DIRECTOR'S MESSAGE

"

"Civil Service is not just a job; it is an opportunity, to do your bit for society and to contribute to nation-building. It is an opportunity to realise your potential and make a meaningful contribution in the emancipation of masses."

Mr. Dilip Kumar
Director, Vajirao IAS Academy

Good Civil Servants ensure efficient and smooth governance. They are the backbone of the country and they have the power to make a difference in people's life.
We have set up extremely tough targets for ourselves. Now a day's, most of the students are well aware and focused about their aim. They just need a streak of guidance. We feel that we have done our bit in providing that blue streak of guidance and we are honoured to be a reason of smile on certain lips, proud to be your teacher, friend and guide.

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[1.1] Rejuvenating the Yamuna: A Collaborative Revival

Syllabus: Environmental Pollution [GS Paper-3]

Context

The report by the Parliament expresses grave instances about the current status of the Yamuna when the Delhi government has promised to clean it in three years. Moving waste clearing, setting up expanded sewage treatment units, and river cruises have been efforts of the government, but there still remain problems in the restoration process.

Understanding the Crisis

- **Pollution Levels:**
  - The Yamuna is one of India's most polluted rivers, with alarming levels of Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) in Delhi, where untreated sewage and industrial effluents are major contributors.
  - Tributaries like the Hindon and Sahibi also carry heavy pollution loads from Haryana and Uttar Pradesh.
- **Disruption of Environmental Flow:**
  - Uninterrupted water extraction from dams and barrages has de facto slowed down river flow, particularly in the lean seasons. Encroachments on floodplain lands and deforestation in the watershed aggravate the situation.
- **Impact of Climate Change:**
  - Glacial retreat and erratic rainfall patterns triggered in the Himalayas, where the river Yamuna originates, have put an extra burden on the river system.

Ongoing Efforts

- **Yamuna Action Plan (YAP):**
  - YAP has worked, since 1993, in the area of pollution abatement through sewer treatment plants (STPs) and upgrades of related infrastructure. Phase III is financed by Japan International Cooperation Agency (JICA) and intends to rehabilitate STPs located in Delhi at a cost of ₹1,656 crore.

- **Delhi Government Initiatives:**
  - The Delhi government has put trash skimmers, weed harvesters, and machinery into action for the river clean-up under a three-year scheme.
  - The Asita East project encompasses ecological restoration of floodplains for conserving biodiversity and control of flow.
- **Inter-State Collaboration:**
  - Efforts are underway to revise the water-sharing treaties among Delhi, Haryana, Himachal Pradesh, Rajasthan and Uttar Pradesh for equitable distribution of waters.
- **Legal and Regulatory Measures:**
  - The National Green Tribunal has imposed strict monitoring of industrial discharge and floodplain encroachment in its directions under the "Maily Se Nirmal Yamuna Revitalization Plan."

Challenges in Rejuvenation

- **Lack of Coordination:**
  - Political rivalries among basin states hinder collaborative efforts to restore environmental flow.
  - Central agencies like the Central Pollution Control Board (CPCB) face resource constraints.
- **Inadequate Infrastructure:**
  - Existing STPs are insufficient to treat the 400 million gallons per day of untreated sewage entering the river in Delhi alone.
  - Industrial effluent treatment remains inconsistent despite regulations.
- **Encroachments and Sand Mining:**
  - Encroachments on floodplains reduce the river's capacity to manage floods.
  - Unregulated sand mining disrupts aquatic ecosystems.
- **Public Awareness Deficit:**
  - Citizens remain largely unaware of their role in conserving the river, limiting public pressure on governments to act effectively.

Way Forward

- **Ensuring Environmental Flow:**
  - It is crucial to release the water from the upstream barrages regularly at the lean seasons for maintaining ecological health.
  - Re-visiting the inter-state water-sharing accord will add to the fairness among the stakeholders in the benefits.
- **Strengthening Pollution Control:**
  - Upgrading the existing sewage treatment plants and providing decentralized treatment plants can be a relief from the sewage overflow that is caused by it.
  - Real-time monitoring systems strictly enforce industrial effluent norms.

- **Restoring Floodplains:**
  - Demarcating the floodplains as per the NGT Guidelines cuts encroachments.
  - Ecological restoration projects will also mainly focus on native vegetation to achieve a maximum of biodiversity.
- **Promoting Inter-State Cooperation:**
  - A unified framework of governance involving all the states within the basin is needed to properly address decision-making.
  - The political will has to supersede party lines for long-term environmental interests trumping short-term benefits.
- **Public Engagement:**
  - Awareness Campaigns can mobilise citizens to start demanding better governance from the government.
  - Participation in local cleanup drives creates a sense of ownership among the community.
- **Leveraging Technology:**
  - An advanced monitoring system for water quality and flow along with practical insights into possible action.
  - Data-driven modes provide an optimal allocation of resources in conservation.

Conclusion

Reviving the Yamuna is not merely an environmental imperative but a socio-economic necessity for millions who depend on it for their livelihoods. Achieving this goal requires collaborative governance among states like Delhi, Haryana, Uttar Pradesh, and others, supported by robust legal frameworks and public participation. By addressing pollution control, restoring environmental flow, and fostering inter-state cooperation, India can transform the Yamuna from a dying river into a thriving ecosystem that sustains future generations.

Source: HT

[1.2] Challenges in Public Health Education in India

Syllabus: Education [GS Paper-2]

Context

Public health education in India is crucial for addressing the country's diverse health challenges. However, it faces numerous obstacles that hinder its effectiveness and the employment prospects of its graduates. This analysis explores the evolution of public

health education, the challenges faced by graduates, and potential solutions to enhance the field.

Evolution of Public Health Training in India

- **Historical Context:** Public health education in India has its roots in the British colonial era, where the focus was primarily on controlling infectious diseases and improving sanitation. The establishment of the All-India Institute of Hygiene and Public Health (AIIHPH) in Kolkata in 1932 marked a significant milestone, formalizing public health training within medical education. Despite this progress, public health remained a peripheral subject rather than a distinct discipline.

- **Growth of MPH Programs:** The early 2000s saw a significant expansion in public health education with the introduction of Master of Public Health (MPH) programs. These programs opened doors for graduates from various backgrounds, including social sciences and nursing, allowing for a more interdisciplinary approach to public health. By 2024, over 100 institutions were offering MPH programs, a stark increase from just one in 2000.

Challenges Faced by Public Health Graduates

Despite the growth in educational opportunities, several challenges persist that impact both the quality of education and employment prospects for graduates.

- **Disparity for Graduates with Employment Opportunities:** This gap is particularly acute in respect of entry-level positions in public health, where the demand always exceeds the supply and provides fierce competition among graduates. Rather, graduates wind up competing for those limited positions, especially as government injection into public health recruitment halted. This has been further compounded as bureaucratic bottlenecks have thwarted efforts to entrench specialized public health management cadre, thereby reducing job opportunities.

- **Dominance of the Private Sector:** This is compounded by the increasing grip of the private healthcare sector, which also constitutes yet another threat. Private institutions were more in favor of managerial posts rather than public health, as they usually hire professionals with business backgrounds than those who have been trained in the real sense of public health. This creates an even tighter situation for MPH graduates who are loaded with this specialized knowledge.

- **Quality of Public Health Education:** The hastily mushrooming MPH programs have raised alarms at the standard of education. Many of the institutions have lowered the entry bar to pool students who are not having much of an idea or a dream of quite brighting the world with public health. Most often the qualified faculties are devoid of proper training and real field experience that also affects the learning environment negatively.

- **Absence of Standardized Curriculum:** Unlike the degrees in medicine that are governed by regulators like the NMC, there is no standardized curriculum for MPH programs. This difference leads to the resultant different quality of graduates and creates doubts about their preparedness for real-world challenges.

- **Geographical Unequal Distributions:** These are some of the geographical barriers that motivated minds had to overcome to become public health professionals. Bihar, Jharkhand, and Assam house very few or no institutions imparting

education in public health. This brings restrictions not only in education but also in a weakened public health infrastructure throughout the state.

Approaches to Strengthening Public Health Education and Employment

To address these challenges effectively, several strategic approaches can be implemented:

- **Creating More Jobs in Public Health:** Identifying government systems to create dedicated public health jobs is very important. In the developed countries of the world, it is mainly the government which employs public health professionals; similarly, India can create such employment opportunities through structured forms at the state and national level. This would offer good civil service careers for graduation students, which would also bolster the public health system.

- **Regulation and Standardization of Public Health Education:** The establishment of a special regulatory body, under either the NMC or UGC, is to govern the MPH programs. This will impose a standardized curriculum and minimum training requirements, along with ensuring practical exposure in all public health education programs.

- **Emphasis on Practical Training:** Integrating practical training into the MPH program is crucial in empowering graduates to address real-world issues. Collaborations with state governments and health institutions can provide students with much-needed hands-on experience that will contribute meaningfully to their employability.

- **Expansion of Public Health Institutions:** Increase the number of public health institutions in regions with limited access to education. This expansion should enhance the educational opportunities and strengthen the local healthcare systems by complementing a competent workforce.

- **Strengthening National Funding for Public Health:** India should strengthen its funding for public health, rather than relying heavily on overseas development aid. The establishment of domestic funding streams can assure the sustainability and autonomy of action in practicing public health.

Source: The Hindu

[1.3] Hindi as Lokbhasha, Not Rajbhasha: A Necessity

Syllabus: Governance [GS Paper-2]

Context

The linguistic landscape of India is a rich tapestry woven from diverse languages and dialects, reflecting the country's cultural plurality. Hindi, spoken by over 60 crore people, occupies a significant position within this diversity. However, the debate surrounding its status as Rajbhasha (official language) has raised questions about its role in fostering national unity and inclusivity. Advocates argue for reclassifying Hindi as Lokbhasha (people's language), emphasizing its potential to connect with the masses rather than impose a singular linguistic identity.

Understanding Rajbhasha vs. Lokbhasha

Rajbhasha: The Official Language

- **Definition:** Rajbhasha refers to the official language designated for governmental and administrative functions. In India, Hindi has been recognized as Rajbhasha since the adoption of the Constitution in 1950.

- **Imposition and Resistance:** The imposition of Hindi as an official language has often met with resistance from non-Hindi-speaking states. This resistance stems from perceptions of linguistic hegemony and cultural alienation, leading to tensions rather than unity.

Lokbhasha: The People's Language

- **Definition:** Lokbhasha signifies a language that is organically connected to the people, reflecting their culture, traditions, and daily lives. It is not merely a tool for governance but a medium through which individuals express their identity.

- **Cultural Resonance:** As a Lokbhasha, Hindi can embrace its roots in various dialects and regional languages, fostering inclusivity and cultural appreciation across linguistic boundaries.

The Case for Hindi as Lokbhasha

1. Promoting Linguistic Pluralism

- **Respect for Diversity:** By affording regional importance to Hindi, India would not impose a single language narrative but appreciate its extraordinary linguistic diversity, thus acknowledging the multiplicity of languages spoken by its populace.

- Empowerment of Regional Languages: A focus on Hindi as a Lokbhasha encouraged the preservation of and promotion of regional languages so that while Hindi may grow, regional tongues may not be diminished or overshadowed.

2. Bridging Cultural Divides

- **Cultural Integration:** Hindi has a big potential act as a bridge for all other linguistic communities. When it is treated as a people's language, it creates platforms for dialogue and understanding among the different groups.

- **Eliminating Communalism:** A disconnected version of Hindi, one that seeks out purity and stands for superiority, could readily be used as a basis for creating communal tensions. It is precisely such tensions that can be mitigated when its multilingual past finds wider acceptance.

3. Enhancing Educational Opportunities

- **Mother-Tongue Education:** Educational policies that give importance to mother-tongue instruction would yield better learning results. A Lok Bhasha approach would enable this as Hindi would be integrated with other regional languages.

- **Establishment of Resources:** A national mission shall be initiated for creating educational materials in many languages that could act with power to include students from varied backgrounds in equal access to knowledge.

Challenges in Transitioning from Rajbhasha to Lokbhasha

1. Political Resistance

- **Opposition from Established Interests:** The entrenched political interests that benefit from maintaining Hindi's Rajbhasha status may resist changes that promote linguistic equality.

- Need for Political Will: Effective advocacy for Hindi as Lokbhasha requires strong political support to challenge existing structures and promote linguistic democracy.

2. Societal Attitudes

- **Perceptions of Superiority:** Overcoming societal attitudes that view Hindi as superior to other languages is crucial for fostering acceptance of a Lokbhasha framework.

