investors.

**Way Forward:**

- For a path of clean energy future by expanding nuclear power, India will require legislative upgrade, clear liability frameworks, and independent regulatory structures.
- Safety and accountability measures should be critical parameters in designing the mechanism for private participation in nuclear power.

## 2) ASYMMETRIC FEDERALISM IN INDIA

***(GS-II: Functions and Responsibilities of the Union and the States, Issues and Challenges Pertaining to the Federal Structure, Devolution of Powers and Finances up to Local Levels and Challenges Therein)***

**Background:**

- The Indian Constitution follows 'asymmetrical' federalism. Asymmetrical federalism is where **some States and areas have more autonomy than others.**
- The main forms of administrative units in India are the Centre and the States.
- There are also other forms set up to address specific local, historical and geographical contexts such as the **Union Territories with a legislature**, **Union Territories without a legislature, Scheduled areas under Fifth Schedule and Tribal areas under the Sixth Schedule** of the Constitution.
- Demands from Ladakh, Arunachal Pradesh and Manipur to be included in Tribal areas under Sixth schedule calls for a discussion about this asymmetry.

**Fifth and Sixth Schedules of the Indian Constitution:**

- **Fifth Schedule** applies to designated **"scheduled areas"** in **10 states**, where **Tribes Advisory Councils (TACs)** offer guidance on tribal welfare.
    - The Governor can regulate land allotment and business activities within these areas, tailoring or exempting national and state laws to suit local needs.
- **Sixth Schedule** applies to **"tribal areas" in Assam, Meghalaya, Mizoram, and Tripura,** creating **Autonomous District Councils (ADCs)**.
    - ADCs have the authority to make local laws on land use, property, social customs, and educational and healthcare services.
    - They can also collect taxes and oversee local judicial matters.

**Issues in the functioning of Fifth and Sixth Schedules:**

- **Limited Practical Autonomy in Scheduled Areas:** The autonomy provided by the Fifth and Sixth Schedules has been theoretical.
    - Regulations made by the Governor in Fifth Schedule areas and laws made by Autonomous District Councils (ADCs) in Sixth Schedule areas **require approval from the Central or State government,** which restricts real independence.
- **Political Influence:** When different parties govern at the Central, State, and ADC levels, political differences often interfere with governance and reduce effective autonomy.
- **No Clear Guidelines for Autonomy:** The absence of detailed guidelines to implement the Fifth and Sixth Schedule provisions has led to inconsistent application and weak enforcement.

- **Non-Scheduled Tribal Habitations:** Many tribal areas across the country, including those within the 10 Fifth Schedule states, are **not formally recognized as "scheduled areas."**
    - This lack of official designation denies these communities the constitutional rights and protections afforded to scheduled areas, limiting development opportunities and access to special governance.
- **Pending 125th Constitutional Amendment Bill:** The proposed bill, introduced in 2019, aims to grant more financial, executive, and administrative powers to ADCs, but it has been delayed in the Rajya Sabha.
- **No Comprehensive Implementation:** The **Forest Rights Act 2006,** which recognizes forest land rights of tribal communities, is not fully enforced in many Fifth and Sixth Schedule areas.
    - This limits tribal access to traditional land and resources, undermining the autonomy and protections the schedules are designed to offer.

**Solutions to address these issue:**

- **Define Autonomy Standards:** Clear guidelines should be established for the roles and powers of Governors in Fifth Schedule areas and Autonomous District Councils (ADCs) in Sixth Schedule areas.
    - This would help avoid interference by central and state governments, allowing for more consistent implementation of self-governance provisions.
- **Reduce Political Influence:** Establish mechanisms to minimize political interference across different levels of governance (Central, State, ADC) to ensure that scheduled areas retain their autonomy regardless of party alignments.
- **Identify and Notify New Scheduled Areas:** A comprehensive assessment to identify tribal habitations across India that meet the criteria for scheduled area status but currently lack it.
    - Notifying these areas as scheduled would extend constitutional protections, development funds, and governance rights to more tribal communities.
    - A review process should be established to periodically assess areas that may need scheduled status in the future due to demographic and socio-economic changes.
- **Empower ADCs through Legislative Amendments:** The passage of the 125th Constitutional amendment bill should be fastened to enhance the financial, executive, and administrative powers of ADCs.
- **Local Oversight and Appeals:** Establish local oversight committees to ensure fair implementation of forest rights, and set up accessible appeals mechanisms to address grievances related to land and resource rights effectively.

**Conclusion:**

- Implementing these reforms can help the tribal people in different parts of the Country to get better gains from the developmental process.
- It can also help in realising the benefits behind the creation of asymmetric federalism structure in India.

## 3) HEAT AND FOOD INFLATION

***(GS-III: Major Crops - Cropping Patterns in various parts of the country, Different Types of Irrigation and Irrigation Systems; Storage, Transport and Marketing of Agricultural Produce and Issues and Related Constraints; E-technology in the aid of farmers)***

**Background:**

- Food inflation is a general rise in the price of food items over time.

- It's a type of inflation that impacts lower income individuals the most as they spend a large part of their income on food.
- Recent research activities are showing that this inflation is more affected by heat and less by the amount of rainfall.

**Impact of Heat on Food Inflation:**

- **Crop Yield reduction:** Rising temperatures and heat waves lower crop yields.
    - For instance, scientific projections estimate that **a temperature increase of 2.5-4.9°C could reduce wheat yields by 41-52% and rice yields by 32-40%**.
    - Heatwaves, like those in 2022 and 2024, directly impacted crop yields, such as a 30% reduction in sugarcane and significant damage to vegetables and oilseeds.
- **Sensitive Perishable Crops:** Short-cycle perishable crops like vegetables and fruits, are more vulnerable to heat stress.
    - Rising temperatures over the past decade have increased the correlation between temperatures and the prices of perishables from 20% to 60%, a three-fold increase.
    - Higher temperatures accelerate the **spoilage of perishable goods,** which drives up prices.
- **Impact on Durable Crops:** Long-cycle durable crops (e.g., cereals, pulses, and oilseeds) have historically been less sensitive to heat. However, the correlation between temperatures and the prices of these crops has also increased, from 10% to 45% over a decade.
    - As heat sensitivity rises, the production of durable crops becomes more uncertain, contributing to inflation.
- **Animal Mortality and Reduced Production in Animal Products:** High temperatures increase mortality rates among livestock, affecting dairy, poultry, and fishery products.
    - Rising temperatures make animal protein production more expensive and reduce supply which in turn increases inflation.
- **Reservoir Evaporation:** High temperatures increase evaporation rates from reservoirs, reducing available irrigation water, which in turn stresses crops, particularly in less irrigated regions.
- **Supply Chain Strain:** Heat stress can impact transportation and storage, especially for perishables, due to higher refrigeration needs and spoilage rates, indirectly contributing to price increases.
- **Increased Correlation:** The overall correlation between temperature and food inflation has risen significantly over time. Temperature now serves as a stronger predictor of food inflation than traditional variables like rainfall and reservoir levels.

**Measures to reduce the impact of heat on food inflation:**

- **Invest in Heat-Resilient Crop Varieties:** Invest in research and development of crop varieties that are selectively bred to withstand higher temperatures and drought. Wheat, rice, and other staple crops with enhanced heat tolerance can reduce yield losses during extreme heat events.
- **Water Management:** Improvements in irrigation facilities to reduce dependency on rainfall and buffer crops against heat stress. Upgrading infrastructure to include efficient irrigation methods, like drip and sprinkler systems, can also conserve water while keeping crops cooler and more productive.
    - Sustainable reservoir management and rainwater harvesting can help maintain water levels, even in high-temperature periods, reducing stress on crops and limiting inflation spikes.

- **Heat-Linked Insurance:** Develop crop insurance plans to face heat risks which can help farmers recover from losses due to high temperatures.
- **Supply Chain Management:** To stabilise prices during heat waves, the government could strengthen its food supply chain through strategic reserves, imports, and infrastructure for cold storage.

**Conclusion:**

- With the issue of climate change looming large around the world, its impacts will be felt in different fields.
- The impact of increased heat is higher on sensitive fields like agriculture and this requires long term measures.

## 4) GLOBAL GOAL ON ADAPTATION

***(GS-III: Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment)***

**Background:**

- The **Global Goal on Adaptation (GGA)** is an internationally agreed framework under the **United Nations Framework Convention on Climate Change (UNFCCC)** aimed at enhancing the **adaptive capacity, strengthening the resilience,** and reducing the vulnerability of communities and ecosystems worldwide to the **adverse impacts of climate change.**
- Its core objective is to create **a collective benchmark** that guides countries in improving their adaptation efforts t**o ensure they are prepared to manage the increasing risks** associated with climate change, especially for vulnerable populations and ecosystems.
- The GGA was first introduced during the negotiations leading to the **Paris Agreement in 2015.**
    - **Article 7 of the Paris Agreement established the GGA** as a way to drive global adaptation efforts, highlighting the importance of adaptation alongside mitigation.
- Unlike mitigation goals, which focus on reducing greenhouse gas emissions, the GGA is **distinct in its emphasis on strengthening resilience and adaptive capacity** to protect against the inevitable impacts of climate change, particularly for **developing nations** that are disproportionately affected.

**Challenges in Reaching GGA:**

- **Finance Gap:** A large funding gap of around **$366 billion per year** (2023 Adaptation Gap Report), limits the implementation of adaptation measures, especially in developing countries, impeding their ability to build resilience against climate impacts.
- **Means of Implementation (MoI):** The shortage of public finance, technology transfer, and capacity-building mechanisms shows a high disparity in support that developing nations receive from developed countries.
- **Fragmented Adaptation Efforts:** Adaptation actions are inconsistently distributed across sectors and regions, leading to unequal progress and vulnerability, especially in climate-sensitive regions like South Asia and sub-Saharan Africa.
- **Data Deficiency and Predictive Modelling:** Inadequate data availability and predictive models reduce the efficacy of adaptation strategies, as reliable data is essential for understanding climate risks and planning interventions.
- **Institutional and Governance Limitations:** Weak governance structures and insufficient institutional frameworks in many developing countries hinder the effective implementation and monitoring of adaptation strategies.

**Measures to Reach GGA More Effectively:**

- **Increased Climate Finance:** Developed countries should fulfill and enhance their climate finance commitments, including exploring innovative financing mechanisms to close the funding gap and support developing nations in meeting GGA targets.
- **Technology Transfer and Capacity Building:** Establish clear policies to facilitate the transfer of climate-resilient technologies and build capacity within local governments and communities for effective adaptation planning and implementation.
- **Unified Indicator Development:** Through the UAE-Belem work program, develop context-specific indicators for measuring adaptation progress, reflecting the diverse socio-economic and environmental realities of developing countries.
- **Strengthening Institutional Frameworks:** Revamp governance structures to enhance coordination and accountability in adaptation efforts. This could include creating dedicated adaptation bodies, fostering inter-ministerial coordination, and enhancing regional cooperation.
- **Engaging Private Sector Participation:** Encourage private investment in adaptation projects by creating incentives and reducing financial risks, which would help drive economic growth, create jobs, and protect communities from climate impacts.