- **Cultural Sensitivity:** Efforts must be made to ensure that initiatives promoting Hindi do not alienate speakers of other languages but instead celebrate their contributions to India's cultural fabric.

Proposed Strategies for Implementation

1. Policy Reformation

- **Equal Status for All Languages:** Granting equal status to all 22 languages recognized in the Eighth Schedule of the Constitution can facilitate a more inclusive linguistic environment.

- **Bhasha Diwas Initiative:** Transforming Hindi Diwas into Bhasha Diwas would celebrate all Indian languages, fostering appreciation and respect among diverse linguistic communities.

2. Educational Reforms

- **Multilingual Education Framework:** Establishing a robust multilingual education framework that incorporates local languages alongside Hindi can enhance learning experiences and promote inclusivity.

- **State Support for Language Preservation:** Government initiatives should focus on supporting institutions that document and promote lesser-known languages, ensuring their survival in an increasingly globalized world.

Conclusion

The journey towards recognizing Hindi as Lokbhasha rather than Rajbhasha is essential for fostering true linguistic democracy in India. By embracing this transformation, India can celebrate its rich linguistic diversity while promoting unity among its people. The shift from imposition to empowerment will not only strengthen cultural ties but also pave the way for a more inclusive society where every language is valued and respected. Only through such efforts can India achieve genuine national integration while honoring its multifaceted identity.

Source: The Indian Express

[1.4] Tracking Dietary Diversity for Health

Syllabus: Health [GS Paper-2]

Context

Dietary diversity is a critical component of food and nutrition security. While policies have traditionally emphasized cereal security as a means of combating hunger, there is an urgent need to broaden the focus toward ensuring access to diverse and nutrient-rich diets. This shift is essential for addressing malnutrition, improving public health outcomes, and fostering sustainable food systems.

Understanding Dietary Diversity

- Definition and Importance: Dietary diversity refers to the variety of foods consumed across different food groups over a specific period. It is a key indicator of diet quality and is strongly associated with improved micronutrient intake, better health outcomes, and reduced risk of malnutrition.
- Indicators of Dietary Diversity: Several tools are used to measure dietary diversity:
- Household Dietary Diversity Score (HDDS): Measures the variety of food groups consumed at the household level.
- Minimum Dietary Diversity for Women (MDD-W): Assesses the diet quality of women of reproductive age based on nine food groups.
- Food Variety Score (FVS): Counts the number of unique food items consumed, though it does not account for their nutritional quality.

The Current Focus on Cereal Security

For decades, food security policies have pumped their energies into increasing cereal production for the alleviation of hunger. Even though this approach might have led to calorie deficiency being reduced in several areas, "hidden hunger"-that is, micronutrient deficiency stemming from lack of dietary diversity-has not been resolved. Monotonous diets based on starch staples are energy-giving but poor in essential vitamins and minerals, seriously aggravating malnutrition.

The Case for Shifting Focus to Food Quality

- **Addressing Micronutrient Deficiencies in Health:** Micronutrient malnutrition does affect large populations in the world; vulnerable groups, such as children and women, seem more affected. Food structures with diversity, such as fruits, vegetables, legumes, dairy, and animal-source foods, can create wondrous contributions to improving micronutrient intake.
- **Improving Outcomes in Public Health:** Poor dietary diversity is directly related to experiences of ill health, ranging from impaired cognitive development in children to compromised immunity and an increased likelihood of contracting chronic diseases such as diabetes and cardiovascular disorders.
- **Sustainable Food Systems:** Fostering dietary diversity complements the principles of sustainable agriculture: varied diets support the growing of manifold crops, thus lessening the monoculture dependency and maintaining biodiversity.

Challenges in Promoting Dietary Diversity

Despite its importance, achieving dietary diversity faces several challenges:

- **Economic Barriers:** High costs of nutrient-dense foods like fruits and animal-source products limit access for low-income households.
- **Cultural Preferences:** Traditional diets often emphasize staple foods over diverse options.
- **Measurement Limitations:** Existing tools like HDDS and FVS do not fully capture the nutritional quality of foods consumed.
- **Policy Gaps:** Current food security policies often prioritize calorie sufficiency over nutrient adequacy.

Strategies for Enhancing Dietary Diversity

To shift from cereal security to healthy diets, a multi-pronged approach is needed:

1. Policy Reforms

- Integrate dietary diversity into national food security frameworks.
- Promote subsidies or incentives for nutrient-rich foods such as fruits, vegetables, and pulses.
- Align agricultural policies with nutrition goals by encouraging crop diversification.

2. Community-Based Interventions

- Educate communities about the importance of diverse diets through awareness campaigns.
- Implement school feeding programs that include a variety of nutrient-dense foods.

3. Technological Innovations

- Develop mobile applications for real-time dietary tracking to overcome limitations in traditional data collection methods.
- Use digital tools to monitor dietary patterns and inform policy decisions.

4. Strengthening Food Systems

- Support local farmers in producing diverse crops through training and financial assistance.
- Improve market access for smallholder farmers to ensure availability of diverse foods.

5. Global Collaboration

- Leverage international platforms like FAO to share best practices and resources for promoting dietary diversity.
- Encourage partnerships between governments, NGOs, and private sectors to scale up successful interventions.

Measuring Progress

Effective monitoring is crucial for assessing the impact of dietary diversity initiatives. Standardized tools like FAO's dietary diversity guidelines can help track changes over time at both household and individual levels. Additionally, innovative indicators such as the

Nutritional Functional Diversity (NFD) index offer more nuanced insights into diet quality by considering both variety and nutritional composition.

Conclusion

The transition from cereal security to healthy diets requires a paradigm shift in food and nutrition policies. By prioritizing dietary diversity and food quality, we can address malnutrition comprehensively while promoting better health outcomes and sustainable food systems. Policymakers must act decisively to ensure that all individuals have access to diverse, nutritious diets—an essential step toward achieving global nutrition security.

Source: BS

[1.5] Delimitation in India: Balancing Democracy and Federalism

Syllabus: Governance [GS Paper-2]

Context

India's upcoming delimitation exercise after the 2026 census is a complex matter involving democracy and federalism. Delimitation, which defines the boundaries of parliamentary and state assembly constituencies, is vital for fair representation. However, demographic shifts since 1976 and recent controversial experiences have led to significant debate and apprehension about the process.

Balancing Democracy and Federalism: Possible Solutions

To navigate these challenges, several measures could be considered:

- **Limiting Lok Sabha Seats to 543:** This is to avoid any change in representation of an already existent nature while such change maintains the balance of the federal system.
- **Revising State Assembly Seats:** Only assimilating the numbers of MLAs but leaving the Rajya Sabha untouched can satisfactorily solve the democratic problems without disturbing national representation.
- **Strengthening Local Governance:** With better financial and administrative autonomy, Panchayats and Municipalities shall ensure effective grassroots representation.
- **Strengthening the Role of Rajya Sabha:** The seat redistribution in Rajya Sabha on the basis of zones instead of population may buffer the Lok Sabha representation. As for now, five zonal councils are already existent in India-North, Central, East, West, and South, which may be the base on which such Rajya Sabha representation can be proposed.

The Contentious Nature of Delimitation

The decision to freeze the number of seats was intended to reward states that successfully implemented population control measures. Yet, the impending delimitation based on the post-2026 census raises several critical concerns:

- **Unequal Population Growth:** In the last 50 years, the population growth rates have been glaringly different in various states. The northern states, such as Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan, have shown more population increase compared to the southern states such as Kerala, Tamil Nadu, Karnataka, and Andhra Pradesh. This difference raises apprehensions regarding the power shifts in the political arena.

- **Proposed Approaches and Regional Representation**

  Two primary approaches have been suggested:

  1. **Redistribution within 543 seats:** This involves reallocating existing seats among states based on updated population data.

  2. **Increasing the total seats to 848:** This would proportionally increase seats across all states.

  Both approaches suggest that southern states and smaller northern states (Punjab, Himachal Pradesh, Uttarakhand, and the Northeastern states) might lose political influence, while larger northern states could gain representation.

- **Federalism Concerns:** Such concerns lead to the large issues of federalism and regional representation. If northern states gain more seats due to higher population growth, southern states may feel politically neglected, despite all their excellent population reduction controls. This may skew national decisions and resource allocation.

Case Studies: Jammu & Kashmir and Assam

Recent delimitations in Jammu & Kashmir (2022) and Assam (2023) have raised concerns about politically motivated redistricting. These experiences offer insights into potential risks for the 2026 exercise.

Jammu & Kashmir: A Communal Redistricting?

The delimitation process in Jammu & Kashmir has been criticized for:

- Disproportionate seat allocation, with Jammu receiving more additional seats than the Kashmir Valley.
- Vote value disparity, where a voter in Jammu has more influence than a voter in Kashmir.
- Merger of distinct regions, combining areas with differing geographical and cultural characteristics.
- Creation of communal constituencies, favoring Hindu-majority areas while diluting Muslim-majority constituencies.

Assam: Erasing Muslim-Majority Seats?

In Assam, the delimitation process involved:

- District mergers before delimitation, effectively reducing Muslim-majority constituencies.
- A shift in demographic advantage, with constituencies having Hindu and tribal majorities gaining influence.

- A lack of uniform constituency sizes, providing greater electoral weight to some Hindu-majority areas.

Potential Challenges for Delimitation 2026

The biggest concern for the 2026 delimitation is the risk of communal redistricting. The patterns observed in Jammu & Kashmir and Assam suggest that demographic and political engineering could be factors in the upcoming exercise.

- **Power Dynamics:** The two-way shifting power over these years will result in loss of seats in southern states with low fertility rates and better development parameters, thereby impairing their influence.
- **Gerrymandering:** There is a possibility of the new delimitation being engineered to suit certain political and communal interests.
- **Federal Disparity:** An overall shift in power towards the high-population-high-poverty states can facilitate policies that will go against the interests of the developed states.

Broader Implications: A Threat to Federalism?

India's federal structure is already under strain due to economic disparities, policy centralization, and political marginalization of opposition-ruled states. The 2026 delimitation could further exacerbate these tensions.

- **Demographic Shift in Political Power:** The political domination of the northern states might be an impediment for the southern states to demand policies necessary for their development needs and goals.
- **Communal Polarization:** If the constituency boundaries are drawn along religious lines, it would add to the atmosphere of distrust and create a permanent levy against certain communities.
- **Weakened Regional Autonomy:** With increasing power being swung towards states favoured by the Centre, there may be an emerging voice for stronger decentralization and fiscal autonomy.

International Practices

- **United States:** The House of Representatives has been capped at 435 seats since 1913, with seats redistributed after every census using the method of equal proportion.
- **European Union (EU):** The European Parliament follows a principle of degressive proportionality, where smaller countries have a higher seat-to-population ratio to ensure balanced representation.

Conclusion

The delimitation exercise represents a significant challenge in balancing democratic representation and federal equilibrium. Population-based adjustments are essential, but they must not marginalize states that have successfully controlled population growth. A balanced approach, ensuring fair representation without disrupting federal principles, is crucial for maintaining India's democratic integrity. As India moves towards this

consequential exercise, careful consideration and inclusive dialogue are essential to uphold the spirit of democracy, federalism, and equal representation.

Source: <u>The Hindu</u>

[1.6] Regulating Digital Giants: The Policing Challenge

Syllabus: Science and Technology [GS Paper-3]

Context

The rise of digital giants such as Meta, Google, and Amazon has transformed the global economy, creating unprecedented opportunities and challenges. These companies dominate markets through data aggregation, network effects, and technological innovation. However, their monopolistic practices and the misuse of user data have raised concerns about privacy, competition, and regulatory oversight. Policing these digital giants requires a nuanced approach that balances innovation with accountability.

The Growing Power of Digital Giants

Data as the Backbone of Market Dominance

- In the digital economy, data has emerged as a critical resource, akin to oil but with infinite utility.
- Companies like Meta and Google leverage vast amounts of user data to refine algorithms, enable hyper-targeted advertising, and create personalized experiences.
- This fosters network effects—more users generate more data, reinforcing market dominance and deterring new competitors.

Examples of Market Abuse

- Meta's 2021 WhatsApp privacy policy update mandated users to consent to data-sharing across its platforms, consolidating its market power.
- Google has faced penalties for practices such as mandating pre-installation of its apps on Android devices.

Challenges in Policing Digital Giants

Complexity of Digital Markets

- Unlike traditional markets, digital platforms operate on principles of data aggregation rather than price-based dominance.
- The interconnected nature of these platforms complicates the identification and regulation of anti-competitive behaviors.

Cross-Border Operations

- Digital giants often operate across multiple jurisdictions, making enforcement challenging.

- For example, crimes committed through digital infrastructures require international agreements to tackle cross-border issues effectively.

Resource Constraints
- Law enforcement agencies often lack the resources and expertise to address cyber-enabled crimes effectively.
- Capturing evidence from servers controlled by tech companies poses significant hurdles.

Global Regulatory Efforts

United States: Antitrust Investigations
- The Federal Trade Commission (FTC) filed an antitrust lawsuit against Meta in 2020 for acquiring Instagram and WhatsApp to eliminate competition.
- Google was found guilty of violating antitrust laws due to exclusive agreements in search and advertising markets.

European Union: Pioneering Regulations
- The EU introduced the Digital Markets Act (DMA) in 2023 to regulate 'gatekeepers' like Meta and Google. It mandates interoperability between messaging apps and prohibits self-preferencing practices.
- The General Data Protection Regulation (GDPR) enforces strict consent requirements for data usage.

India's Regulatory Actions
- The Competition Commission of India (CCI) fined Meta ₹213.14 crore in 2024 for abusing its dominant position through unfair data-sharing policies.
- Despite proactive measures, India's Competition Act, 2002 lacks provisions to tackle data-centric monopolies effectively.

Policing Challenges in Emerging Technologies

The Metaverse: A New Frontier
- The Metaverse introduces unique challenges for law enforcement due to its decentralized nature and virtual environments.
- Cybercrime in the Metaverse could include fraud, identity theft, and harassment in virtual spaces.

Big Data Policing
- Law enforcement agencies increasingly rely on big data analytics for crime prevention. However, ethical concerns arise regarding surveillance and privacy violations.

Recommendations for Effective Regulation

Strengthening Legal Frameworks
- Introduce provisions for regulating data monopolization in competition laws.
- Redefine terms like 'market power' and 'dominant position' to align with digital realities.

Promoting Interoperability
- Mandate interoperability between platforms to prevent monopolistic control over user information.
- Encourage data-sharing agreements under strict privacy guidelines.

International Collaboration
- Establish cross-border legislative agreements to tackle crimes committed through global infrastructures.
- Build partnerships with telecom companies to enhance investigative capabilities.

Adopting Global Best Practices
India can draw inspiration from:

1. The EU's DMA-GDPR combination for holistic regulation.
2. Australia's News Media Bargaining Code requires tech platforms to pay news publishers for content usage.

Conclusion

Policing digital giants is a complex but necessary endeavor in the age of data-driven economies. While efforts like the CCI's actions against Meta represent significant progress, they highlight the urgent need for legal reforms. By integrating competition laws with robust data protection frameworks and adopting global best practices, India can create a fair digital marketplace that fosters innovation while ensuring accountability. As technology evolves rapidly, regulatory bodies must stay ahead to safeguard consumer interests and uphold market integrity.

Source: The Hindu

[2.1] Incentive Scheme for Electronic Components Manufacturing

Syllabus - Economy [GS Paper-3]

Context

The IT Ministry has finalized a ₹23,000 crore incentive policy for electronic components production over six years.

Key Highlights

- This initiative aims to enhance domestic value addition, following the successful localization of smartphone assembly in India.
- The IT Ministry has finalized an incentive policy worth around ₹23000 crore over six years to boost electronic components production and deepen domestic value addition.
- The scheme follows the success of the PLI scheme for smartphone assembly but aims to address the low domestic value addition of 15-20%, focused on an increase to 30-40%.

Targeted Components

- The scheme will guide the producing of key digital additives such as:
    - Display modules
    - Camera sub-assemblies
    - Printed circuit board assemblies
    - Lithium cell enclosures
    - Resistors, capacitors, ferrites, and more

Employment Generation

- The initiative aims to create 91,600 direct jobs over six years.
- Annual incentive payouts will range from ₹2,300 crore to ₹4,200 crore, conditional on companies meeting investment, manufacturing, and employment goals.

Types of Incentives

- Operational Incentives – Based on net incremental income, similar to PLI schemes.
- Capital Expenditure (Capex) Incentives – Based on eligible capital investments.
- Hybrid Model – An aggregate of both operational and capex incentives.

Investment Eligibility

- Both greenfield (new projects) and brownfield (existing projects) investments are eligible.
- Foreign organizations can participate by either moving technology to an Indian corporation or forming joint ventures with domestic corporations.

Demand-Supply Gap in Electronic Components

- A government assessment identified a $100 billion domestic demand-supply gap, which will increase to $140 billion with exports.
- India's current manufacturing potential is only $10.75 billion, overlaying just 10% of overall electronics manufacturing.

Challenges in Domestic Manufacturing

- **Lack of Scale –** India's electronic components quarter lacks huge-scale domestic production.
- **High Investment to Turnover Ratio –** Unlike smartphones, where ₹1 investment yields ₹20, in components, it only yields ₹2-4.
- **High Import Dependence –** Electronics imports account for 75% of overall electronics manufacturing, making it the second one-biggest import class after oil.

Future Projections and Urgency

- Component demand is predicted to reach $160 billion by 2028-29.
- Imports of key additives grew from $29 billion in FY21 to $46.5 billion in FY23.
- To meet demand, domestic aspect manufacturing with exports should grow at a CAGR of over 53%.

Electronics Component Manufacturing Sector in India

- India's Electronic Components Manufacturing zone is growing unexpectedly with strong government support and strategic projects to make the country a global electronics hub.
- **Market Size**
  - Valued at $101 billion in March 2023, the world aims to attain $300 billion by 2025-26.
  - Production Linked Incentive (PLI) schemes have boosted production and attracted predominant worldwide gamers like Apple and Samsung.
  - Exports of digital goods rose through 23.6% in FY 2023–24 to $29.12 billion.

Conclusion

- The government's incentive scheme is a vital step to lessen import dependence, scale up domestic production, and integrate India into the global supply chain.
- By addressing infrastructure, investment challenges, and talent improvement, the initiative aims to establish India as a key player in digital components production.

Source: The Indian Express

1. *'R2 Code of Practices' constitutes a tool available for promoting the adoption of (2020)*

(a) environmentally responsible practices in electronics recycling industry

(b) ecological management of Wetlands of International Importance under the Ramsar Convention

(c) sustainable practices in the cultivation of agricultural crops in degraded lands

(d) 'Environmental Impact Assessment' in the exploitation of natural resources

Ans: (a)

- The IT Ministry has finalized a ₹23,000 crore incentive policy for electronic components production over six years.
- This initiative aims to enhance domestic value addition, following the successful localization of smartphone assembly in India.
- The IT Ministry has finalized an incentive policy worth around ₹23000 crore over six years to boost electronic components production and deepen domestic value addition.
- The scheme follows the success of the PLI scheme for smartphone assembly but aims to address the low domestic value addition of 15-20%, focused on an increase to 30-40%.

[2.2] Madhav National Park as India's 58th tiger reserve

Syllabus - Environment [GS Paper-3]

Context

Recently, Madhav National Park in Madhya Pradesh has been designated as India's 58th tiger reserve. With this, Madhya Pradesh now has 9 tiger reserves, the highest among all states. In assessment, Maharashtra has 6, whilst Rajasthan, Tamil Nadu, and Karnataka have 5 each.

Significance of Madhav National Park

- Notified as a National Park in 1956 under the MP National Parks Act, 1955 with an area of 165.32 square km.
- Now accelerated to 355 sq.Km core area with a buffer sector of 4-6 sq.Km.
- Until 2023, there were no tigers; a male and two females had been relocated, leading to a population increase to 7.
- **Ecological & Strategic Importance**
    o Functions as a key flora and fauna hall linking the Ranthambore Tiger Reserve (Rajasthan) and Kuno National Park.
    o Kuno hosts a captive cheetah populace, raising issues about predator competition for prey (deer population).
    o Madhya Pradesh leads India in tiger conservation with 785 tigers, but the Kuno-Madhav department has traditionally been omitted.
    o Consolidated natural world management now specializes in both tigers and cheetahs in the area.

Rationale Behind Setting Up Tiger Reserves

- **Decline in Tiger Population**
  - Tigers were once abundant in India, with an predicted 40,000 tigers in the early 20th century. However, due to looking, poaching, deforestation, and colonial wooden exploitation, their numbers declined sharply.
- **Conservation Efforts Begin**
  - Recognizing the disaster, naturalists raised alarms, leading to the Indian Board for Wild Life (IBWL) recommending a ban on wild cat skin exports in 1969.
- **Launch of Project Tiger (1973)**
  - With tiger numbers plummeting to at least 1,863, the then PM Indira Gandhi set up an 11-member Task Force to plot a conservation strategy.

Key Aspects of Establishing a Tiger Reserve

- **Scientific Management Framework**
  - Project Tiger, later changed by the National Tiger Conservation Authority (NTCA) in 2006, introduced a based approach to coping with covered areas.
  - Every tiger reserve has to follow a site-specific management plan, ensuring scientific conservation practices.
- **Core and Buffer Zones**
  - Core Zone – Strictly covered habitat for tigers and flora and fauna.
  - Buffer Zone – Surrounding place with regulated human activities to aid conservation efforts.
- **Process of Declaring a Tiger Reserve**
  - The State Government submits a suggestion to the Centre.
  - NTCA evaluates and recommends the suggestion.
  - The State Government officially notifies the area as a tiger reserve.
  - This based manner guarantees the long-term conservation and sustainability of tiger populations in India.
- **Funding Mechanism for Tiger Reserves**
  - **Centre-State Cost Sharing**
  - **General States:** 60% of the investment is furnished by the Central Government, at the same time as the last 40% is borne by the State Government.
  - **Northeastern & Himalayan States:** The Centre covers 90% of the cost, with States contributing 10%.

Source: The Indian Express

Prelims PYQ

1. Consider the following protected areas: (2012)
   1. Bandipur
   2. Bhitarkanika
   3. Manas
   4. Sunderbans

Which of the above are declared Tiger Reserves?

- Recently, Madhav National Park in Madhya Pradesh has been designated as India's 58th tiger reserve. With this, Madhya Pradesh now has 9 tiger reserves, the highest among all states. In assessment, Maharashtra has 6, whilst Rajasthan, Tamil Nadu, and Karnataka have 5 each.

- Notified as a National Park in 1956 under the MP National Parks Act, 1955 with an area of 165.32 square km.

- Now accelerated to 355 sq.Km core area with a buffer sector of 4-6 sq.Km.

- Until 2023, there were no tigers; a male and two females had been relocated, leading to a population increase to 7.

[2.3] Creators' Economy

Syllabus - Economy [GS Paper-3]

Context

The Central government will make investments of $1 billion to assist India's creators' economy.

Key Highlights

- **High-Level Engagement Ahead of WAVES 2025**
  - Ahead of the World Audio Visual and Entertainment Summit (WAVES) 2025, a high-level session was hosted by the government to have interaction with the international community.
  - WAVES 2025 will facilitate joint ventures, co-productions, and business enlargement in the media and leisure sector.
  - Participants highlighted how the intersection of creativity, media, and generation is reshaping the industry and emphasised WAVES 2025 as a key platform for innovation and collaboration.

- **The Role of WAVES 2025 within the Orange Economy**
  - The government highlighted WAVES 2025's role in leveraging the media and leisure industries for financial growth and job advent.
  - The summit will function as a bridge for cultural international relations, fostering unity and international concord by creative industries.

About Creators' Economy

- The creators' economy refers to a digital-pushed environment wherein people—along with content material creators, influencers, bloggers, and unbiased artists—monetize their skills and creativity via social media structures, digital content material, and online companies.
  - Creative Economy is also referred to as Orange Economy.

- This sector consists of video creators, podcasters, gamers, educators, and independent writers who generate revenue via logo collaborations, subscriptions, commercials, and merchandise sales.

Factors Behind India's Strategic Push Towards the Creators' Economy

- **Growing Digital User Base**
  - India has over 800 million internet users, making it one of the largest digital markets in the world.
  - The high use of smartphones and low-cost records has fueled content intake.
- **Employment & Economic Growth**
  - The sector has the capability to generate self-employment and entrepreneurship opportunities, lowering reliance on conventional job markets.
- **Soft Power & Global Influence**
  - Indian content material creators are gaining global recognition, supporting mission India's cultural and linguistic diversity to a global target market.
- **Tech-Driven Economy**
  - With advancements in AI, AR/VR, and blockchain, new monetization models along with NFTs and decentralized platforms are rising, making the world more rewarding.
- **Diversity of Regional Content**
  - The upward push of vernacular content material is expanding India's digital economy past English and Hindi, tapping into a tremendous regional target market.