**Conclusion:**

- The **June 2024 Climate negotiations at Bonn** showed the need for collaboration and compromise.
- It has set a ground for the upcoming negotiations at COP 29 in Baku and resolving these issues and moving forward with the GGA.
- **India's commitment to the GGA** and active participation in international climate negotiations underscore the nation's dedication to building a sustainable and resilient future.
- The journey towards achieving the GGA is challenging, but with collaborative efforts and robust policies, a sustainable future is within reach.

## 5) INDIA AND THE ARABIAN PENINSULA

***(GS-II: Effect of Policies and Politics of Developed and Developing Countries on India's interests, Indian Diaspora)***

**Background:**

- The Arabian Peninsula is bordered by
  - the **Red Sea** on the west,
  - **Persian Gulf** and **Gulf of Oman** on the east and
  - **Arabian Sea** and **Gulf of Aden** on the south.
- The region consists of the following countries: **Saudi Arabia, United Arab Emirates, Oman, Yemen, Qatar, Bahrain, Kuwait.**
- India has traditionally enjoyed close and friendly relations with the Arab world.
  - These relations date back to ancient times, traders, scholars and diplomats would often traverse the Arabian Sea and the land routes linking India to West Asia and the Arab peninsula, transferring knowledge and merchandise.
  - A shared cultural heritage, through the linkages of language and religion continues to lend energy to these historic bonds.


## Importance of this relationship in Current times:

- **Energy Security:** The Arabian Peninsula, especially the Gulf Cooperation Council (GCC) countries like Saudi Arabia and the UAE, is critical to India's energy needs.
    - India imports around **60% of its crude oil from the Middle East**, with Saudi Arabia being one of the largest suppliers.
    - In addition, the Gulf states are **key suppliers of natural gas** and refined petroleum products, which are essential for powering India's growing economy.
- **Trade and Economic Relations:** The Arabian Peninsula is one of India's largest and most important trading regions.
    - In 2022-23, India's trade with the **GCC countries amounted to over $160 billion,** making the Gulf region a key contributor to India's foreign trade.
    - India exports a wide range of products to the Arabian Peninsula, including **petroleum products, gems and jewellery, chemicals, machinery, and textiles.**
    - The Gulf is also a **key destination for Indian investments**, particularly in infrastructure and energy projects.
    - Notably, Indian firms are engaged in large-scale construction, infrastructure, and energy projects in countries like Saudi Arabia, UAE, and Qatar, contributing to economic integration between India and the region.
- **Indian Diaspora and Remittances:** The Indian diaspora in the Arabian Peninsula is one of the largest in the world.
    - **Over 8 million Indians** live in the GCC countries, primarily in Saudi Arabia, the UAE, Qatar, Kuwait, Bahrain, and Oman and play a vital role in the economies of these countries, especially in sectors like construction, healthcare, hospitality, and retail.
    - The **remittances** sent by the Indian diaspora in the Gulf are a major contributor to India's economy.

    - In 2022, remittances from the Gulf region accounted for nearly **$40 billion (around 40% of India's remittances),** which supported millions of Indian families, contributing to socio-economic development in India.
- **Religious and Cultural Influence:** The Arabian Peninsula holds significant religious importance as the birthplace of Islam, and this connection is vital for India's Muslim population, which is the third-largest in the world.
    - A stable and cooperative relationship with the Gulf is beneficial for promoting religious harmony and cultural exchange within India.
- **Strategic and Security Cooperation:** The Gulf region is strategically located along vital maritime trade routes connecting India with Africa, Europe, and the rest of Asia.
    - India has deepened security cooperation with GCC countries in areas such as **counter-terrorism, maritime security, and defence collaboration.** The region's stability is crucial for India's economic and national security interests.
- **Role in Promoting Moderate Islam:** The Arabian Peninsula, particularly countries like Saudi Arabia and the UAE, has been working towards promoting a more moderate version of Islam.
    - India views this as a positive development, as it aligns with its vision of religious moderation and coexistence.
- **Gateway to Regional and Global Markets:** The Arabian Peninsula acts as a vital hub for trade and commerce, not only within the Middle East but also between India, Africa, Europe, and Central Asia.
- **Support for India's Global Diplomacy:** Positive relationships with the Gulf states are critical for India's broader diplomatic objectives.
    - These countries support India's efforts in international forums, particularly the United Nations, where India seeks a greater role.
    - Strong ties with the Gulf also bolster India's influence in multilateral negotiations on global issues such as climate change, trade, and counter-terrorism.

## Issues in the relationship:

- **Energy Dependency and Price Volatility:** India's heavy reliance on Gulf oil and gas makes its economy vulnerable to fluctuations in global energy prices and regional political instability.
    - Any escalation of conflict in the Middle East, especially in the Arabian Peninsula, can lead to disruptions in energy supplies and spike prices, affecting India's economic stability.
- **Diaspora Welfare:** The welfare of the Indian diaspora, which numbers over 8 million in the Gulf, is a constant concern.
    - Many Indian workers, particularly in low-wage jobs, face challenging labour conditions, limited labour rights, and sometimes lack sufficient legal protections.
    - Addressing these issues diplomatically without straining bilateral ties remains a complex task for India.
- **Balancing Relations in Regional Rivalries:** India faces a delicate balancing act between the Gulf Arab states and other Middle Eastern actors, particularly **Iran.**
    - The rivalry between Gulf countries (especially Saudi Arabia) and Iran complicates India's policy choices, as India also has significant interests in Iran, such as in the Chabahar port and energy sectors.
    - India also has to balance the **relations with Israel** which shares a not so smooth relations with the states in Arabian peninsula.

- **Domestic Political Sensitivities:** India's **large Muslim population,** which has religious and cultural ties to the Gulf, makes the relationship with the Arabian Peninsula particularly sensitive.
    - Domestic perceptions of India's stance on issues in the Arab world, such as the **Palestine-Israel conflict** or religious matters, can influence public opinion and occasionally put pressure on Indian foreign policy to align with Gulf sensitivities.

**Way Forward:**

- As Iran and Israel threaten to plunge the Middle East into a dangerous regional war, India must stand by its Arab partners that are being forced into the conflict between the two countries.
- India must join hands with them in preventing a total war between Iran and Israel.
- India's prosperity is tied deeply to a Middle East that is at peace with itself, economically integrated, secure in its religious moderation. With this realisation, India should work to bring peace and development in the region.

**UPSC PYQ:**

Examine the opportunities for a lasting West Asia peace solution in the context of the 'historic' talks started in September 2010. (2010)

## 6) CHALLENGES TO TEXTILE INDUSTRY IN INDIA

***(GS-III: Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment)***

**Background:**

- The size of the Indian textile and apparel industry was estimated to be $153 billion in 2021, with almost $110 billion contributed by domestic business.
- In FY22, India was the **third largest textile exporter globally,** enjoying a 5.4% share.
- The sector's contribution to GDP is close to 2.3% (FY21) and 10.6% of total manufacturing Gross Value Added (GVA) in FY23.
- About **105 million people are employed** by the textile and garment units, directly and indirectly.
- For an industry that has **80% of its capacity** spread across **MSMEs** and is sensitive to international developments as it is strongly linked to global markets, FY 2021-2022 saw tremendous growth with $43.4 billion exports.
- However, the **slowdown in demand** that started in **2022-2023** only worsened in FY24 with a slump in exports and domestic demand.
- This impacted manufacturing clusters severely. For instance, Tamil Nadu, which has the largest spinning capacity in the country, saw the closure of nearly 500 textile mills in the last two years.
    - In Tiruppur, which is a knitwear production destination, many units saw a 40% drop in business in FY23.
- The Union Minister for Textiles has said that the Indian textile and apparel sector is aiming for **a total business of $350 billion annually by 2030,** which is to generate 3.5 crore jobs. This goal is affected by many challenges in the sector.

**Challenges faced by the Industry:**

- **High Raw Material Costs:** High prices for cotton and Man-Made Fibres (MMF) have made raw materials more expensive, affecting both export and domestic markets.

- **Import Duty on Cotton:** A 10% import duty on cotton has raised Indian cotton prices above international levels, reducing the competitiveness of Indian textiles globally. The industry has requested a temporary removal of this duty during the off-season.
- **Quality Control Orders for MMF:** Newly introduced quality control orders for MMF have disrupted raw material supply and price stability, further affecting production.
- **Competition with Internationally Subsidised Industries:** Competing with countries that heavily subsidise their textile industries places Indian businesses at a disadvantage, especially in global markets.
- **Pressure to Meet ESG (Environmental, Social, and Governance) Standards:** Many foreign brands are accelerating sustainability initiatives, requiring vendors to meet strict ESG targets. This increases compliance costs for Indian textile companies.
- **Changes in Domestic Consumer Preferences:** Increased preference for comfort wear, loungewear, and athleisure, alongside a shift in rural and semi-urban markets towards multi-brand outlets, is reshaping demand patterns. This requires constant upgradation to meet the changing demands.
- **Labour and Wage Pressures:** Labour costs account for around 10% of production expenses, and the industry faces pressure to increase productivity through technology and workforce skilling.

**Solutions to meet the challenges:**

- **Raw Material Price Stabilization:** Government should take steps to reduce or eliminate the import duty on cotton, especially during the off-season, to make Indian cotton more competitively priced in the global market.
    - Simplify quality control orders for MMF to improve availability and stabilise prices.
- Establish **long-term government support programs** and subsidies to boost investments and enhance competitiveness, similar to those provided by competing countries.
- **Technology upgradation:** Government can formulate schemes to enable firms to invest in automation, digital solutions, and advanced manufacturing technology to improve productivity and reduce costs.
- **Workforce Skilling:** Skilling programs for textile workers to enhance efficiency, meet demand for higher-quality production, and adapt to newer market requirements like ESG compliance and product variety.
- **Sustainable Production Practices:** Implement **sustainable practices** throughout the supply chain to **meet international ESG standards**, which are increasingly a requirement from global buyers.
    - Promote eco-friendly materials, energy-efficient production, and waste reduction, making Indian textiles attractive to environmentally-conscious brands and consumers.
- **Diversify Product Offerings:** Develop capabilities to meet the growing demand for comfort wear, loungewear, and athleisure by diversifying product lines to suit evolving consumer preferences.

**Conclusion:**

- Being a substantial contributor to the economy and employment, the textile sector should be given support on a long term basis.