Challenges

- Indian creators face several challenges, consisting of inconsistent monetization opportunities, stringent platform algorithms, and confined brand collaborations.
- Intellectual property security remains a difficulty, with content material piracy and absence of legal cognizance affecting income.

Steps Taken by the Indian Government

- **$1 Billion Investment:** Announced by the government to assist ability enhancement, production, and international growth of Indian creators.
- **Digital India & Start-up Ecosystem:** Policies along with Digital India, Make in India, and Startup India are fostering an environment conducive to digital entrepreneurship.
- **PLI Schemes for Electronics:** Encouraging local production of gadgets including smartphones, cameras, and laptops that resource content advent.
- **Regulatory Support & Infrastructure:** Initiatives like 5G rollout and progressed broadband penetration to decorate content material advent and streaming quality.
- **Support for Vernacular & Regional Creators:** Promotion of Indian languages on digital systems to ensure inclusivity and wider target audience reach.
- **AI & Digital Skill Development:** Focus on AI-based content material moderation and creator upskilling to ensure ethical and top notch content material.

Source: [The Hindu](#)

Mains Practice Question

1. Discuss the challenges and opportunities associated with the growth of creative economy in India.

- The Central government will make investments of $1 billion to assist India's creators' economy.
- Ahead of the World Audio Visual and Entertainment Summit (WAVES) 2025, a high-level session was hosted by the government to have interaction with the international community.
- WAVES 2025 will facilitate joint ventures, co-productions, and business enlargement in the media and leisure sector.
- Participants highlighted how the intersection of creativity, media, and generation is reshaping the industry and emphasised WAVES 2025 as a key platform for innovation and collaboration.

[2.4] Challenges in Five Eyes Intelligence Alliance

Syllabus - International Relations [GS Paper-2]

Context

The Five Eyes intelligence alliance is dealing with challenges because of shifts in U.S. Foreign policy all through the Presidency of Donald Trump.

About the Five Eyes Intelligence Alliance (FVEY)
- It is one of the most effective and secretive intelligence-sharing alliances in the world, comprising the US, the United Kingdom, Canada, Australia, and New Zealand.
- **Origins and Evolution:**
  - The basis of Five Eyes was laid during the Second World War whilst the US and UK signed the UKUSA Agreement in 1946, formalizing their intelligence-sharing mechanism.
  - Canada (1948), Australia (1956), and New Zealand (1956) later joined, creating a relied on circle of Anglo-Saxon countries committed to seamless intelligence collaboration.
  - Initially targeted on monitoring Soviet communications during the Cold War, the alliance tailored through the years to cover terrorism, cyber war, and threats from growing global powers.
- **It operates mostly through agencies which include:**
  - United States: National Security Agency (NSA)
  - United Kingdom: Government Communications Headquarters (GCHQ)
  - Canada: Communications Security Establishment (CSE)
  - Australia: Australian Signals Directorate (ASD)
  - New Zealand: Government Communications Security Bureau (GCSB)
- It makes use of superior surveillance equipment inclusive of the ECHELON system, an enormous global interception community able to monitor communications across diverse platforms, including emails, smartphone calls, and online activities.

Functions and Intelligence-Sharing Mechanism
- **Signal Intelligence (SIGINT):** Monitoring electronic communications, satellite data, and cyber threats.
- **Human Intelligence (HUMINT):** Gathering intelligence from spies and undercover retailers.
- **Geospatial Intelligence (GEOINT):** Satellite imagery and mapping for security and military operations.
- **Cyber Intelligence:** Tracking cyber threats, hacking tries, and country-sponsored cyber espionage.

- **Counterterrorism Intelligence:** Monitoring global terror networks, preventing radicalization, and foiling assaults.
- **Geopolitical Monitoring:** Keeping song of trends in areas of strategic interest, such as the Indo-Pacific and the Middle East.

Controversies and Challenges
- **Privacy Concerns:** Revelations via whistleblowers, along with Edward Snowden, have raised concerns about mass surveillance and the capacity misuse of collected data.
- **Geopolitical Tensions:** The alliance's consciousness on tracking nations like China and Russia has brought about diplomatic tensions.
- **Internal Frictions:** Differences in policy priorities and strategies amongst member countries occasionally create friction within the alliance.

Five Eyes in the 21st Century
- **China and Russia:** The alliance is an increasing number of targets on countering China's expanding impact in technology, trade, and security.
- **Counterterrorism and Extremism:** Post 9-11, counterterrorism was the primary objective, leading to extensive surveillance applications focused on terror corporations like Al-Qaeda and ISIS.
- **Cybersecurity and Artificial Intelligence (AI) Threats:** Aiming to counter ransomware assaults, records breaches, and AI-driven misinformations campaigns.
- **Surveillance and Privacy Concerns:** Whistleblowers like Edward Snowden exposed controversial mass surveillance packages like PRISM, elevating moral questions on the alliance's activities.

Geopolitical Implications
- India, even though not part of Five Eyes, has engaged in confined intelligence-sharing with the alliance, in particular in counterterrorism and cyber threats.
- Recently, a convention of global intelligence and security leaders, held in New Delhi, India, introduced intelligence leaders from over 20 countries, including representatives of Five Eyes alliance nations.
- The opportunity of increasing the organization to consist of partners like India, Japan, and Germany has been mentioned, however it remains a topic of dialogue due to trust troubles and strategic concerns.

Source: The Indian Express

Mains PYQ

1. 'What introduces friction into the ties between India and the United States is that Washington is still unable to find for India a position in its global strategy, which would satisfy India's National self-esteem and ambitions'. Explain with suitable examples. (2019)

- The Five Eyes intelligence alliance is dealing with challenges because of shifts in U.S. Foreign policy all through the Presidency of Donald Trump.
- It is one of the most effective and secretive intelligence-sharing alliances in the world, comprising the US, the United Kingdom, Canada, Australia, and New Zealand.
- The basis of Five Eyes was laid during the Second World War whilst the US and UK signed the UKUSA Agreement in 1946, formalizing their intelligence-sharing mechanism.

- Canada (1948), Australia (1956), and New Zealand (1956) later joined, creating a relied on circle of Anglo-Saxon countries committed to seamless intelligence collaboration.
- Initially targeted on monitoring Soviet communications during the Cold War, the alliance tailored through the years to cover terrorism, cyber war, and threats from growing global powers.

[2.5] Increase in Tamil Nadu's Mangrove Forest cover

Syllabus - Environment [GS Paper-3]

Context

Tamil Nadu's mangrove forest cover has almost doubled from 4,500 ha in 2021 to 9,039 ha in 2024, because of new plantations and maintenance of present mangroves.

About Mangroves

- Mangroves are salt-tolerant plants found in tropical and subtropical intertidal areas, offering refuge for coastal biodiversity and acting as bio-shields against extreme climatic activities.
- They are adapted to thrive in coastal regions with brackish water and wet, loose soil.
- They have tangled prop roots that help them live on tides and capture sediments even as slowing water glides.

Importance

- **Climate Change Mitigation:** Mangroves stabilize coastlines, lessen erosion, encourage biodiversity, and protect coastal groups from sea-level rise and natural calamities.
- **Carbon Sinks:** Mangroves store carbon at as much as four times the rate of terrestrial forests, making them important for accomplishing net zero emissions .
- **Ecosystem and Habitat Support:** Mangroves support interconnected terrestrial, freshwater, and marine habitats, which include species like Royal Bengal Tigers and river dolphins.
  - They capture sediments, create fertile lands, and help marine life thrive by making water clearer.
- **Disaster Risk Reduction:** Mangroves act as the first line of protection in opposition to tropical storms, cyclones, and hurricanes, slowing down winds and minimizing land effect.
- **Socio-economic Importance:** Mangroves provide crucial jobs for millions of small-scale fishers worldwide.

Threats

- The mangrove environment faces pressures from population growth, land demand, and the need for resources like timber, fodder, gas-wooden, and fisheries.
- Aquaculture and fisheries obstructing tidal floaters are tremendous threats to mangrove ecosystems.
- Agricultural and commercial sports in Coastal Regulation Zone areas have caused mangrove destruction.

Government Initiatives

- **MISHTI Initiative:** The government's MISHTI initiative, aiming for large-scale mangrove plantation, is carried out via the MGNREGS, CAMPA Fund, and other resources.

- o The MISHTI initiative aligns with India's Nationally Determined Contributions to create an additional 2.5-3 billion tonnes of carbon dioxide equal carbon sink by 2030.
- **Mangrove Alliance for Climate:** India joined the Mangrove Alliance for Climate at the 27th Conference of the Parties in Egypt to address climate change.

Suggestions and Way Forward

- Mangroves play an essential function in global conservation efforts by storing widespread amounts of carbon, assisting mitigate weather trade and decreasing greenhouse gas emissions.
- Mangroves are key guardians of coasts and critical for the surroundings and groups, making their conservation a necessary priority.
- There is a need to promote sustainable livelihoods along with eco-tourism and carbon credit programs, in addition to district-specific planning for the upkeep and enlargement of mangrove ecosystems.

Source: The Hindu

Mains PYQ

1. Discuss the causes of depletion of mangroves and explain their importance in maintaining coastal ecology. (2019)

- Tamil Nadu's mangrove forest cover has almost doubled from 4,500 ha in 2021 to 9,039 ha in 2024, because of new plantations and maintenance of present mangroves.
- Mangroves are salt-tolerant plants found in tropical and subtropical intertidal areas, offering refuge for coastal biodiversity and acting as bio-shields against extreme climatic activities.
- They are adapted to thrive in coastal regions with brackish water and wet, loose soil.
- They have tangled prop roots that help them live on tides and capture sediments even as slowing water glides.

[2.6] Faster Rise in Global Sea Levels in 2024

Syllabus - Environment [GS Paper-3]

Context

NASA pronounced that global sea levels rose faster than anticipated in 2024, reaching 0.59 cm per year, surpassing the anticipated 0.43 cm.

Global Mean Sea Level

- Global mean sea level presents an integrative level of the state of the climate system, encompassing both the sea and cryosphere (ice covered portions of Earth).
- It is the common peak of the whole ocean surface.
- It is a key indicator of climate change, reflecting adjustments in both the sea and ice-covered regions.

Causes of Global Mean Sea Level changes
- **Ice Melt:** Warming reasons ice sheets and glaciers to melt, including freshwater to the ocean.
- **Thermal Expansion:** As oceans take in heat, water expands, rising sea levels.
    - In 2024, thermal growth contributed to two-thirds of the rise, a shift from previous years when melting ice was the dominant factor.
    - It was also the warmest year on record, with Earth's oceans at their maximum levels in 3 many years. Since 1993, global sea levels have risen by 10 cm, with the rate of rise more than doubling.
- **Land Water Storage:** Changes in water storage on land, including groundwater pumping or dam building, can alter the quantity of water inside the ocean.
    - Climate change is the primary motive force of worldwide sea level rise.

Effects of Global Sea Level Rise
- Threatens infrastructure, along with roads, bridges, and homes, leading to improved restore expenses.
- Causes more frequent and intense coastal flooding, exacerbating erosion and saltwater intrusion into freshwater components.
- Endangers coastal ecosystems (e.g., mangroves, coral reefs) and displaced people in low-lying regions, causing social and financial challenges.
- **Economic and Social Impacts:** Rising seas lead to higher costs for coastal safety (e.g., sea partitions) and infrastructure upkeep.
- Displacement of communities and lack of livelihoods (tourism, fishing, agriculture) due to coastal flooding and erosion.
- Disrupts economic activities and places pressure on social offerings, especially in inclined areas.

Countries Most Affected by Rising Sea Levels
- **High-Risk Countries:** Bangladesh, China, India, and the Netherlands are exceptionally inclined.
- **Pacific Island Nations:** Kiribati, Tuvalu, and the Marshall Islands face excessive dangers because of high publicity to storms and sea-level sensitivity.

Way Forward
- **Reduce Greenhouse Gas Emissions:** The most important movement is to gradual global warming by cutting emissions, the primary motive of climate change and sea level rise.
- **Mitigation and Adaptation:** Build infrastructure like sea walls and typhoon surge boundaries to defend against flooding and erosion.
    - Improve drainage systems and assemble flood-resistant buildings.
    - Restore natural barriers like mangroves, wetlands, and coral reefs to soak up wave energy and decrease storm surge effects.
- **Disaster Risk Reduction:** Strengthen disaster danger reduction plans and ensure early caution structures, supported by the UN, to address sea level-associated incidents.
    - In a few cases, relocate communities from vulnerable coastal areas as a part of adaptation methods.