## 7) MIDDLE INCOME TRAP

***(GS-III: Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment)***

**Definition:**

- The World Bank, in 2023, classified **middle-income countries** as economies who have a gross national income (GNI) per capita ranging from **$1,136 to $13,845.**
- Within the grouping, countries can further be classified as **lower-middle-income countries** (GNI per capita of $1,136 to $4,465) and **upper-middle-income countries** (GNI per capita of $4,466 to $13,845).
- The World Bank's **World Development Report** describes the **"middle-income trap"** as a situation where middle-income countries face slowing down of growth rates as incomes increase.
- The World Bank estimates a stagnation of income per capita when economies reach a level of per capita incomes 11% of that of the U.S., hindering their journey to high-income status.

**Measures to overcome Middle Income Trap:**

- The World Development Report 2024 suggests the **"3i" Approach:**
    - **Investment:** Increase public and private sector investments, focusing on sectors with high growth potential.
    - **Infusion of Global Technologies:** Facilitate the integration of advanced global technologies, encouraging foreign direct investment (FDI) and knowledge-sharing partnerships.
    - **Innovation:** Create an environment conducive to innovation, including support for research and development (R&D), and incentivizing local firms to adopt and develop new technologies.
- **Strategic State Intervention:** Similar to **South Korea**, India could adopt a strategy where the state plays a directive role in guiding private sector activities.
    - Support high-potential industries with financial incentives and access to new technologies, while allowing inefficient or unproductive firms to fail.
    - Focus on sectors where India has a comparative advantage, such as services and certain manufacturing subsectors, rather than solely pursuing an export-led manufacturing strategy.
- **Promote Fair Competition:** The state must adopt a neutral stance among private players, offering incentives and benefits based on performance rather than political connections.
    - Implement policies that encourage transparency and limit the influence of powerful business groups on the state, ensuring that rewards are merit-based.
- **High-Value Manufacturing:** Recognize the limited potential of manufacturing as an engine for growth in the current global economic scenario and focus on high-value services and niche manufacturing.
- **Address Labor Market issues:** Increase investment in higher-wage jobs and high-productivity sectors to prevent stagnation in real wages.
    - Ensure policies support labour rights, fair wages, and open participation from all segments of society to create sustainable, inclusive growth.
    - Implement policies that support skill development, particularly in emerging sectors, to ensure that workers can actively participate in and benefit from economic growth.
- **Maintain Democratic Institutions:** Avoid adopting authoritarian practices seen in some middle-income countries, like Chile and South Korea, that achieved growth at the cost of democratic values.

- Develop a balance between necessary state intervention and adherence to democratic principles, fostering a stable environment for both social and economic development.

**Conclusion:**

- Currently, there are 108 countries — including major economies like China, Brazil, Türkiye and India — stuck in the "middle-income trap", according to the World Bank.
- With rapidly changing advanced technology of rich countries, and competition in product manufacturing from poor countries with low wages., India requires concerted efforts to break this trap.

## 8) INDIA-CANADA RELATIONS

***(GS-II: Effect of Policies and Politics of Developed and Developing Countries on India's interests, Indian Diaspora)***

**Background:**

- After India's independence in 1947, India and Canada, **members of the Commonwealth,** started friendly relations based on shared democratic ethos.
- **Economic Relations:** The trade and investment linkages between India and Canada form an integral component of the multi-faceted partnership between the two countries.
  - India's **exports to Canada** in 2023 were worth **USD 5.56 billion** and **imports** from Canada were worth **USD 3.80 billion.**
  - Canadian pension funds have cumulatively invested over CAD 75 billion in India and see India as a favourable destination for investments.
- **Education** is a key area of mutual interest. India is the largest source country of foreign students with an estimated 427,000 Indian students studying in Canada.
  - The **Shastri Indo-Canadian Institute (SICI)** is a bi-national organisation fostering, education and cultural cooperation and collaboration between India and Canada including through consortium of 120 Universities and institutions of higher learning and research.
- **People-to-People Relations:** With nearly **1.8 million diaspora and another 1 million Non Resident Indians,** Canada hosts one of the largest Indian Diaspora abroad, which account for more than **3% of its total population.**
  - The diaspora have contributed significantly to the Canadian economy & society.
- The relationship strained when India conducted its first nuclear test in 1974, using plutonium from **a Canadian-built reactor (CANDU).** This led Canada to halt nuclear cooperation, and the nuclear issue remained a point of tension for many years.
  - Agreement signed between **India and Canada for "Cooperation in Peaceful uses of Nuclear Energy" in 2010** brought back the nuclear cooperation.
- During the 1980s, Canada became a hub for a segment of the Sikh diaspora advocating for an independent Khalistan in Punjab.
  - The **1985 Air India bombing,** carried out by Sikh extremists based in Canada, remains one of lowest points in bilateral relations and strained ties.
  - India is still concerned that Canada is not doing enough to control the activities of Khalistani supporters, who are causing problems in India.

**Recent Issues in the relationship:**

- **Allegations and Diplomatic Expulsions:** Canadian Prime Minister Justin Trudeau alleged a link between Indian intelligence and the killing of Hardeep Singh Nijjar, a Canadian citizen categorised as a "Khalistani terrorist" by India.

    - Following these allegations, both countries expelled each other's 6 diplomats leading to a diplomatic standoff.
- **Khalistani Extremism:** India has long expressed concerns that Canada serves as a safe haven for Khalistani separatists and extremists, whom it holds responsible for promoting violence and separatism within India.
    - **Khalistan Referendums:** India has expressed frustration with Canada allowing Khalistan referendums and public displays glorifying anti-India actions, including events celebrating the assassination of former Indian Prime Minister Indira Gandhi.
    - **Canadian Legal Standards:** Canada defends these activities as lawful under its **high threshold for free expression,** and Canadian law enforcement has generally not criminalised Khalistan advocacy unless it crosses into violence.
- **Tensions within Diaspora in Canada:** The Nijjar incident and subsequent diplomatic fallout have led to increasing tensions between Hindu and Sikh communities in Canada, with incidents like protests at Hindu temples and community clashes exacerbating societal divides.

**Way Forward:**

- India should actively take steps to defend India's diplomats and also to investigate the allegations that Indian intelligence agencies have overstepped in operations in the case.
- India should engage Western countries with which it has robust diplomatic and intelligence ties and prove to them the preposterousness of Canadian attempts to involve the Indian political leadership in the Nijjar case.
- India must also step up an international campaign to ensure accountability from Canada: to either present verifiable evidence, or to stop casting this shadow over India's reputation and its diplomats.

## 9) UNIVERSAL BASIC INCOME

***(GS-III: Inclusive Growth and issues arising from it)***

**Definition:**

- Universal basic income (UBI) is an **income support mechanism** typically intended to reach all (or a very large portion of the population) with no (or minimal) conditions.
- Two common traits characterise and differentiate universal basic income-type programs from others cash transfer schemes:
    - **Universality** or very large, coverage of individuals in society
    - **Unconditionality** or very broadly conditioned provision.
- In recent years, India has already implemented income transfer schemes as part of its anti-poverty strategies, especially in the agriculture sector.
- In early 2018, **Telangana** launched the **Rythu Bandhu Scheme (RBS),** which gave farmers unconditional payments of ₹4,000 per acre.
- This approach was soon replicated at both the State level (**the KALIA or Krushak Assistance for Livelihood and Income Augmentation programme in Odisha),** and at the **national level (the Pradhan Mantri Kisan Samman Nidhi Yojana, or PM-KISAN)**.
- The PM-KISAN, of 2018-19, initially provided ₹6,000 per year to small landholding farmers, but was later expanded to cover all farmers, excluding income-taxpayers and those not engaged in farming.

## Benefits in implementing UBI:

- **Administrative Burden and Costs:** A UBI reduces cost of welfare by reducing the need for targeted schemes and extensive administrative processes, minimising costs associated with eligibility checks and bureaucratic hurdles.
- **Minimises Exclusion Errors:** By providing income universally rather than to specific groups, a UBI can reduce the issue of exclusion errors that occur in targeted welfare programs. This can ensure wider coverage, reaching those who might otherwise be excluded due to **logistical or documentation challenges.**
- **Lowers Leakage and Corruption:** Universal income transfers reduce the number of intermediaries, thus lowering opportunities for leakage, fraud, and corruption often seen in targeted schemes.
- **Supports Coping with Unemployment:** In a context of jobless growth, a UBI can serve as a safety net for individuals who are unemployed or underemployed, helping them maintain a basic standard of living.
- **Increases Consumption:** Providing a basic income can enhance economic security, enabling individuals to spend more confidently. This can boost demand for goods and services, stimulating the economy, especially in rural and low-income communities.
- **Addresses Inequality:** As wealth disparities grow, particularly in a rapidly developing economy like India, a UBI can help mitigate income inequality by directly transferring wealth to all citizens.
- **Flexibility in Policy Implementation:** A UBI can be paired with other policies, such as the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), to create a comprehensive safety net for vulnerable groups, including those unable to work due to age or disability.
- **Resilience in Crises:** As highlighted during the COVID-19 pandemic, UBI can help people maintain purchasing power during emergencies, complementing in-kind assistance (e.g., food distribution) and helping families survive supply chain disruptions.

## Problems in implementing UBI:

- **High Fiscal Cost:** Funding a UBI program requires significant financial resources, potentially **3-11% of GDP for a full-scale program,** which could strain India's budget. .
- **Impact on other Welfare Programs:** A large UBI program might lead to reductions or replacements of existing welfare schemes, such as food subsidies, education, and healthcare programs, which are essential for specific vulnerable groups.
    - This could potentially harm schemes, such as MGNREGS and the Public Distribution System (PDS).
- **Delivery Challenges:** Universal bank access, reliable internet, and biometric verification systems (Aadhaar), especially in remote rural areas can be challenging along with issues such as limited cash-out points and digital literacy gaps could hinder effective distribution.
- **Potential for Inflation:** A sudden inflow of money into the economy could drive up demand for essential goods and services. If the supply doesn't keep up with the demand, inflation could erode the purchasing power of the UBI, especially impacting the very groups UBI is intended to help.

## Conclusion:

- The idea gained significant attention after the 2016-17 Economic Survey of India recommended considering UBI as a potential policy.
- Investments in the JAM (Jan-Dhan, Aadhaar, Mobile) infrastructure have also made it more feasible to implement direct benefit transfers (DBTs) to beneficiary bank accounts.

- A basic UBI like PM-KISAN has the potential to improve the socio-economic parameters of the society.

## 10) IDEA OF NATURE RESTORATION LAW

***(GS-III: Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment)***

### Definition:

- A **Nature Restoration Law (NRL)** is a legislative framework aimed at **reversing ecological degradation by setting legally binding targets** to restore ecosystems, such as forests, wetlands, rivers, agricultural lands, and urban green spaces.
- It establishes goals for restoring ecological health, biodiversity, and resilience of natural areas with specific timelines.
- The European Union's NRL mandates the **restoration of 20% of the EU's land and sea areas** by **2030**, with broader goals to fully restore all ecosystems needing recovery by 2050.

### Relevance of a NRL in India:

- **Land Degradation reduction**: According to the Indian Space Research Organisation (ISRO)'s **Desertification and Land Degradation Atlas,** nearly 97.85 million hectares (29.7%) of India's total geographical area underwent land degradation in 2018-19.
    - An NRL would help in tackling desertification, soil erosion, and loss of arable land, which are critical in states like Gujarat, Karnataka, Maharashtra, and Rajasthan.
- **Ecosystem and Biodiversity**: India's diverse ecosystems are facing biodiversity loss, impacting flora, fauna, and local communities.
    - An NRL would promote ecological balance, benefiting species and protecting habitats like the Sundarbans and Chilika Lake.
- **Agricultural Sustainability**: Agriculture occupies much of India's land, and practices like agroforestry and sustainable farming can restore soil fertility. Restoration targets under an NRL would enhance agricultural productivity and food security.
- **Water Security**: Major rivers in India, such as the Ganga and Yamuna, suffer from severe pollution and obstruction. An NRL could prioritise river health, supporting clean water, flood control, and ecosystem services for millions.
- **Urban life quality improvement**: Indian cities face issues like air pollution, urban heat islands, and overcrowded areas and an NRL could protect and increase green spaces in cities like Delhi and Bengaluru, improving public health and urban resilience.
- **Job Creation Potential**: Restoring degraded lands can create jobs in forestry, water management, and agriculture, particularly in rural regions, supporting India's economy and livelihoods while addressing climate goals.
- **Mitigation of Climate Change**: Restoring ecosystems boosts carbon sequestration, reduces greenhouse gases, and strengthens India's climate resilience, aligning with its commitments under the **Paris Agreement.**
- **Sustainable Development Goals (SDGs)**: An NRL would support **SDG 15 (Life on Land)** by promoting sustainable land management, protecting biodiversity, and combating desertification.

### Way Forward:

- India has already made considerable strides in addressing these issues through the successful implementation of the **Green India Mission, the Pradhan Mantri Krishi Sinchayee Yojana, the Integrated Watershed Management Programme (which is the**

**second-largest watershed programme in the world) and the National Afforestation Programme.**

- The scale of the problem demands **a more comprehensive approach** and for that India needs a nature restoration law, like that of the European Union, that mandates the restoration of its degraded landscapes, ensuring the long-term sustainability of its ecosystems.

## 11) CONSTITUTIONAL GOVERNANCE IN INDIA

***(GS-II: Indian Constitution—Historical Underpinnings, Evolution, Features, Amendments, Significant Provisions and Basic Structure)***

**Background:**

- India adopted its Constitution on **26th November, 1949** and the present year will mark the commemoration of the **75th anniversary of the adoption of the Constitution of India.**
- Constitutional governance is a **system of government** that is **structured according to a constitution,** which is a written document that establishes the rules and principles that limit and regulate the exercise of political power
- Constitutional governance in India is not merely a facet of the laws, rules and regulations that govern the establishment and the evolution of democratic institutions.
- It is also about permeating a **deep sense of constitutional culture** that has captured the collective consciousness of Indians across different cultures, faiths and beliefs.

**Values that shaped Constitutional Governance in India:**

- **Respect for Democratic Institutions** – The strong public support for democratic systems and sustained voter participation across elections reflects a deep-rooted respect for democracy.
    - Since the first elections in 1951-52, we have consistently witnessed nearly 60% of Indians participating in elections including in the 2024 general election where there was a a 65.79% voter turnout
- **Smooth Transition of Elected Governments** – The commitment to peaceful transitions of power after elections demonstrates a mature democratic ethos.
- **Protection of Rights and Freedoms through Courts**: The Constitution's emphasis on fundamental rights, safeguarded by the judiciary, underscores the prioritisation of individual rights and freedoms.
- **Federalism as a Facet of Constitutional Governance**: The history and the tradition of every State of India also meant that there was a need of protecting the unique identity, tradition and culture of the States and the people while forging a collective national identity.
    - The Constitution, thus created different forms of autonomy and special privileges for different States keeping in mind their unique histories and cultures.
    - The Constitution's federal structure, recognizing the diversity and autonomy of states while building national unity, has been foundational.
- **Role of Media and Civil Society in Strengthening Democracy**: The Indian media and civil society is a diverse and heterogeneous institution with views and perspectives that are generated across India in different regions.
    - In Spite of these differences, Media and civil society contribute to transparency, accountability, and public faith in democracy, helping to create an informed electorate.

### Way Forward:

- Enhancing the independence and transparency of democratic institutions, such as the Judiciary, Election Commission, Panchayati Raj institutions etc, are important in maintenance of a proper constitutional governance in the Country.
- Providing these should be the priority of the Government in the upcoming years to ensure that the true spirit behind the Constitution is brought into action.

## 12) CONCERNS IN INDIA-CHINA RELATIONSHIP

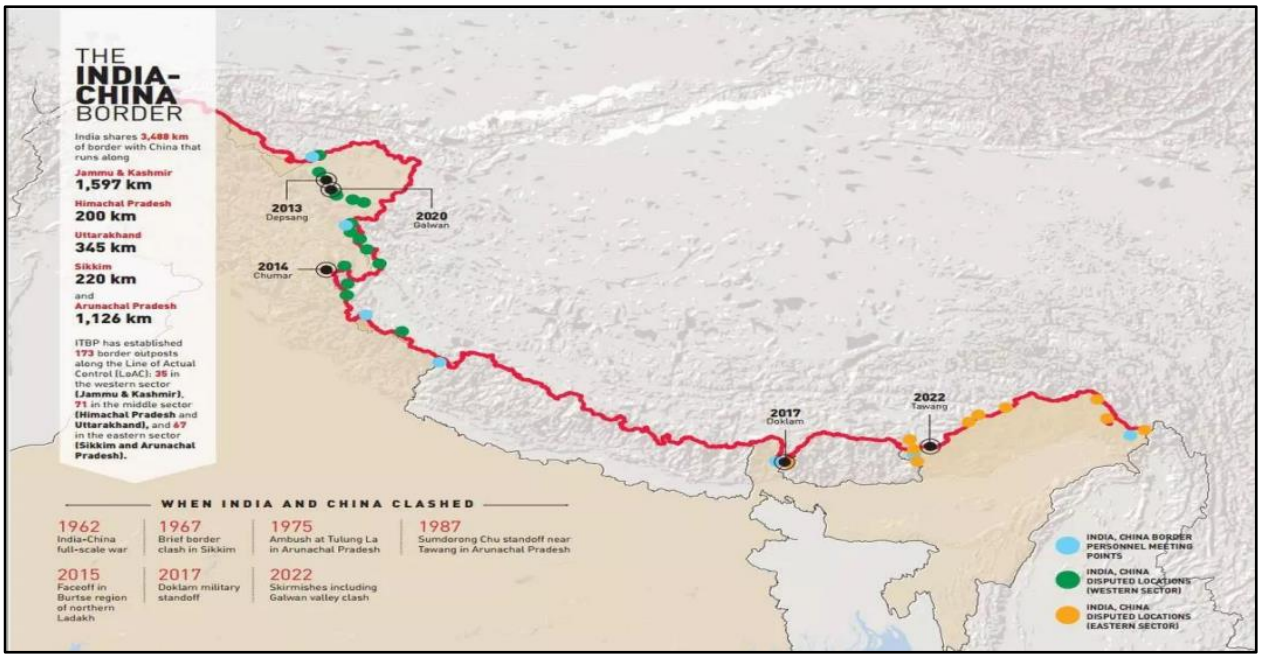
***(GS-II: India and its Neighborhood- Relations)***

### Background:

- After India's independence in 1947, the leaders of both India and China, Jawaharlal Nehru and Mao Zedong, envisioned a close friendship based on shared historical and **anti-colonial sentiments.**
- In 1950, **India became the first non-socialist bloc country to establish diplomatic relations** with the People's Republic of **China.**
- The two countries signed the **Panchsheel Agreement in 1954**, emphasising peaceful coexistence and non-interference in each other's internal affairs.
- However, border disputes over the region of Tibet escalated tensions, leading to the **Sino-Indian War in 1962,** which China won decisively.
- The relationship was not so cordial until the 1988 visit of Indian Prime Minister Rajiv Gandhi to China.
- Meanwhile, China under Deng Xiaoping, had taken up liberal economic reforms from 1978 and started its rapid economic growth.
- In **1993, the Border Peace and Tranquility Agreement (BPTA)** was signed and for the first time both sides legally committed to respecting the status quo and reducing the risk of an unplanned confrontation.
- During Prime Minister Atal Bihari Vajpayee's visit in 2003, India and China signed the **Declaration on Principles for Relations and Comprehensive Cooperation**, and mutually decided to appoint **Special Representatives (SRs)** to explore the framework of a boundary settlement.
- During the April 2005 visit of Premier Wen Jiabao, the two sides established a Strategic and Cooperative Partnership for Peace and Prosperity.
- In 2023- 2024, China was the **largest trading partner of India** with a trade volume of USD 118.4 Billions.

### Concerns in India-China Relations:

- **Border Issues:** The border between India and China is not clearly demarcated throughout and there is no mutually agreed Line of Actual Control (LAC) along certain stretches. LAC came into existence after the 1962 Indo China war.




- China had transgressed the LAC and standoff situations created serious tensions in 2013 and 2017.
- **Galwan Valley Standoff:** In 2020, Chinese soldiers obstructed the patrol of Indian soldiers along the Indian side of the Line of Actual Control (LAC). This was followed by deadly hand-to-hand combat leading to the loss of 20 Indian lives.
- China's actions have violated the **Border Peace and Tranquility Agreement (1993).**

- **Trade Imbalance:** In the fiscal year 2024, imports from China increased by 3.24% to US$101.7 billion, while exports to China surged by 8.7% to US$16.67 billion.
- **String of Pearls:** China's strategic presence and maritime infrastructure development in various countries surrounding India, such as Sri Lanka, Pakistan, the Maldives, Bangladesh, and Myanmar, raise concerns about encirclement.
- **China's Belt and Road Initiative:** India is not a member of China's Belt and Road Initiative (BRI), and it particularly opposes the **China-Pakistan Economic Corridor (CPEC),** which passes through Indian territory claimed by Pakistan.
- **Water Dispute:** China's construction of dams in the upper reaches of the Brahmaputra River (Tsangpo) without a formal water-sharing treaty poses a threat to India, leading to concerns over water availability and flooding.
- **Dalai Lama and Tibet:** India offered **refuge to the Dalai Lama in 1959** and allowed Tibetan refugees to settle in India after the Tibetan uprising against Chinese rule.
  - China accuses India of creating trouble in Tibet due to the presence of the Dalai Lama and protests staged by Tibetans against China in India and other countries.