Source: The Hindu

1. 'Climate change' is a global problem. How India will be affected by climate change? How Himalayan and coastal states of India will be affected by climate change? (2017)

- NASA pronounced that global sea levels rose faster than anticipated in 2024, reaching 0.59 cm per year, surpassing the anticipated 0.43 cm.
- Global mean sea level presents an integrative level of the state of the climate system, encompassing both the sea and cryosphere (ice covered portions of Earth).
- It is the common peak of the whole ocean surface.
- It is a key indicator of climate change, reflecting adjustments in both the sea and ice-covered regions.

[2.7] Cancer daycare centres to be set up in District Hospitals

Syllabus - Health [GS Paper-2]

Context
The Union Health Ministry plans to set up cancer daycare centres in all district hospitals.

Key Highlights
- Each cancer daycare centre will provide chemotherapy, counseling services, and medicines, with 4 to 6 beds.
- Every facility will have an oncologist or trained medical officer, two nurses, a pharmacist, a counsellor, and a multi-purpose worker.
- Establishing such facilities in district hospitals will make chemotherapy more handy and efficient.
- **Concerns Over Staffing**
  - While the Government suggested the usage of the existing district hospital workforce, the Parliamentary panel advocated separate recruitment due to a scarcity of healthcare professionals.

Objective and Implementation
- The initiative aims to ensure continuity of cancer treatment, mainly in the 764 district hospitals that presently lack such centers.
- Patients will receive preliminary treatment plans at tertiary care centres and retain remedy at those daycare centres.
- As per the Union Budget assertion, 200 centres are planned for the current financial year, with the entire rollout anticipated over 3 years.
- **Expert Recommendations**
  - **Pain Control:** Many cancer patients require pain remedy, which may be furnished at a low fee.
  - **Training for Medical Staff:** Since not all district hospitals have oncologists, medical doctors and workforce need to gain knowledge in managing chemotherapy aspect results and headaches.

o **Regional Feasibility:** States like the ones in the Northeast and Kerala, where district hospitals already offer most cancer care, may also discover it less complicated to enforce the initiative.

Cancer Burden in India

- In India, most cancer cases are projected to rise considerably, with over 14 lakh new cases recorded in 2023.
- Approximately 100 out of every 1 lakh people in India are diagnosed with most cancers annually.
- The National Cancer Registry Programme (NCRP) under ICMR has been monitoring cancer traits since 1982 to enable evidence-based policymaking.

Key Government Initiatives for Cancer Control

- **National Programme for Prevention and Control of Cancer (NPCDCS):** Aims to prevent and control most cancers, diabetes, cardiovascular diseases, and strokes under the National Health Mission (NHM).
- **Strengthening of Tertiary Care for Cancer Scheme:** Aims to decentralize most cancers treatment and amplify access to specialised care.
- **Key Infrastructure Developments:** 19 State Cancer Institutes (SCIs); 20 Tertiary Care Cancer Centres (TCCCs); National Cancer Institute (NCI), Jhajjar, Haryana; Chittaranjan National Cancer Institute (CNCI) – Second Campus in Kolkata.
- **Ayushman Bharat Yojana (PMJAY):** Launched in 2018 to provide widely wide-spread health coverage.
- **Health Minister's Cancer Patient Fund (HMCPF):** Provides monetary aid up to ₹5 lakh for most cancers remedy to sufferers under the poverty line.
- **National Cancer Grid (NCG):** Established in 2012 to standardize and improve cancer care throughout India.

Advancing Cancer Research and Treatment

- **India's First Indigenous CAR-T Cell Therapy – NexCAR19**
  - Developed in April 2024 via IIT Bombay, Tata Memorial Centre, and ImmunoACT.
  - A leap forward treatment for blood cancers, decreasing dependency on high priced imported remedies.
- **Quad Cancer Moonshot Initiative**
  - Launched in September 2024 in partnership with the USA, Australia, and Japan.
  - Focuses on putting off cervical cancer within the Indo-Pacific location through screening, vaccination, and superior research.

Source: The Indian Express

Mains PYQ

1. Stemcelltherapy is gaining popularity in India to treat a wide variety of medical conditions including Leukaemia, Thalassemia, damaged cornea and several burns. Describe briefly what stem cell therapy is and what advantages it has over other treatments? (2017)

- The Union Health Ministry plans to set up cancer daycare centres in all district hospitals.
- Each cancer daycare centre will provide chemotherapy, counseling services, and medicines, with 4 to 6 beds.

- Every facility will have an oncologist or trained medical officer, two nurses, a pharmacist, a counsellor, and a multi-purpose worker.
- Establishing such facilities in district hospitals will make chemotherapy more handy and efficient.
- **Concerns Over Staffing**
  - While the Government suggested the usage of the existing district hospital workforce, the Parliamentary panel advocated separate recruitment due to a scarcity of healthcare professionals.

[2.8] Greenhouse Gas Emissions Threaten Satellites

Syllabus: Environment [GS Paper-3]

Context

Rising greenhouse gas emissions are creating an unexpected challenge for humanity's use of space: the upper atmosphere's cooling and contraction due to climate change is reducing its capacity to safely host satellites. This phenomenon, driven by increased carbon dioxide (CO_2) concentrations, threatens to amplify collision risks in low-Earth orbit (LEO) and could shrink the region's satellite-carrying capacity by up to 66% by 2100 under high-emission scenarios.

Mechanism: How Greenhouse Gases Affect Satellite Orbits

Greenhouse gases like CO_2 absorb heat in the lower atmosphere but have the opposite effect in the upper atmosphere. In the thermosphere (125–620 miles above Earth), these gases radiate energy into space, causing cooling and contraction. This layer is critical for generating atmospheric drag, which pulls defunct satellites and debris downward to burn up. With a thinner thermosphere, drag diminishes, leaving debris to linger longer and increasing collision risks.

- **Current state:** Over 11,900 satellites orbit Earth, with millions of debris fragments.
- **Impact of reduced drag:** Debris lifetimes in LEO could extend significantly, crowding orbital pathways. For example, under high emissions, the thermosphere's density could drop by 30–40% by 2100, reducing its ability to naturally clear space junk.

Projected Decline in Satellite-Carrying Capacity

A 2025 MIT-led study in *Nature Sustainability* modeled CO_2's impact on LEO's capacity, revealing alarming trends:

Scenario	Projected Capacity Decline (2100)
Moderate emissions	50–66%
High emissions (worst-case)	Up to 82%

This decline stems from:

1. Prolonged debris presence: Less drag extends debris lifetimes, increasing collision probability.
2. Rising satellite launches: Over 100,000 satellites are expected by 2030, intensifying congestion.

Risks of Unchecked Orbital Congestion

1. Kessler Syndrome

A chain reaction of collision-causing LEO-use would come into effect where debris caused by one collision triggers others. This scenario becomes increasingly likely as orbital density increases, a situation for which the theory was first propounded in 1978. SpaceX alone executed 50,000 collision avoidance maneuvers in the first six months of 2024, which is a testament to the operational burden.

2. Economic and Operational Challenges

- **Cost of debris removal:** Active removal missions cost tens of millions per operation.
- **Regulatory gaps:** While the U.S. mandates satellite deorbiting within five years of mission end, enforcement globally is patchy.

Mitigation Strategies

1. Active Debris Removal (ADR)

- **Technology:** Deploying robotic spacecraft or lasers to capture and deorbit debris.
- **Cost barriers:** Current ADR methods are prohibitively expensive, requiring international funding partnerships.

2. Sustainable Satellite Design

- **Mandatory deorbit systems:** Rules like the FCC's 2022 rule on satellites must be enforced, allowing only minor post-mission disposal.
- **Reusable satellites:** Longer operating lifetimes will help lower launch frequencies.

3. Climate-Driven Space Governance

- **Emission controls:** Link international sustainability principles concerning outer space to their corresponding climate agreements, since atmospheric alterations directly influence orbital safety.
- Collaborative international frameworks should be broadened like the UN's Space2030 Agenda to address capacity limits and debris management.

Broader Environmental Impacts of Space Activities

Beyond orbital crowding, rocket launches and satellite reentries contribute to atmospheric pollution:

- **Aluminum oxides:** Particles from burning satellites persist in the upper atmosphere for centuries, potentially altering ozone chemistry.
- **Methane monitoring:** Initiatives like NASA's EMIT mission use satellites to track emissions but face risks from the same orbital challenges they aim to mitigate.

Conclusion: A Call for Integrated Policies

The intersection of climate change and space sustainability demands urgent, coordinated action. Reducing greenhouse gas emissions remains critical to preserving the thermosphere's debris-clearing capacity, while stricter space traffic management and ADR investments can avert a Kessler Syndrome scenario.

Source: The Hindu

Q. Greenhouse gas emissions are not only contributing to climate change on Earth but also posing a threat to satellites and space infrastructure. Discuss the impact of greenhouse gas emissions on the Earth's upper atmosphere and its consequences for satellite operations. Suggest measures to mitigate these effects. (250 words)

[2.9] India's South-East Asia Health Surveillance Network

Syllabus: International Relations, Health [GS Paper-2]

Context

India has proposed a South-East Asia Network for transboundary surveillance to strengthen regional health emergency response. This initiative, discussed at a WHO SEARO meeting, aims to tackle emerging health threats proactively.

Background and Context

- The WHO South-East Asia Region (SEARO) includes 11 member countries, namely India, Indonesia, Nepal, and Thailand. This area is seriously challenged due to high population density, rapid urbanization, and recurrent outbreaks of communicable diseases like Nipah, Avian Influenza, and COVID-19. Climate change has now put this area on an alert with possibilities of health emergencies arising from vector-borne and waterborne diseases, zoonotic infections, and antimicrobial resistance.

- The COVID-19 pandemic highlighted the need for strong surveillance systems capable of creating synapses of multi-source data to allow for timely decision-making. This proposed surveillance network would address these challenges by allowing for increased cooperation between countries and sectors.

Key Features of the Proposed Surveillance Network

1. **Multi-Source Collaborative Surveillance (MSCS):**
   o The surveillance network will operate through the generation and integration of data from multiple sources such as public health laboratories, environmental monitoring, and animal health sectors.
   o In this regard, the proposed network fits into the One Health paradigm whereby health in human beings, animals, and the environment is entwined.

2. **Enhanced Regional Collaboration:**
   o Data and expertise among member countries will be shared in order to improve the early warning systems for epidemics and pandemics.
   o Sharing of cross-border information will become an area of focus to nip transboundary health threats in the bud.

3. **Strengthening Laboratory Systems:**
   o Investment in sustainable diagnostic capacities will be critical to building the aforementioned strong laboratory networks across the region.
   o Genomic surveillance and wastewater monitoring are given special mention as innovative tools to detect emerging pathogens.

4. **Capacity Building:**
   o Training programs will be instituted for national public health officials to assist in the enhancing of their health emergency response capacity.

o   Simulation exercises will be conducted in order to stress-test operational readiness.

5.   **Governance and Sustainability:**
   o   National action plans will guide the implementation of the surveillance network.
   o   Mechanisms for sustainable funding and resource allocation will be established.

Significance of the Initiative

1.   **Improved Health Security:**
   o   The network will enable timely detection and response to outbreaks, reducing morbidity and mortality.
   o   It will also enhance preparedness for future pandemics by strengthening regional resilience.

2.   **Economic Benefits:**
   o   Early detection of health threats can minimize economic losses caused by disease outbreaks.
   o   Improved public health systems can attract investments in sectors like tourism and trade.

3.   **Global Implications:**
   o   The initiative aligns with the International Health Regulations (IHR) (2005), which emphasize global collaboration in managing health emergencies.
   o   Lessons learned from this regional effort could serve as a model for other low- and middle-income countries.

Challenges in Implementation

- **Data Sharing Barriers:** Unequal data ownership between countries and absence of standardized protocols would not facilitate effective information exchange between countries.
- **Resource Constraints:** Many countries in the region suffer from financial constraints which will inhibit their ability to invest in sophisticated surveillance technologies.
- **Cross-Sectoral Coordination:** There should be robust governance structures to cater for the very diverse sectors involved such as human health, animal health, and environmental monitoring.

Way Forward

To make this proposal operational, SEARO member countries will have to undertake several activities:

1.   **Adopt Regional Policies:** Develop a harmonized framework on data sharing and collaboration on internationally accepted principles.
2.   **Invest in Infrastructure:** Establish modern laboratories and diagnostic facilities throughout the region.
3.   **Leverage Technology:** Put artificial intelligence (AI) and machine learning (ML) to work in real-time data analysis.
4.   **Foster Partnerships:** Collaborate with international organizations, private sector actors, and academic institutions on resource mobilization and expertise.
5.   **Monitor Progress:** Institutionalize mechanisms for regular review of network performance in order to ensure continuous improvement.