## Recent Developments in the Relationship:

- **Agreement on Patrolling Rights**: India and China have agreed to **restore each other's patrolling rights in contested areas along the Line of Actual Control (LAC)**, specifically in the Depsang Plains and Demchok in Ladakh.
- **Disengagement Process**: Both sides have initiated a **gradual disengagement process to reduce military presence** and tension along the LAC. However, this is seen as an initial step that will need to be followed by further de-escalation.

### Way Forward:

- **Trust-Building Measures**: India should focus on incremental, verifiable actions along LAC, such as establishing regular joint patrols, creating new buffer zones, and setting up third-party-monitored checkpoints.
    - Transparent, small-scale actions can gradually build trust and establish a foundation for a more comprehensive disengagement.
- **Crisis Management Mechanisms**: India can work to rejuvenate existing diplomatic frameworks, like the **1993 Border Peace and Tranquillity Agreement or negotiate a new protocol** to meet current needs.
    - This should ensure fast and direct communication channels between military leaders and diplomats on both sides can help de-escalate future tensions.
- **Build a Multi-Partner Approach in the Indo-Pacific**: Continue to strengthen alliances and partnerships in the Indo-Pacific region with countries like the U.S., Japan, and Australia through forums like the Quad, while also engaging ASEAN nations.
    - This approach can help reinforce India's strategic autonomy, in its dealings with China, by balancing regional influence and maintaining a robust, flexible foreign policy.
- Apart from these, development is one of the biggest shared goals of both the countries. Contribution by the countries to each other's development will give dividends and opportunities for the countries and the whole world.

**UPSC PYQ:**

'China is using its economic relations and positive trade surplus as tools to develop potential military power status in Asia', In the light of this statement, discuss its impact on India as her neighbour. (2017)

## 13) SIGNIFICANCE OF BRICS

***(GS-II: Bilateral, Regional and Global Groupings and Agreements involving India and/or affecting India's interests)***

### Background:

- The BRICS is a forum for cooperation among a group of leading emerging economies.
- It started as **BRIC** with four members namely **B**razil, **R**ussia, **I**ndia and **C**hina in 2009.
- It became **BRICS** with the inclusion of **S**outh Africa in 2010.
- At present, the BRICS includes **9 countries - Brazil, China, Egypt, Ethiopia, India, Iran, Russian Federation, South Africa, United Arab Emirates.**
- In 2024, **Kazan, Russia** hosted the **16th BRICS summit.** The outcome of this summit was the **Kazan Declaration.**
- A cornerstone of the group's decision making has been its **consensus-based approach** towards **agenda, plan of action and membership.**

### Significance of BRICS:

- **Platform for Global Influence and Leadership**: India can use BRICS as a platform to enhance its global influence and leadership, in shaping discussions on multilateral reforms, economic growth, and sustainable development.
    - Through BRICS, India also acts as a bridge between the Global South, G7 Outreach, and G20, increasing its diplomatic reach.

- **Economic Growth and Development Cooperation**: BRICS enables India to access financial resources for infrastructure and development projects through initiatives like the **New Development Bank (NDB) and Contingency Reserve Arrangement.**
    - These resources support India's development objectives and offer alternatives to Western financial institutions, facilitating diversified development and investment channels.
- **Strengthening South-South Cooperation**: BRICS provides India with an avenue to collaborate with other major emerging economies on **common goals like poverty reduction, healthcare, education, and sustainable development,** reinforcing India's role as a champion of South-South cooperation.
- **Strategic Autonomy**: India's participation in BRICS aligns with its foreign policy of strategic autonomy and helps it to work with diverse partners without being bound by rigid alliances.
    - This approach allows India to maintain **balanced relations with Western powers and BRICS members**, in promoting security, counter-terrorism efforts, and regional stability.
- **Advocating for Multilateral Reform**: Through BRICS, India actively pushes for reforms in **global governance institutions like the United Nations, International Monetary Fund, and World Trade Organisation** to ensure greater representation for developing countries.
    - This aligns with India's long-standing position that international institutions should reflect the realities of a multipolar world, advocating for fairer and more inclusive global decision-making.

## Way Forward:

- As a founding member of BRICS, the fifth-largest economy and the fastest growing major economy, India plays a unique role within it.
- BRICS does **not have a secretariat,** it depends on the participation of members and the presidency. Members should come together to make the organisation **more formal.**
- BRICS' success became a magnet for other countries. The recent inclusion of Egypt, Ethiopia, UAE, Iran and Saudi Arabia has enriched the cooperation agenda and expanded regional reach.
- At Kazan, there was agreement on the guidelines for admission of **a new tier of partner countries.** With varying economic levels and political structures, an expanded BRICS will **need strong commitment to its ethos.**
- BRICS could remain open to new members or partners that subscribed to the BRICS ethos, its consensus-based approach and contributed to BRICS' and global growth.

**UPSC PYQ:**

Compare the significance of IBSA and BRICS in the context of India's multilateral diplomacy. (2012)

## 14) WOMEN IN JUDICIARY

***(GS-II: Structure, Organization and Functioning of the Executive and the Judiciary—Ministries and Departments of the Government; Pressure Groups and Formal/Informal Associations and their Role in the Polity)***

### Background:

- The Supreme Court of India's "State of the Judiciary" report (2023) showed 36.3% of women in the district judiciary.
- At the higher levels, as of January 2024, only **13.4% of judges in the High Court and 9.3% judges in the Supreme Court** are women.
- Further, the representation of women is uneven across High Courts, with States which include Bihar, Chhattisgarh, Jharkhand, Manipur, Meghalaya, Odisha, Tripura and Uttarakhand having either no women judges or just one woman judge.
- Data published by the Department of Legal Affairs in 2022 show that approximately **15.31% of all enrolled advocates are women.**

### Reasons for low representation of Women:

- **Funnel Effect:** Women are drastically under-represented as **senior advocates, advocates-on-record, and Bar Council representatives**. This results in a funnel effect, creating **a smaller pool of candidates** who may be able to establish themselves in the system and be **considered for elevation** as judge.
- **Retention and Career Growth Challenges**: Women face a discouraging work environment and restrictive policies that impact career growth, such as transfer policies that do not consider their familial responsibilities.
- **Inadequate Infrastructure**: Many courts lack basic facilities like dedicated washrooms, sanitary waste disposal, feeding rooms, and crèches, which are essential for women's daily functioning and comfort in judicial settings.
- **Barriers from Judicial Service Rules**: Policies requiring a minimum period of continuous practice create obstacles for women, especially due to lack of maternity benefits and stipends, making it difficult for women with familial responsibilities to meet these requirements.
- **Lack of Female-Centric Policy and Decision-Making**: The absence of women in key decision-making roles means gendered issues are insufficiently addressed which limits the implementation of gender-sensitive infrastructure and recruitment policies.

### Way Forward:

- **A Female Gaze in Judicial Policy**: The female gaze in implementation means the employment of a feminist lens to recognise the differential needs of women.
- This should be followed to **course-correct the unintended impacts of neutral-yet indirectly discriminatory** policies and infrastructural mandates.
- The employment of a female gaze **breaks the male standard view** employed by an all-male administrative committee of judges or all-male Bar Councils, particularly in cases where there is no women representation.
- This approach emphasises a structural change to policies and infrastructure, aligning them with the lived experiences of women to promote inclusivity and support career advancement within the judiciary.

**UPSC PYQ:**

Discuss the desirability of greater representation to women in the higher judiciary to ensure diversity, equity and inclusiveness. (2021)

## 15) SWACHH BHARAT MISSION

***(GS-II: Issues Relating to Development and Management of Social Sector/Services relating to Health, Education, Human Resources)***

### Introduction

- Mahatma Gandhi said **"Sanitation is more important than independence,"** highlighting that a clean and hygienic environment was a prerequisite for a healthy and self-reliant nation.

### About Swachh Bharat Mission

- The Swachh Bharat Mission (SBM) was launched on **October 2, 2014** with an aim to **make India Open Defecation Free (ODF)** by 2019 by providing access to toilets to all households.
- The mission has **two components** namely, Swachh Bharat - **Grameen** (overseen by Ministry of Jal Shakthi) and Swachh Bharat- **Urban** (overseen by Ministry of Housing and Urban Affairs)
- **Swachh Bharat Mission - Grameen**
    - **Phase I** aimed to **end open defecation** through awareness campaigns, education and infrastructure development.
    - **Phase II** focuses on **Sampoorn Swachhata** or **complete cleanliness** which includes creating ODF Plus Villages.
        - As of September 2024, over 5.87 lakh villages across India have achieved ODF Plus status.
- **Swachh Bharat Mission - Urban (SBM-U)**
    - It was focused on achieving **100 per cent Open Defecation Free (ODF) status,** ensuring **scientific Solid Waste Management** and driving behaviour change through a Jan Andolan (people's movement).
    - The vision for **SBM-U 2.0** is to achieve **Garbage Free status** for all cities by 2026.
- The key focus areas of Swachh Bharat Mission include **ODF Sustainability** , **Solid and Liquid Waste Management** , **Visual Cleanliness**, **Community Engagement and Capacity Building.**

### Why Swachh Bharat Mission?

- In 2014, **sanitation coverage was only 39 per cent**, leaving over 55 crore people, particularly in rural areas, without access to basic toilet facilities and indulging in Open Defecation.
- Currently, India produces around 55 million tonnes of Municipal Solid Waste annually from its urban population of 377 million.
- **Health Impact:**
    - According to a World Health Organisation (WHO) report, poor sanitation in India caused around **3 lakh child deaths** annually before SBM was launched.
- **Impact on Women:**
    - Lack of access to toilets forced women to defecate in open fields putting them at **risk of harassment and assault.**
    - Girls, particularly in rural areas **frequently miss school during menstruation** due to lack of sanitation facilities leading to higher dropout rates.
- **Environmental Impact**

    - Open defecation and improper waste management contribute **to soil, air and water contamination** that further exacerbates health risks.
- **Economic Impact**
    - A World Bank study estimated that **India lost approximately 6.4 percent** of its **GDP** in 2006 due to **poor sanitation.**
    - These losses were primarily due to health costs, reduced productivity and lost educational opportunities.
- The Swachh Bharat Mission sought to address the multi-dimensional challenges of poor sanitation holistically.

## Accomplishments of SBM

- One of the most significant accomplishments is that by **2019**, the government declared **rural India open defecation-free.**
- Over **110 million toilets built** under the mission drastically improved hygiene and reduced waterborne diseases.
- **Health Outcomes**
    - **Reduction in Waterborne Diseases:** With the country's successful transition to ODF status **40% reduction** in cases of diarrhoea in rural areas between 2015 and 2020 was achieved.
    - **Decline in Respiratory Issues:** Cities certified as ODF++ saw a drop in respiratory illnesses as they transitioned from dumping untreated waste to using scientific landfills and waste-to-energy facilities.
    - **Improvement in Hygiene and Disease Control: Vector-borne diseases** like malaria and dengue saw a **20-25% decline** in urban areas, particularly in cities achieving ODF++ and Water+ status.
- As per UNICEF report, **Rs.50,000 was saved annually** by a household in an ODF village due to health costs avoided.
- It has contributed significantly to **reducing infant and under-five mortality rates** across the country – averting 60,000 – 70,000 infant deaths annually.
    - The expanded access to toilets **reduced exposure to faecal-oral pathogens,** contributing to lower incidences of diarrhoea and malnutrition, which are key drivers of child mortality in India.
- SBM is closely aligned with **SDG6 (Clean Water and Sanitation)** , **SDG 3 (Good Health and Well-being)** and with **SDG 5 (Gender Equality)** by ensuring that women have access to safe and private sanitation facilities, which enhances their dignity and safety.

## Way Forward

- While significant progress has been made in promoting toilet usage, the persistence of open defecation remains a concern.
- Strengthening **community participation**, expanding waste management infrastructure, financial support and ensuring sustained efforts at both the grassroots and policy levels are critical elements.
- The future success depends on adopting a **SMART strategy,** focusing on the following pillars:
    - **S-**Sustainability of assets and behaviours
    - **M-**Making women central to development
    - **A-**Accelerating private sector involvement
    - **R-**Re-establishing communication protocols
    - **T-**Training and technological interventions

**UPSC PYQ:**

To ensure effective implementation of policies addressing water, sanitation and hygiene needs, the identification of beneficiary segments is to be synchronized with the anticipated outcomes' Examine the statement in the context of the WASH scheme. (2017)

## 16) GANGA REJUVENATION AND WATER CONSERVATION

***(GS-III: Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment)***

### Introduction

- India's iconic River Ganga, revered as 'Maa Ganga', is currently confronted with critical pollution, depletion of biodiversity, and environmental hazards, therefore jeopardising its sustainability despite its cultural, spiritual, and ecological significance.

### About Ganga

- River Ganga emerges as the confluence of the Bhagirathi and Alaknanda rivers at Devprayag in **Uttarakhand**.
- Origin**: Gangotri glacier** in the Himalayas
- Total Length: 2,525 km
- The Ganga has the **highest level of dissolved oxygen**, giving its water a unique quality.
- The river basin contributes more than **40 per cent to India's GDP** and supplies almost **one-third of the nation's surface water**, with 90 per cent allocated for irrigation purposes.

### Why is Ganga Under Threat?

- **Industrialisation** along both sides of the Ganga has significantly degraded the river's water quality.
- The continuous **discharge of sewage**, large volumes of industrial and solid waste, and extensive **human and economic activities** along its banks are the primary sources of pollution.

### Initiatives to save the Ganges

- **Ganga Action Plan (GAP)**
  - It was launched in **1986** to improve **water quality**, control pollution sources, encourage research and development, adopt new technologies, and **restore biodiversity.**
- **Namami Gange (Clean Ganga Mission)**
  - It was launched in 2014 for **sustainable development of the Ganga River Basin.**
- **National Council for River Ganga (Rejuvenation, Protection and Management)**
  - It was established in 2016 to prevent pollution and rejuvenate the Ganga Basin.
  - It focuses on sewage treatment infrastructure, river-surface cleaning, afforestation, industrial effluent monitoring and riverfront development.
- The **Clean Ganga Fund** has been created to enable public involvement by offering a formal forum for individuals and organisations to make financial contributions towards the cause.

### Challenges

- **India's substantial monsoon rains**
  - Throughout the monsoon season, the treatment plants experience an overwhelming influx of both sewage and rainwater, resulting in an insufficient processing capacity.

- **Excessive extraction of groundwater:** The river's groundwater flow has declined by 50 per cent since the 1970s **resulting in higher pollution levels** due to the decreased solubility of sewage and other contaminants.

### Way Forward

- Restoring the River Ganga is an extensive and multifaceted initiative that necessitates **cooperation among several sectors** and the **involvement of every eligible individual.** The process of restoring the health of a river necessitates a substantial financial investment and embracing the concepts of **minimising, repurposing, and reclaiming**. Residents can make a valuable contribution by reducing their water consumption and waste generation.

**UPSC PYQs:**

1. Discuss the Namami Gange and National Mission for Clean Ganga (NMCG) programmes and causes of mixed results from the previous schemes. What quantum leaps can help preserve the river Ganga better than incremental inputs? (2015)

2. Enumerate the National Water Policy of India. Taking river Ganges as an example, discuss the strategies which may be adopted for river water pollution control and management. What are the legal provisions of management and handling of hazardous wastes in India? (2013)

## 17) CONSTRUCTION SECTOR AND CIRCULAR ECONOMY

***(GS-III: Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment)***

### Introduction

- Construction sector contributes to **more than 8 per cent of GDP** at present and will play an increasingly important role.
- To meet the needs of its rapidly urbanising population, India must build 700-900 million square metres of new commercial and residential space every year.
- **Initiatives by the Government of India,** such as the Smart Cities Mission, the development of industrial corridors and city renewal schemes like the 500 AMRUT cities, are accelerating investment in the construction of urban infrastructure.

### Problems associated with the Construction Sector

- The global construction industry is the **single largest consumer of resources** and **raw materials.**
- The average generation of **Construction & Demolition (C&D) waste** in India is approximately **12 million tonnes per year**.
- Construction and demolition waste contributes to about **one-third of India's total solid waste** and **one-fourth of Municipal Solid Waste (MSW).**
    - Development of economic zones, industrial corridors, redevelopment & rehabilitation works, besides repairs & renovation, contributes to the magnitude of C&D waste.
- The representative C&D waste in urban areas consists of **soil, sand and gravel, bricks and masonry, concrete, metal and wood**. Bricks, tiles, wood and metals are sold for reuse or recycling. The remaining materials generally reach landfills or get **dumped in the streets.**

## Circularity in Construction Sector

- Regionally appropriate, renewable, non-toxic materials should be selected for construction.
- Retaining construction materials at their highest value (without damage during demolition) makes them reusable.

## Role of Circular Economy in the Construction Sector in Managing C&D Waste

- The circular economy principles of **reducing waste, reusing, and recycling resources and products** are often called the **3R's.**
- Approximately **95 per cent** of C&D waste can be **reused or recycled** if processed scientifically.
- Recycling of construction waste offers the opportunity to **reduce consumption of virgin materials.**
- For example, the processing of recycled aggregates generates **40 per cent less Greenhouse Gas emissions** than the processing of virgin aggregates.

## Benefits of implementing circularity in C&D waste management

| | |
|---|---|
| **Economic and Social Benefits** | 1. Scientific C&D waste management prevents the mixing of C&D waste into the MSW stream, thus reducing processing costs and increasing the efficiency of MSW. |
| | 2. C&D waste management prevents clogging of drains and water bodies, therefore averting flooding in urban areas. |
| | 3. Proper management and recycling of C&D waste leads to saving of precious land by reducing the volume of inert going to landfill. |
| | 4. C&D waste processing and recycling generates employment through new enterprises. |
| | 5. Use of C&D recycled products helps in reducing the demand and requirement for virgin material and natural resources. |
| **Environmental Benefits** | 1. Scientific C&D waste management suppresses dust generation. Thus, it significantly reduces air pollution. |
| | 2. Prevention of unauthorised dumping of C&D waste in drains and hydrological channels reduces chances of flooding. |
| | 3. Utilisation of recycled products from processed C&D waste helps in reducing the environmental impacts of mining. |

## Way Forward

- To ensure the circularity of construction materials **adaptive reuse**, **careful dismantling** and **design for reuse and longevity** are some of the methods to be followed.
- The introduction of a circular economy in the construction sector **creates opportunities for innovations** in cutting down on raw materials and reducing residual and waste matter.
- It **improves the quality** of the construction and **reduces the cost of construction** as well as **maintenance** throughout the lifecycle of the structure.
- The **C&D Waste Management Rules, 2016** by the Ministry of Environment, Forests and Climate Change (MoEF&CC) have energised the activities of the construction sector in tune with the circularity approach.

**Linear Economic System:**

- It is a **'take-make-waste'** model.
- In this system, raw materials and resources are extracted from the environment to manufacture products. These products are then consumed and eventually discarded as waste at the end of their lifecycle.

- This approach is **not sustainable** as it assumes abundant resource availability, and the resources can be extracted indiscriminately without much consequence.
- **Problems associated:**
    - **Waste Generation:** After the products are utilised and when they reach the end of their lifecycle, they are discarded as waste, marking the termination of their utility. The waste **ends up in landfills,** incinerators, or even in dumpsites or natural environments, contributing to **environmental degradation** and **hazardous health issues.**
    - Continuing with the linear economic system leads to **resource depletion, environmental degradation, biodiversity loss, and a growing waste problem.**


**Circular Economic System**

- It is an economic system that focuses on reducing waste and controlling pollution by **keeping products and materials in use for as long as possible.**
- It is a **closed-loop system** that minimises the use of virgin resources and maximises the reuse and recycling of materials and ensures **sustainable development.**


- **Principles of Circular Economy**
    - Minimising waste generation (reduce),
    - extending product life span (reuse),
    - convert waste into resources (recycle),
    - reclaiming energy and materials from waste (recover), and
    - safe and environmentally friendly disposal of the residue (dispose).
- In a fully circular economy, **waste is minimised** by designing products and industrial processes in a manner that keeps resources in use in a **perpetual flow**.

## 18) INDIA'S BIOFUEL REVOLUTION

***(GS-III: Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment)***

### Introduction

- At present, the key source of energy in India is **fossil fuels** which is a limited natural resource.
- Other problems associated with the use of fossil fuels are **environmental crises like carbon emissions and global warming.**
- **Biofuels** derived from **organic materials** are considered a renewable energy source and can help **mitigate climate change.**
- India is making significant strides toward renewable energy and the government has set a **goal to achieve 500 GW of non-fossil fuel-based power by 2030**.