Conclusion

India's proposal for a South-East Asia Surveillance Network is a timely initiative that addresses critical gaps in regional health security. By fostering collaboration among member states and adopting innovative approaches like MSCS, this network has the potential to transform public health preparedness in one of the world's most vulnerable regions. However, its success will depend on sustained political commitment, adequate funding, and effective cross-sectoral coordination. If implemented successfully, it could serve as a blueprint for strengthening global health security in an interconnected world.

Source: The Indian Express

UPSC Mains Practice Question

Q. Discuss India's role in fostering regional cooperation with South-East Asia in areas such as trade, security, and health. How can India further strengthen its ties with the region to address common challenges? (250 words)

[2.10] Rupee Symbol Controversy in Tamil Nadu

Syllabus: Governance [GS Paper-2]

Context

In its 2025-26 state budget, Tamil Nadu replaced the rupee symbol with the Tamil letter 'ரூ' (pronounced as "Ru") in its promotional material. This move was first noticed in a teaser video shared by the state government, which emphasized inclusivity with the tagline "Everything for Everyone." The Tamil letter 'Ru' is historically used to denote rupees in the Tamil language, as seen in older documents and even bus tickets within the state.

Background of the Rupee Symbol

After a national competition, the Indian rupee symbol was officially adopted in 2010. The symbol combines the Devanagari letter "र" and the Latin capital "R" with a horizontal line; it symbolizes India's cultural heritage and economic aspirations. Now, this symbol has turned into a widely acknowledged representation of Indian currency in financial and all digital transactions.

Reasoning Behind the Change

No official reason has been given by the Tamil Nadu government for this shift but officials said it would help promote regional identity and linguistic pride. They said they had not wanted to use Devanagari script, which is part of the official rupee symbol.

Public and Political Reactions

A far-reaching debate has been crystallized from this change that has penetrated itself into various sections of society:

Support for the Change:

- It is the view of the supporters that using the Tamil letter 'Ru' shows Tamil Nadu's cultural and linguistic heritage.
- Historical legitimization has been provided since the letter was used as early as 1935 in a book. In the mind of these advocates, the change is viewed as a carrying on of Tamil linguistic traditions without a rejection of national symbols.

Criticism of the Change:

- The critics contend that undercutting a national symbol betrays the idea of unity, and thus this could be considered divisive.
- There have been apprehensions about a design-a symbol specifically by a Tamilian-for there appears to be an effort to undermine the pride of others associated with the making of a national emblem.

The Designer's Response

The originator of the rupee symbol has distanced himself from the public outcry yet again and suggests that his work must be treated as an open forum for interpretation and criticism. He felt that it should not have been treated disrespectfully, nor dismissively of his contribution but would rather be viewed as an opportunity to further the discussions on design and identity.

Broader Implications

This controversy touches upon larger themes such as:

- Regional Identity vs National Unity: This debate reveals the strains of upholding regional pride against national cohesion.
- Language Politics: The whole issue dovetails into the other ongoing discussions about language policy in India, particularly that of Hindi against the various regional languages.
- Symbolism in Governance: Officials take a choice of symbols on the public sphere which express much more serious ideals and priorities, rendering their decision-making all the more important.

Conclusion

The replacement of the rupee symbol with a Tamil letter in Tamil Nadu's budget materials has ignited debates about cultural identity, linguistic pride, and national symbolism. While some view it as an assertion of regional heritage, others see it as potentially divisive. This incident underscores the complexities involved in balancing regional aspirations with national unity, making it a topic of significant relevance for policymakers and citizens alike.

Source: The Hindu

UPSC Prelims Practice Question

Q. Which of the following statements about the Indian Rupee symbol (₹) is/are correct?
1. **The symbol was designed by Udaya Kumar and officially adopted in 2010.**
2. **It is a blend of the Devanagari letter 'र' and the Latin capital letter 'R'.**
3. **India was the first country to introduce a unique currency symbol.**

Select the correct answer using the codes given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2, and 3

Answer: (a) 1 and 2 only

[2.11] Inflation and India's Economic Trajectory

Syllabus: Economy [GS Paper-3]

Context

As of February 2025, India's economic landscape is characterized by a notable moderation in inflation, alongside strengthening industrial growth. The Consumer Price Index (CPI) inflation has decreased to a seven-month low of 3.6%, primarily due to a significant drop in vegetable prices. However, core inflation has risen beyond 4% for the first time in 14 months, reaching 4.08%. This dual trend presents both opportunities and challenges for policymakers as they navigate the complexities of economic stability and growth.

Inflation Dynamics

- **CPI and Core Inflation Trends:** The CPI inflation's decline to 3.6% is a welcome development, particularly as it reflects a decrease in food prices, which have been volatile in recent months. Despite this reduction, core inflation—which excludes food and fuel—has shown an upward trend, indicating persistent inflationary pressures in other sectors. The rise in core inflation suggests that while food prices may stabilize, underlying price pressures in the economy remain a concern.

- **Rural vs. Urban Inflation:** A critical observation is the disparity between rural and urban inflation rates. Rural areas continue to experience higher inflation levels, significantly influenced by food price trends. This divergence highlights the need for targeted economic policies that address the specific challenges faced by rural populations, particularly regarding agricultural productivity and food security.

Imported Inflation

Imported inflation has surged dramatically, increasing from 1.3% in June 2024 to an alarming 31.1% by February 2025. This spike is largely attributed to rising global prices of precious metals, oils, and fats, which have direct implications for domestic consumers. The reliance on imports for essential commodities makes the Indian economy vulnerable to global market fluctuations.

Industrial Growth and Corporate Performance

- The Index of Industrial Production (IIP) reported a robust growth rate of 5.0% in January 2025, primarily driven by advancements in manufacturing and mining sectors. This growth trajectory is crucial as it indicates a rebound in industrial activity following previous slowdowns attributed to various economic pressures.

- Corporate performance also reflects positive trends, with revenue growth at 6.2%, EBITDA growth at 11%, and profit after tax (PAT) growth at 12% in Q3 FY25. These figures suggest that businesses are adapting well to the current economic climate, potentially laying the groundwork for sustained growth.

Monetary Policy Outlook

- In consideration of these economic indicators, the RBI could reduce rates at least by 75 basis points during 2025 over two more occasions this year, that is, in April and August. Lowering of interest rates will, however, be aimed at reviving demand and investment while at the same time keeping in mind the stabilization of inflationary expectation building up.

- Control of inflation, while promoting growth, is the primary aim of the RBI. The challenge of balancing inflation moderation with growth facilitation will become an important determinant of future monetary policy actions.

Challenges Ahead

- **Food Security and Supply Chain Problems:** The environment is putting enormous strain on agriculture as abnormal weather events impact farming, with a correspondingly strong effect on crop yield. Instances range from heatwaves to unseasonal rains that have hit supply chains, soaring prices of essential commodities like vegetables and pulses. A solid and resilient infrastructure system with climate-resilient agricultural practices to iron out the supply chain vulnerabilities is an important way of stabilizing food prices.
- **Global Economic Influence:** Indian economy cannot be immune to the global economic trends. Some respite could be offered with the downward trend in global commodity prices ahead; uncertainties of the international market, nonetheless, remain an overriding factor of risk. It becomes the responsibility of policymakers to carefully monitor the external economic environment that could impact domestic inflation and overall economic stability.

Conclusion: Navigating the Future

- India's economic outlook for 2025 presents both challenges and opportunities. While inflation has moderated significantly due to falling vegetable prices, rising core inflation and imported inflation pose ongoing risks. Strengthening industrial performance provides a silver lining; however, addressing rural inflation disparities and ensuring food security are critical for sustainable growth.
- The RBI's anticipated interest rate cuts may help stimulate demand but must be carefully calibrated against persistent inflationary pressures. As India navigates these complex dynamics, effective policy measures will be crucial in fostering an environment conducive to stable economic growth while managing inflation effectively.

Source: PIB

UPSC Mains Practice Question

Q. Discuss the various types of inflation prevalent in India and analyze their impact on economic growth and stability. Also, suggest measures to control inflation while ensuring sustainable economic development. (250 words)

[2.12] India, New Zealand Trade Talks After Decade

Syllabus: International Relations [GS Paper-2]

Context

India and New Zealand have announced the resumption of negotiations for a Free Trade Agreement (FTA) after a hiatus of nearly a decade. This development marks a significant milestone in the bilateral relationship, aimed at fostering deeper economic cooperation and mutual prosperity. Below is an analysis of the context, significance, challenges, and potential outcomes of these renewed discussions.

Historical Context of India-New Zealand Trade Relations

- **Initial Engagements:** India and New Zealand began negotiating a Comprehensive Economic Cooperation Agreement (CECA) in April 2010 to enhance trade in goods, services, and investments. However, the talks stalled in 2015 after nine rounds of discussions due to disagreements over key issues like agricultural tariffs and market access.

- **Current Trade Scenario:** Bilateral trade between the two nations stood at $873.4 million in 2023-24, compared to $1.02 billion in 2022-23. India's exports include textiles, medicines, refined petroleum, and agricultural machinery, while New Zealand's exports are dominated by dairy products, meat, fruits like kiwi fruit and apples, and timber

Significance of Resuming FTA Negotiations

- **Economic Growth Potential:** The renewed talks aim to unlock new avenues for businesses and consumers by improving market access and enhancing supply chain integration. This is expected to foster mutual growth and prosperity for both nations.
- **Strategic Importance:** For New Zealand, India represents a growing market with significant potential due to its large population and expanding middle class. For India, New Zealand offers opportunities in agricultural imports and technology transfer.
- **Cultural Linkages:** The Indian diaspora in New Zealand, numbering over 250,000 people, provides a strong cultural bridge that can be leveraged to strengthen trade relations further.

Challenges in Negotiations

1. **Tariff Disparities:**
   o India's average tariff rate is 17.8%, compared to New Zealand's 2.3%. This disparity poses challenges in achieving balanced outcomes.
   o Indian exporters already enjoy duty-free access to many products in New Zealand due to its low tariffs.

2. **Agricultural Sensitivities:**
   o Key sticking points include tariff concessions on agricultural products like dairy (milk powder, cheese), apples, kiwifruit, lamb meat, and wine.
   o India has historically been reluctant to offer significant concessions on dairy products in FTAs with other partners like Japan or ASEAN nations.

3. **Trade Balance Concerns:**
   o Trade experts argue that the FTA may not significantly benefit Indian exporters as many products already enjoy duty-free access in New Zealand.
   o Conversely, opening up India's markets could lead to an influx of agricultural imports from New Zealand, potentially impacting domestic farmers.

4. **Geopolitical Priorities:**
   o India is currently prioritizing FTAs with larger economies like the UK and EU. This could limit the focus on concluding an agreement with New Zealand quickly.

Opportunities for Collaboration

1. **Diversification of Trade:**
   o Beyond traditional sectors like agriculture and textiles, both nations can explore opportunities in technology transfer, renewable energy collaboration, education services, and tourism.

2. **Strengthening Supply Chains:**
   o The FTA could enhance supply chain integration between the two countries, particularly in sectors like pharmaceuticals and electronics.

3. **Leveraging Regional Platforms:**
   o Both nations are active participants in regional forums like the East Asia Summit (EAS) and ASEAN Regional Forum (ARF). These platforms can be used to deepen economic ties.

Conclusion

The resumption of FTA talks between India and New Zealand is a positive step towards strengthening bilateral economic ties after a decade-long pause. While challenges such as tariff disparities and agricultural sensitivities remain significant hurdles, there is immense potential for collaboration across diverse sectors. A successful agreement would not only boost trade volumes but also deepen strategic ties between the two nations in an increasingly interconnected global economy.

Source: BBC

UPSC Mains Practice Questions

Q. India and New Zealand share strong diplomatic, economic, and cultural ties, yet their relationship remains underutilized in areas like trade, defense, and strategic cooperation. Analyze the potential areas for deeper engagement between the two nations and suggest policy measures to enhance bilateral relations.

[2.13] Elderly Immunisation: A Vital Shield Against Diseases

Syllabus: Health [GS Paper-2]

Context

The elderly population in India is rapidly increasing, with significant implications for public health. Vaccination emerges as a critical yet often neglected health measure that can substantially enhance the quality of life and longevity for older adults. Despite the absence of a dedicated national immunisation schedule for this demographic, there is an urgent need for proactive vaccination strategies to protect them from preventable diseases.