### Present Scenario of Fossil Fuel Consumption in India

- India remains heavily reliant on fossil fuels, primarily coal, oil, and natural gas, to meet its growing energy demands.
- As of 2023, **fossil fuels** account for approximately **70-75 per cent of India's energy consumption.**
    - **Coal** is the dominant source, contributing to nearly **55 per cent of the country's electricity generation** (India is one of the world's largest coal producers and consumers).
    - **Oil** is the second-largest energy source (India is the third-largest importer of crude oil globally)
- Despite global efforts to reduce carbon emissions, India's energy demand continues to rise due to rapid industrialisation, urbanisation, and population growth.

### Fossil Fuels Vs Biofuels

| Feature | Fossil Fuels | Biofuels |
|---|---|---|
| **Source** | Fossil fuels are **non-renewable energy sources** derived from the remains of ancient plants and animals that have decomposed over millions of years. | Biofuels, derived from **organic materials** like crops, agricultural waste, and algae, are considered a renewable energy source.<br>Examples: **ethanol** (derived from crops like sugarcane and corn) and **biodiesel** (derived from vegetable oils and animal fats). |
| **Energy Density** | **High** | **Lower** |

| | | |
|---|---|---|
| **Advantages** | • Provide large amounts of energy relative to their weight and volume, making them **efficient for large-scale industrial use**, transportation and electricity generation.<br>• The global infrastructure for extraction, refining, and transportation of fossil fuels is well established, making them **convenient and reliable.**<br>• Major contributors to national economies and employment. | • Biofuels generally emit fewer greenhouse gases than fossil fuels.<br>• These fuels can be **replenished over short timeframes** compared to fossil fuels.<br>• By generating the least carbon footprint, biofuels can help **mitigate climate change.**<br>• Producing biofuels domestically can reduce dependence on imported fossil fuels, **enhance energy security** and stimulate rural economies. |
| **Disadvantages** | • Burning fossil fuels releases significant amounts of **greenhouse gases**, contributing to climate change.<br>• Causes **air and water pollution** affecting human health and ecosystems.<br>• Non-renewable and are being **depleted at a fast rate**, creating concerns about long-term energy security.<br>• **Unevenly distributed** on Earth, leading to **geopolitical tensions** and reliance on foreign imports for energy needs. | • **Lower energy content** compared to fossil fuels, meaning more biofuel is needed to produce the same amount of energy.<br>• Cultivation of biofuel crops can **compete with food production,** leading to potential **food security issues.**<br>• It also requires significant land, water, and energy inputs, sometimes reducing the overall environmental benefit.<br>• Often more expensive to produce than fossil fuels, and large-scale adoption is still challenging. |

## Research Interventions to promote Biofuels in India

- **Used Cooking Oil (UCO) to Biodiesel**
  - **Developed by:** Council of Scientific and Industrial Research-Indian Institute of Petroleum (CSIR-IIP), Dehradun.
  - UCO is subjected to an **efficient transesterification process** developed by CSIR-IIP, which involves converting fats and oils into fatty acid methyl esters (biodiesel).
  - This biodiesel is a clean-burning, renewable fuel that can be used in place of traditional diesel.
- **Biodegradable Waste Management Technologies**
  - One notable intervention is the development of biogas and composting plants.

    - One of the CSIR's constituent labs has developed a **portable biogas plant** that turns **food waste into energy and manure**, contributing to clean energy generation while managing waste effectively.
- **Plastic Waste Recycling**
    - Various research organisations have developed novel plastic recycling technologies. These include the **chemical recycling of plastics** to produce high-value materials like fuel and chemicals.
    - CSIR has also promoted **plastic pyrolysis,** a process that converts plastic waste into oil and gas, reducing the accumulation of non-biodegradable plastics.

### Conclusion

For a sustainable energy future, a balanced approach involving biofuels, fossil fuels, and other renewable sources is necessary to reduce environmental impacts while meeting global energy demands. Research interventions are crucial to bolstering biofuels as an efficient energy source ultimately contributing to a healthier and more sustainable India.

## 19) ROLE OF TRADITIONAL AND INDIGENOUS KNOWLEDGE IN COMBATING MALNUTRITION

***(GS-II: Issues Relating to Development and Management of Social Sector/Services relating to Health, Education, Human Resources)***

### Context

- Traditional and indigenous knowledge plays a crucial role in **combating malnutrition** in **rural India** by providing **nutrient-rich, locally sourced foods and sustainable agricultural practices.**
- By reviving traditional practices India can create a sustainable, culturally relevant approach to improving the nutritional status of its rural population.

### Malnutrition in Rural India

- **Malnutrition** remains a significant public health concern in rural India, where the population struggles with food insecurity, limited access to healthcare, and inadequate nutrition.
    - Estimates indicate that **56.4% of the total disease burden** is due to **unhealthy diets**.

### Role of Traditional and indigenous knowledge in combating malnutrition in rural India

- **Nutrient-rich Diets**
    - **Balanced nutritional intake: Traditional diets** in rural India often include a variety of locally sourced foods that help to **address** both **macronutrient and micronutrient deficiencies.**
        - **Example:** In Odisha, tribal communities consume a variety of wild leafy greens, like amaranth and drumstick leaves, which are rich in iron and help in reducing anaemia.
- **Ensures Food Security**
    - **Resilient farming techniques:** Traditional agricultural practices (such as crop rotation, intercropping, and organic farming) are often more resilient to environmental changes and ensure food security.
        - **Example:** In the tribal regions of **Madhya Pradesh and Chhattisgarh**, **mixed cropping and agroforestry systems** are common.
    - **Promotion of indigenous crops:** Indigenous crops like millets and pulses contribute to food security as they are drought-resistant and require fewer inputs.

        - **Example:** In **Rajasthan, bajra (pearl millet)** that is rich in iron and dietary fibre is a staple crop.
- **Cultural Relevance and Acceptance**
    - **Integration with local traditions:** Traditional food practices that are closely linked to local customs, festivals, and religious rituals are **widely accepted** and easily integrated into daily life, making them effective in improving nutritional outcomes.
        - **Example:** In Kerala, the traditional use of medicinal plants like turmeric (anti-inflammatory) and ginger in cooking is part of the cultural heritage.
- **Adaptability to Local Environments**
    - **Climate-resilient food systems:** Indigenous knowledge includes strategies for adapting to local environmental conditions
        - Example: In the arid regions of Gujarat, traditional water management systems like the stepwells ensure a stable supply of food crops
    - **Utilisation of wild foods:** Many rural communities rely on wild foods rich in nutrients that grow naturally in their environment.
        - **Example:** In Jharkhand, tribal communities gather wild mushrooms, berries, and tubers, which are high in essential nutrients.
- **Sustainable Food Systems and Environmental Stewardship**
    - **Conservation of biodiversity:** Traditional farming is essential for conservation of genetic diversity, which is crucial for food security and nutrition.
    - **Low environmental impact:** Indigenous agricultural practices often have a lower environmental impact leading to more sustainable food production.
- **Health Benefits and Disease Prevention**
    - **Medicinal properties of indigenous foods:** Many traditional foods are often rich in bioactive compounds that help prevent and manage chronic diseases.
        - **Example:** The use of tamarind ( rich in antioxidants) in daily cooking is widespread in Andhra.
    - **Traditional dietary practices and gut health:** The inclusion of fermented foods in traditional diets supports gut health by helping in the absorption of nutrients and protecting against gastrointestinal infections.
        - **Example:** In Nagaland, fermented soybean (axone) is a staple food that is rich in protein and probiotics.
- **Empowerment and Gender Roles in Nutrition**
    - **Women as custodians of traditional knowledge:** In many rural communities, women are the primary custodians of traditional and indigenous knowledge.
        - **Example:** In Rajasthan, women play a central role in maintaining traditional kitchens and managing food resources.
    - **Role in maternal and child health:** Traditional knowledge is particularly important to address specific nutritional needs during pregnancy, lactation, and early childhood.

## Challenges in Incorporating Traditional and Indigenous Knowledge

- **Erosion of traditional knowledge:** The rapid modernization of agriculture, migration to urban areas, and the influence of Western diets have led to the gradual loss of traditional knowledge in rural India.
- **Lack of market access for indigenous crops:** Farmers who grow indigenous crops often face challenges in accessing markets. These crops may not be as profitable as cash crops leading to reduced cultivation of indigenous varieties.

- **Stigma and perception of traditional foods:** In many rural communities, traditional foods are sometimes viewed as 'poor man's food' and are stigmatised.
- **Lack of integration with modern nutrition programmes:** Many government nutrition programmes focus on providing fortified foods or supplements rather than incorporating traditional foods that are locally available and culturally relevant.
- **Climate change and environmental degradation:** It poses a significant challenge to the cultivation of traditional crops, which are affected by erratic weather patterns, soil degradation, and water scarcity.

### Solutions and Initiatives

- **Reviving traditional knowledge:** It can be done through education and community initiatives. **Traditional festivals** like Bihu in Assam and Chapcharkut in Mizoram serve as platforms for sharing knowledge about traditional foods and agricultural practices.
- **Government interventions:** It is needed to **improve market access** for indigenous crops. For instance, the government's initiative to include millets PAN India in public distribution systems (PDS) and TPDS can create demand for these crops.
- **Public awareness campaigns:** Celebrity endorsements and awareness campaigns can help shift perceptions and make traditional food more appealing.
- **Promoting climate-resilient traditional crops:** Projects like the Millet Mission in Odisha focus on improving traditional agricultural practices while ensuring sustainability and resilience to climate change.
- **Integration with modern interventions:** The integration of traditional foods like millets into the Mid-Day Meal Scheme (PM-POSHAN) has been successful in improving the nutritional status of school children.

### Conclusion

Thus, by incorporating traditional and indigenous knowledge alongside modern nutritional interventions, offers sustainable and culturally appropriate solutions in addressing malnutrition in rural India.

**UPSC PYQs:**

1. Identify the Millennium Development Goals (MDGs) that are related to health. Discuss the success of the actions taken by the Government for achieving the same. (2013)

2. "Besides being a moral imperative of Welfare State, primary health structure is a necessary pre-condition for sustainable development." Analyze. (2021)

## 20) FUTURE REFORMS FOR INDIA'S HEALTH SYSTEM

***(GS-II: Issues Relating to Development and Management of Social Sector/Services relating to Health, Education, Human Resources)***

### Context

- India has made significant strides in health and nutrition, with over **500 million citizens** currently benefiting from the **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana** (AB-PMJAY), which facilitates access to healthcare services.
- The establishment of 173,000 **Ayushman Aarogya Mandirs (AAMs)** has further enhanced the provision of primary healthcare.
- **Out-of-pocket health expenses** have **reduced** from 63% in 2014 to **39% in 2024**.

- Despite these advancements, India still faces **challenges** in meeting global health standards.
    - **The average life expectancy in India is currently 71 years**, compared to 77 years in China and 84 years in Japan.
    - **The Infant Mortality Rate (IMR) in India is 28 per 1,000 live births**, significantly higher than China's 5 and Japan's less than 2.
    - Additionally, out-of-pocket health expenditure in South Africa is approximately 8%, starkly contrasting with India's 39%.

## Problems associated with India's Health System

- **Lack of funding:** Securing consistent and sufficient funding for healthcare initiatives poses a major challenge.
- **Infrastructure Deficiencies:** Significant infrastructure deficiencies exist in many rural and remote regions, where hospitals, clinics, and diagnostic facilities are absent.
- **Complex regulatory frameworks:** Such frameworks and bureaucratic processes can hinder the timely execution of reforms.
- **Shortage of professionals:** The healthcare sector is facing a critical shortage of doctors, nurses, and allied health workers, making the training and retention of skilled personnel, particularly in underserved areas, a persistent concern.
    - Currently, India has 10 doctors and 17 nurses and midwives for every 10,000 people.
- **Lack of awareness:** The absence, inaccessibility or inaccuracy of information may stop people from taking preventive action or meeting the healthcare workers.

## Reforms needed in Healthcare system

- **Allocation of sufficient resources: The National Health Policy (NHP) 2017** stipulates that India's healthcare spending should reach **2.5% of GDP by 2024-25**. Strong policy support at all government levels are necessary to secure adequate funding, enact supportive legislation.
- **Leveraging the demographic dividend:** It can lead to significant economic advancement through the adoption of forward-thinking policies that empower youth to make informed health decisions.
- **Tackling the deficit of healthcare professionals:**
    - It can be done by **expanding medical education** by increasing the number of institutions and student admissions.
    - **Enhancing working conditions**, including better salaries and job security, is crucial for retaining existing professionals.
- **Targeted interventions:** Developing targeted interventions for vulnerable populations, such as pregnant women, lactating mothers, and young children, is critical to meet their specific nutritional requirements.
- **Prioritising the health of school children:** Establishing a school environment that fosters health and nutrition through activities such as physical education, mental health support, counselling, and regular health check-ups is crucial in shaping the future workforce should be a primary objective.
- **Enhancing monitoring and evaluation systems:** Tracking progress with regular audits and feedback mechanisms fosters accountability and transparency.
- **Capacity building:** Building the capacity of frontline workers, including Anganwadi workers and ASHAs, is vital for effectively delivering nutrition services and educating beneficiaries.

- **Public Awareness Campaigns:** Extensive public awareness campaigns can inform the population about the significance of nutrition and the availability of government programmes, thereby enhancing participation and adherence.
- **Embracing technology:** The use of technology, including digital tools and platforms, can optimise service delivery, facilitate progress monitoring, and enable efficient information dissemination.
- **Collaborative Efforts:** Collaborating with Non-Governmental Organisations (NGO's) and the private sector can provide India with additional resources, expertise, and innovative solutions. Effective **coordination between public and private healthcare providers** is also essential for ensuring **comprehensive coverage** and **efficient service delivery.**
- **Climate resilience:** By prioritising climate resilience initiatives, India can advance significantly towards the goal of universal access to safe drinking water and improved sanitation.

### Conclusion

- Establishing a resilient and inclusive healthcare system demands a collaborative effort from both Central and State governments, alongside active involvement from the private sector and civil society. The integration of technology is also a focal point.

## 21) THE ROLE OF AGRICULTURE IN PROMOTING HEALTH AND NUTRITION

***(GS-II: Issues Relating to Development and Management of Social Sector/Services relating to Health, Education, Human Resources)***

### Context

- With increased health challenges from malnutrition to obesity being faced by the growing global population, **agriculture** is increasingly being recognized as a **powerful driver of health and nutrition outcomes.**
- With thoughtful innovation and sustainable practices, agriculture can be transformed into a powerful force to combat malnutrition and non-communicable diseases while ensuring food security for all.

### Role of Agriculture in Health and Nutrition

- **Agriculture as a Source of Nutrient-Dense Foods**
    - Agriculture is the basic propellant for the production of **nutrient-rich foodstuffs**, which are very important for **maintaining health and well-being.**
    - Nutrition not only provides energy but also actively helps to **boost immunity, prevent chronic diseases**, and develop physical and mental growth in general.
        - The promotion of **pulse cultivation** in India through interventions like the National Food Security Mission has contributed to sustainable agriculture and improved nutrition.
    - **Biofortified crops**
        - Agriculture is an instrumental means of farming biofortified crops, which are **genetically altered plants** to contain higher levels of micronutrients such as iron, zinc, and vitamin A.
        - These biofortified crops play a very important role in **addressing hidden hunger** and deficiencies in micronutrients.
            - **Harvest Plus initiative:** It has effectively produced biofortified strains of fundamental crops such as rice, maize, and sweet potatoes to mitigate nutrient shortfalls in developing nations.
- **Link Between Agricultural Practices and Dietary Diversity**

    - **Dietary diversity** is essential for **optimum nutrition** and general well-being of the population. Agricultural practice and dietary diversity have particularly been linked to **food security** and **nutrition**.
    - India grows a wide range of crops that contribute toward meeting a healthy diet owing to a long agrarian background and **different agro-climatic zones** in each region,
    - **Ways to achieve dietary diversity**
        - **Diversified agriculture** such as mixed farming and crop-livestock integration.
        - **Traditional Indian agriculture** that includes multi-cropping and agroforestry.
        - **Nutrition-sensitive agricultural policies that** have strengthened the linking between agricultural practices and dietary diversity.
- **Food Security**
    - Sustainable agriculture protects the environment while addressing food security through availability, accessibility, and stability of food supplies.
        - Practices like rotation of crops and agroforestry enhances biodiversity and promotes long-term productivity.
- **Agriculture's Role in Combating Non-Communicable Diseases (NCD)**
    - NCDs contribute **to 71% of all deaths** in the world, according to the WHO.
    - A shift in production and promotion toward healthy, nutrient-dense foods, such as fruits, vegetables, whole grains, and legumes, can reduce the risk of NCDs.
    - In India, **millets** (nutri-cereals) are cultivated because of their low glycemic index and excessive fibre content material, which help control diabetes and reduce the hazard of cardiovascular illnesses.

### Government efforts that relate Agriculture and Public Health

- **National Food Security Act:** It aims to provide subsidised grains to over 800 million people. The programme has significantly reduced hunger and undernutrition, thus ensuring that the vulnerable groups have access to staple foods.
- **National Nutrition Mission or POSHAN Abhiyaan**: It focuses on integrating agriculture with nutrition to address malnourishment conditions among children and pregnant women.
- **National Food Security Mission:** It was launched by the Ministry of Agriculture to promote the production of nutrient-dense crops by facilitating farming for pulses, millets, and biofortified varieties.
- **Zero Budget Natural Farming (ZBNF):** It minimises chemical inputs and encourages the use of organic fertilisers, reducing production costs for farmers and improving soil health.
- **National Mission for Sustainable Agriculture:** It is a part of the National Action Plan on Climate Change and includes drip irrigation methods that are water-conserving and drought-resistant crop varieties.
- The **Eat Right India campaign** by the FSSAI is to address public health through emphasising sustainable agricultural practices. This includes promoting organic farming, reducing injurious pesticides, and consuming locally produced foods to reduce exposure to contaminants and enhance nutritional quality.
- **Paramparagat Krishi Vikas Yojana:** It is for organic farming and has a direct consequence for public health by reducing the portion of chemical inputs.
    - A 2021 study found that organic foods in India have lower pesticide residues, thereby reducing risks from long-term exposure to chemicals.

## Challenges and Opportunities in Agriculture for Health and Nutrition

- **Degradation of herbal sources:** Soil erosion, water shortage, and loss of biodiversity threaten the productivity of farmlands.
    - According to the Food and Agriculture Organization (FAO), approximately **33% of the world's soils are already degraded**, lowering the ability to grow nutrient-dense crops.
- **Effect of climate change:** It exacerbates meal insecurity and hampers efforts to develop a diverse array of crops that are essential for combating malnutrition and non-communicable sicknesses.
    - By 2030, it is predicted that **agricultural productivity** could **decline** by way of **10-25%** in a few areas because of weather-related demanding situations.
- **Monetary and social factors:** It includes fluctuating prices, lack of infrastructure and rural poverty that make it difficult for farmers to diversify their crops and adopt sustainable practices.

## Conclusion

- The agricultural policies of India, when integrated with public health goals, possess significant potential to enhance nutritional outcomes, mitigate disease prevalence, and cultivate healthier communities.
- With thoughtful innovation and sustainable practices, agriculture can be transformed into a powerful force to combat malnutrition and non- communicable diseases while ensuring food security for all.

# MODEL QUESTIONS

1. Assess the case of private participation in India's nuclear sector.

2. Explain the idea behind the Fifth and Sixth Schedules of the Indian Constitution. Are these functioning effectively? Analyse.

3. The effect of heat on food inflation is becoming more prominent than water supply. Discuss in detail.

4. Effective and equitable implementation of Global Goal on Adaptation (GGA) is challenging but not unreachable. Critically analyse.

5. Assess the importance of India's relations with the Arabian peninsula.

6. Textiles and Apparel sectors in India are facing new and old challenges after 2020. Explain.

7. Elaborate on the idea of "Middle Income Trap". How can middle income countries escape from this trap?

8. Recent issues have cast a shadow on smooth relations with Canada. Explain.

9. Assess the case of Universal Basic Income in detail.

10. Can a Nature Restoration Law (NRL) help India to mend its nature? Explain in the context of the NRL in the European Union.

11. Constitutional Governance remains the prime mover of Indian governance in the last seven decades. Discuss.

12. Discuss the concerns in India's relationship with China.

13. BRICS has expanded to include new members in 2024. In this context, assess the significance of BRICS for India.

14. Assess the need for employing 'a female gaze' in policies associated with the Judiciary.

15. Critically analyze the impact of the Swachh Bharat Mission on India's rural and urban landscape. Discuss the challenges and opportunities that lie ahead.

16. Evaluate the effectiveness of the various government initiatives undertaken to clean the Ganga River. How can sustainable development practices be incorporated into these projects?

17. Evaluate the potential of the circular economy model in addressing the challenges of the construction sector. Discuss the key principles and practices of a circular economy.

18. Discuss the challenges and opportunities associated with the production and utilization of biofuels, and suggest strategies to promote their wider adoption.

19. Analyze the role of traditional and indigenous knowledge in addressing malnutrition in rural India. Discuss the challenges and opportunities associated with integrating traditional practices into modern food and nutrition programs.

20. Mention the challenges faced by India's healthcare system and discuss the strategies that can be implemented to achieve universal health coverage and improve the overall health outcomes of the population.

21. Agriculture plays a significant role in promoting Health and Nutrition of the people. Examine the challenges associated with agriculture in India.