Understanding the Need for Vaccination in the Elderly

Vulnerability to Infectious Diseases: As individuals age, their immune systems undergo a process known as immunosenescence, which leads to increased susceptibility to infections and chronic diseases. This makes older adults particularly vulnerable to vaccine-preventable diseases such as influenza, pneumonia, and shingles. The Centers for Disease Control and Prevention (CDC) recommends several vaccines specifically for older adults, including:

- **Seasonal Influenza Vaccine:** Essential to reduce hospitalizations and deaths during flu seasons.
- **Pneumococcal Vaccine:** Protects against pneumonia, a leading cause of morbidity in the elderly.
- **Herpes Zoster Vaccine:** Reduces the risk of shingles and its complications, including postherpetic neuralgia.

Additional Health Benefits of Vaccination: Recent studies indicate that vaccinations may offer benefits beyond preventing infections. For instance, receiving the herpes zoster vaccine has been linked to a reduced risk of dementia by up to 28% over seven years. This suggests that vaccines may also play a role in enhancing cognitive health and reducing the incidence of chronic conditions such as cardiovascular diseases.

Current State of Adult Immunization in India

Lack of Awareness and Infrastructure: Despite the clear benefits of vaccination, awareness among both healthcare providers and the elderly about adult immunization remains alarmingly low. Over two-thirds of Indian adults are unaware that vaccines are necessary beyond childhood. Additionally, there is a lack of dedicated vaccination centers for adults, which further hampers access.

Challenges Faced

1. **Inadequate Access:** Adult vaccinations are not routinely available in public health facilities, limiting access for many elderly individuals.

2. **Fragmented Healthcare System:** The Indian healthcare system's fragmentation complicates the implementation of standardized vaccination programs across different regions.

3. **Economic Barriers:** The cost of vaccines often falls on individuals, making it difficult for those with limited financial resources to afford them.

4. **Vaccine Hesitancy:** Misinformation and misconceptions about vaccines contribute to hesitancy among older adults, further reducing vaccination rates.

Strategies for Improving Vaccination Coverage

- **Enhancing Awareness Campaigns:** Public health campaigns tailored to educate both older adults and healthcare professionals about the importance of vaccinations can significantly improve uptake. These campaigns should focus on dispelling myths surrounding vaccines and highlighting their benefits.

- **Integration with Existing Health Services:** Integrating adult vaccination services with other healthcare programs can improve accessibility. For example, linking vaccination efforts with maternal and child health initiatives might encourage more comprehensive health check-ups that include immunization.

- **Training Healthcare Professionals:** Ongoing training for healthcare providers is essential to ensure they are well-informed about recommended vaccines for older adults. This will enable them to counsel patients effectively on the importance of vaccinations.

- **Establishing Adult Vaccination Centers:** Creating dedicated adult vaccination clinics can streamline access to vaccines. These centers should be equipped with proper storage facilities and trained staff to administer vaccines safely.

Conclusion

Promoting immunization among the elderly in India is crucial not only for preventing vaccine-preventable diseases but also for enhancing overall public health outcomes. While challenges remain, concerted efforts from government bodies, healthcare providers, and community organizations can lead to improved vaccination rates among older adults. By fostering awareness, integrating services, and establishing dedicated facilities, India can significantly advance its public health agenda and protect its aging population from preventable diseases. The time has come to prioritize adult immunization as a vital component of healthcare policy in India, ensuring that older adults receive the protection they deserve throughout their lives.

Source: The Hindu

UPSC Prelims Practice Question

Q. Consider the following statements regarding immunisation:
1. **Active immunity is acquired when a person receives ready-made antibodies from an external source.**
2. **Passive immunity provides immediate but short-term protection against diseases.**

3. The Universal Immunisation Programme (UIP) in India includes vaccines for diseases like tuberculosis, polio, and measles.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2, and 3

Ans. - B

[2.14] Appointment process of CAG

Syllabus - Governance [GS Paper-2]

Context

The Supreme Court is analyzing a plea challenging the only prerogative of the Centre, appearing by the President, to appoint the Comptroller and Auditor General of India.

Key Highlights

- There is an issue that the government-controlled appointment method of CAG violates the Constitution.
- The executive can exert control over the CAG's independence, thereby undermining its function as a neutral, objective watchdog.
- Recent issues with the CAG's work were highlighted which include delays in audits, a decline in Union government audits, and allegations of corruption in recruitment.
- The project has arisen amid recent CAG reviews that uncovered irregularities in public fund control, along with those associated with Delhi's excise policy and Uttarakhand's Compensatory Afforestation Fund Management.
- These reviews have additionally led to tensions between the CAG and the government, mainly concerning the timing and presentation of news.

Comptroller and Auditor General (CAG) of India

- The CAG plays a crucial function in overseeing economic responsibility of the Union, State governments, and Panchayati Raj institutions.
- **Constitutional provisions:**
  - **Article 148:** The CAG is appointed by the President and can only be removed in the identical manner as a Supreme Court judge.
    - The salary, allowances, and conditions of service of the CAG are determined by Parliament and can not be modified to their disadvantage once appointed.
    - The CAG is ineligible for any similar office after leaving the location.
  - **Article 149:** The CAG is responsible for auditing the money owed of both the Union and the States, as prescribed through regulation.
    - It maintains the obligations formerly held by the Auditor-General of India before the Constitution's enactment.
  - **Article 150:** The shape in which debts of the Union and States are stored is prescribed by the President, based on recommendation from the CAG.
  - **Article 151:** The CAG's audit reviews on Union bills are submitted to the President, who ensures they may be laid before Parliament.

- For country money owed, the reports are submitted to the respective Governor and laid before the nation legislature.
  - **Article 279:** The CAG certifies the "net proceeds" of taxes and duties, and its certificate is final.

Proposed Reforms

- Proposals to cope with the tensions between the CAG and the executive include setting up a separate choice committee for the CAG.
- Setting time limits for the presentation of stories, and reforming the auditing shape to encompass a multi-member body.
- Additionally, critics have counseled that creating separate auditing bodies for states, as visible in federal countries like Australia and the US, might assist improve the device.
- There are also pointers that the President must hire the CAG in consultation with a non-partisan selection committee, comprising the Prime Minister, the Leader of the Opposition, and the Chief Justice of India.

Conclusion

- The CAG remains a critical organization in India's democratic framework, but addressing existing issues demands a balanced method that respects its constitutional mandate at the same time as ensuring its independence and effectiveness.

Source: [The Hindu](#)

Mains PYQ

1. "The Comptroller and Auditor General (CAG) has a very vital role to play." Explain how this is reflected in the method and terms of his appointment as well as the range of powers he can exercise. (2018)

- The Supreme Court is analyzing a plea challenging the only prerogative of the Centre, appearing by the President, to appoint the Comptroller and Auditor General of India.
- There is an issue that the government-controlled appointment method of CAG violates the Constitution.
- The executive can exert control over the CAG's independence, thereby undermining its function as a neutral, objective watchdog.
- Recent issues with the CAG's work were highlighted which include delays in audits, a decline in Union government audits, and allegations of corruption in recruitment.
- The project has arisen amid recent CAG reviews that uncovered irregularities in public fund control, along with those associated with Delhi's excise policy and Uttarakhand's Compensatory Afforestation Fund Management.

[2.15] Space docking and undocking capabilities of India

Syllabus - Space [GS Paper-3]

Context

Nearly two months after ISRO efficiently docked satellites in space, it finished an undocking process recently.

Key Highlights

- This makes India the fourth country after the United States, Russia, and China to illustrate space docking and undocking capabilities.
- To display this functionality, ISRO launched the experimental Spadex project on December 30, 2024.

About Space Docking

- Space docking is the procedure of bringing two fast-shifting spacecraft into the same orbit, progressively bringing them closer, physically joining them together.
- This is a tremendously complex maneuver requiring particular navigation, automatic control, and real-time adjustments.

Importance of Space Docking

- **Enabling Heavy Space Missions:** Large spacecraft can not be launched in one pass due to weight obstacles.
  - Docking permits modular spacecraft meeting in orbit, just like the International Space Station (ISS).
- **Critical for Future Human Spaceflight:** Essential for transporting astronauts & substances to India's deliberate space station by 2035.
  - Key to India's crewed lunar missions (by 2040) under Gaganyaan & future Moon missions.
- **Supports Lunar Sample Return Missions:** Chandrayaan-4, India's future assignment to put back lunar soil and rock samples, will depend upon docking generation.
- **Advancing In-Space Servicing & Robotics:** Enables repairing, upgrading, and refueling satellites in orbit without launching new ones.

About India's Space Docking Experiment (SpaDeX)

- **Objective:** To display in-space docking, rendezvous, and undocking capabilities.
- **Satellites Used:**
  - **SDX01 (Chaser Satellite):** Actively approached and docked with the goal.
  - **SDX02 (Target Satellite):** Served as the docking module.
- **Launch Vehicle:** PSLV-C60
- **Orbit:** 470 km circular orbit
- **Developed with the aid of:** UR Rao Satellite Centre (URSC), Bengaluru, with help from different ISRO centers.
- **Post-Docking Applications**
  - **High-Resolution Imaging (SDX01):** Capturing Earth observation pictures.
  - **Multi-Spectral Payload (SDX02):** Monitoring natural resources and plants.

o **Radiation Monitoring (SDX02):** Studying space radiation to aid future human space missions.

Source: [The Indian Express](#)

- Nearly two months after ISRO efficiently docked satellites in space, it finished an undocking process recently.
- This makes India the fourth country after the United States, Russia, and China to illustrate space docking and undocking capabilities.
- To display this functionality, ISRO launched the experimental [Spadex project](#) on December 30, 2024.

[2.16] 9th Defence Policy Talks between India and Australia

Syllabus - International Relations [GS Paper-2]

Context

India and Australia held their 9th Defence Policy Talks in New Delhi.

Key Highlights

- **Enhanced Maritime Security & Interoperability:** Both countries agreed on expanded cooperation in maritime sector awareness and reciprocal data sharing and strengthening joint naval exercises along with AUSINDEX and Malabar.
- **Defence Industry & Science-Technology Collaboration:** Both sides discussed defence technology transfers, co-development, and co-production of military hardware and use of rising technologies.
- **Strengthening Strategic Partnership Beyond Bilateral Ties:** Alignment with regional and multilateral frameworks, including:
  - [Quad](#) (India, Australia, Japan, USA) – Strengthening Indo-Pacific security structure.

- o [ASEAN Defence Ministers' Meeting Plus](#) (ADMM-Plus) – Expanding local security dialogues.
- o [Indian Ocean Rim Association (IORA)](#) – Promoting maritime security and blue economy cooperation.

Significance of India-Australia Defence Partnership

- **Defence Engagement:** Australia and India have reinforced their defence ties since becoming Comprehensive Strategic Partners in 2020.
  - o Key milestones include the Mutual Logistics Support Agreement (2021).
- **Indo-Pacific Security & Maritime Strategy:** The Indo-Pacific region faces growing security challenges, along with China's assertiveness in the South China Sea.
  - o India and Australia, both maritime powers, are searching to enhance naval cooperation to ensure local balance.
- **Countering Emerging Threats:** Cybersecurity, space safety, and hybrid conflict processes have turned out to be foremost concerns. India and Australia are collaborating on defence technology innovations to counter those challenges.
- **Expanding Defence Trade & Industry Collaboration:** India's 'Make in India' initiative aligns with Australia's defence industry growth method, allowing mutual investments in:
  - o Missile structures and radar generation
  - o Unmanned aerial and naval systems
  - o Joint shipbuilding initiatives
- **Strengthening Strategic Autonomy & Diversifying Defence Ties:** Australia's increasing defence partnerships with India lessen its reliance on conventional allies like the USA and UK.
  - o India services from deeper Indo-Pacific alliances, complementing its ties with the US, France, and Japan.

Challenges in India-Australia Defence Cooperation

- **Aligning Defence Procurement & Industrial Capabilities:** Australia's defence enterprise has traditionally been more aligned with Western suppliers (USA, UK), making technology switch with India tough.
- **Bureaucratic & Policy Barriers:** Defence cooperation needs faster clearance for joint R&D projects and military logistics agreements. Differences in military doctrines and strategic priorities require stronger coverage coordination.
- **Navigating Regional Geopolitical Complexities:** Managing relations with China – Australia's beyond financial dependence on China creates challenges in completely aligning its Indo-Pacific method with India.

Source: [The Hindu](#)

Prelims PYQ

1. Consider the following countries: (2018)
1. *Australia*
2. *Canada*
3. *China*
4. *India*
5. *Japan*
6. *USA*

Which of the above are among the 'free-trade partners' of ASEAN?
(a) 1, 2, 4 and 5
(b) 3, 4, 5 and 6
(c) 1, 3, 4 and 5
(d) 2, 3, 4 and 6

Ans: (c)

- India and Australia held their 9th Defence Policy Talks in New Delhi.
- **Enhanced Maritime Security & Interoperability:** Both countries agreed on expanded cooperation in maritime sector awareness and reciprocal data sharing and strengthening joint naval exercises along with AUSINDEX and Malabar.
- **Defence Industry & Science-Technology Collaboration:** Both sides discussed defence technology transfers, co-development, and co-production of military hardware and use of rising technologies.

[2.17] Draft National Wildlife Health Policy (NWHP)

Syllabus - Governance [GS Paper-2]

Context
Five years after the Covid-19 pandemic, the Centre is reviewing a draft National Wildlife Health Policy (NWHP) to strengthen wildlife ailment surveillance and studies.

Key Highlights
- The policy proposes incorporated monitoring structures, new diagnostic laboratories, and more desirable studies efforts to track and prevent zoonotic diseases.
- Five years after the Covid-19 pandemic, the Centre is reviewing an average draft of the NWHP to decorate natural world ailment tracking and research.
- The policy proposes incorporated surveillance systems, new diagnostic labs, and move-sectoral collaborations to deal with zoonotic diseases risks.
- It aims to mitigate risks of natural world-foundation pathogens, like SARS-CoV-2, through improving early detection and reaction mechanisms.

Alignment with One Health Approach
- Over 60% of rising infectious diseases in people originate from animals.
- In this context, the NWHP aligns with the **National One Health Mission**, which integrates efforts throughout human, animal, and environmental health sectors.
- Monitoring wildlife, both inside the wild and in captivity, has turned out to be important for pandemic preparedness.

Bridging Information Gaps and Cross-Sectoral Coordination
- Currently, wildlife disease surveillance is fragmented throughout ministries and independent studies efforts.
- The policy aims to integrate facts from the Ministry of Environment, Ministry of Agriculture, and Department of Animal Husbandry to ensure better coordination.

Establishment of Wildlife Health Databases

- The policy proposes a National Wildlife Health Database and a Wildlife Health Information System to centralize actual-time and ancient statistics.
- These will complement present systems just like the National Animal Disease Referral Expert System to be expecting and save you outbreaks.

National Referral Centre for Wildlife (NRC-W)

- Zoonotic diseases account for 60% of emerging infectious diseases global, with 72% originating from wildlife.
- India has experienced several localized but high outbreaks, which includes Kyasanur Forest Disease and Nipah virus.
- These incidents highlight the pressing need for efficient disease monitoring in wild animal populations and continuous health surveillance of captive wild animals in zoological institutions throughout the country.
    - Against this backdrop, Centre has established the NRC-W.
- The NRC-W has been established in Junagadh, Gujarat.
    - The Central Zoo Authority (CZA) under the Union Environment Ministry has organized blueprints for its development, that specialize in emerging infectious diseases, natural world ailment surveillance, and outbreak control.
- **Need for NRC-W:** Addressing Zoonotic Threats
    - The status quo of NRC-W is important due to the growing emergence and re-emergence of zoonotic diseases.
    - Out of 1,407 human pathogens, 816 are zoonotic, posing a significant health risk.
    - NRC-W will fortify disorder detection, studies, and secure handling of animals, stopping spillovers from wildlife to humans.

Advanced Research and Surveillance Facilities

- NRC-W can be prepared with the recent investigation and surveillance technology to detect diseases in both animals and people.
- It can even support skill-based education, records analytics, and policy development to decorate wildlife health control.
- NRC-W will bridge the space among wildlife health, human health, and farm animals packages, ensuring a holistic approach to One Health.

Collaborative Approach for Wildlife Health

- NRC-W will work in collaboration with national and international institutes.
- The CZA will act as the nodal corporation, ensuring coordination among zoos and wildlife health packages across India.

Source: The Indian Express

Prelims PYQ

1. *If a particular plant species is placed under Schedule VI of the Wildlife Protection Act, 1972, what is the implication? (2020)*

(a) A licence is required to cultivate that plant.

(b) Such a plant cannot be cultivated under any circumstances.

(c) It is a Genetically Modified crop plant.

(d) Such a plant is invasive and harmful to the ecosystem.

Ans: (a)

- Five years after the Covid-19 pandemic, the Centre is reviewing a draft National Wildlife Health Policy (NWHP) to strengthen wildlife ailment surveillance and studies.
- The policy proposes incorporated monitoring structures, new diagnostic laboratories, and more desirable studies efforts to track and prevent zoonotic diseases.
- Five years after the Covid-19 pandemic, the Centre is reviewing an average draft of the NWHP to decorate natural world ailment tracking and research.
- The policy proposes incorporated surveillance systems, new diagnostic labs, and move-sectoral collaborations to deal with zoonotic diseases risks.

[2.18] Need for Electoral Reforms in India

Syllabus: Governance [GS Paper-2]

Context

Electoral reforms are critical to ensuring the health and integrity of India's democracy. As the largest democracy in the world, India faces unique challenges in conducting free, fair, and transparent elections. This article explores the necessity of electoral reforms, the use of Electronic Voting Machines (EVMs), allegations of electoral roll manipulation, and the importance of publicizing criminal cases against candidates.

Why Are Electoral Reforms Necessary?

Electoral reforms aim to address structural flaws and ensure that elections are free from malpractice. The need for reforms arises from several challenges:

- **Politics is Serious Crime:** Many candidates contest elections even while facing serious criminal charges. This erodes public confidence in the democratic institutions.
- **Muscle and Money:** A real-time problem still exists with money and muscle power being used to influence voters.
- **Electoral Roll Manipulation:** Any allegations with respect to voters being either suppressed or duplicated erodes confidence in the electoral process.
- **Transparency in Political Funding:** Unaccountability in campaign financing raises the question of vested interests trying to gain illegitimate advantages.
- **Technological Advances:** For improving efficiency and transparency, it has been proposed to utilize technology like EVMs and linking Aadhaar with voter IDs.

Electoral reforms are essential for maintaining citizens' trust, ensuring true representation, and upholding democratic principles.

Electronic Voting Machines (EVMs) in India

India transitioned to EVMs for voting in 2004, replacing paper ballots. This shift was motivated by the need to reduce electoral fraud, counting errors, and logistical challenges associated with paper ballots. EVMs have been praised for their efficiency and reliability but have also faced criticism:

- Advantages:
- Faster vote counting.
- Reduced instances of invalid votes.
- Enhanced logistical convenience.
- Criticisms:
- Allegations of tampering and hacking by political parties.
- Lack of a verifiable paper trail in earlier versions.

To address these concerns, the Election Commission introduced Voter Verifiable Paper Audit Trail (VVPAT) systems alongside EVMs.

Allegations of Electoral Roll Manipulation

Opposition parties have frequently accused the Election Commission (EC) of manipulating electoral rolls. Common allegations include:

1. **Deletion of Legitimate Voters:** Claims that names of genuine voters are removed without proper verification.
2. **Bogus Voters:** Inclusion of fake or duplicate entries to favor certain parties.
3. **Aadhaar-Voter ID Linking:** While linking Aadhaar with voter IDs aims to eliminate bogus entries, critics argue it could lead to disenfranchisement due to data mismatches.

The EC has denied these allegations and emphasized its commitment to transparency. However, such accusations highlight the need for robust mechanisms to ensure accuracy in voter lists.

Should Criminal Cases Against Politicians Be Publicized?

The criminalization of politics is a grave concern in India. According to reports, a significant percentage of elected representatives face criminal charges. Publicizing these cases is essential for several reasons:

1. **Informed Voting:** Voters have the right to know about candidates' backgrounds before making their choice.
2. **Deterrence:** Wide publicity can discourage political parties from fielding candidates with criminal records.
3. **Accountability:** Public awareness pressures political parties to prioritize clean candidates.

In recent years, the Supreme Court has mandated that political parties disclose criminal cases against their candidates on their websites and through media platforms. However, implementation remains inconsistent.

Steps Taken for Electoral Reforms

Several measures have been introduced to address these challenges:

1. **Model Code of Conduct (MCC):** Enforced by the EC during elections to ensure fair practices.
2. **Disclosure Norms:** Candidates must declare their assets, liabilities, and criminal records while filing nominations.
3. **Voter ID with Photographs:** Introduced to prevent impersonation and bogus voting.
4. **Aadhaar-Voter ID Linking:** Proposed to clean up electoral rolls and eliminate duplication.
5. **Regulation on Paid News:** Efforts are underway to classify paid news as a corrupt practice punishable by law.

While these steps are commendable, more comprehensive reforms are needed for systemic change.

Challenges in Implementing Electoral Reforms

Despite efforts by the Election Commission and judiciary, several hurdles remain:

- **Political Resistance:** Parties often resist reforms that could limit their influence or expose malpractice.
- **Lack of Awareness:** Citizens are often unaware of their rights or the importance of clean politics.
- **Judicial Delays:** Cases related to electoral malpractices take years to resolve, diluting their impact.
- **Technological Risks:** While technology enhances efficiency, it also introduces vulnerabilities like hacking or data breaches.

Conclusion

Electoral reforms are indispensable for strengthening India's democracy. They ensure transparency, accountability, and fairness in the electoral process while addressing issues like criminalization, money power, and voter suppression. While progress has been made—such as the introduction of EVMs and stricter disclosure norms—challenges like political resistance and technological vulnerabilities persist.

Source: The Hindu

UPSC Mains Practice Question

Q. Critically analyze the need for electoral reforms in India. Discuss the key challenges in the electoral process and suggest measures to enhance transparency and fairness in elections. (250 words)

[2.19] Climate Change Impact on Wheat Production in India

Syllabus: Environment [GS Paper-3]

Context

India experienced its warmest February in 124 years, with the average temperature exceeding 22°C. This unprecedented heat, coupled with forecasts of above-normal temperatures and increased heatwave days in March 2025, poses significant challenges for winter crops such as wheat, India's second-most consumed staple after rice. Climate-induced heat stress during the maturation phase threatens wheat yields, particularly in regions where sowing was delayed

Effects of Climate Change on Wheat Yield

- **Temperature and Precipitation Variability**
  - Rising temperatures during the wheat-growing season have been identified as a major factor reducing yields. Studies show that wheat production decreases by approximately 8.38 million tons for every 1°C rise in average growing season temperature.
  - Regions that witness a seasonal maximum temperature over 27°C and a minimum temperature above 13°C become extremely vulnerable. Central and South-Central India are warmer and expected to suffer more than cooler regions.

- Altered precipitation patterns can interfere with the sowing schedule and irrigation practices, further aggravating yield losses.
- **Carbon Dioxide Fertilization:** Increased CO_2 can promote photosynthesis and increase actual yields. However, these benefits are frequently overtaken by heat stress and water deficiency. Hence, the net effect of CO_2 fertilization is very much dependent on the region.
- **Short-Lived Climate Pollutants (SLCPs):** Pollutants like black carbon and ozone directly hurt wheat plants. Research shows that the SLCPs caused a 36% reduction in wheat yield in 2010 from the potential yield had these pollutants not been allowed to emit.
- **Regional Vulnerabilities:** India's diverse climatic zones exhibit varied impacts of climate change on wheat production:
  1. **Indo-Gangetic Plains:** These regions are greatly affected by rising temperatures and humidity, thus lowering their tolerance for heat stress.
  2. **Central India:** Whereas minimum temperatures during the wheat-growing period are lower, maximum temperatures tend to be higher, resulting in low wheat yields.
  3. **Northern Hilly Regions:** Whereas for most other areas, higher temperatures appear to be conducive for wheat production due to colder climatic conditions prevailing here.
- **Projected Impacts:** Simulations predict significant yield reductions under different climate scenarios:
  - By 2050, wheat yields could decline by 6–23%, depending on emission levels.
  - By 2080, losses are projected to increase further, ranging from 15–25%. Late-sown areas are particularly vulnerable compared to timely-sown regions due to increased exposure to heat stress during critical growth stages.

Adaptation Strategies

Improved Agronomic Practices

1. **Timely sowing:** Converting late-sown areas into timely-sown regions can mitigate yield losses significantly.
2. **Efficient use of inputs:** Enhanced irrigation and fertilizer management can offset some negative impacts of climate change.

Climate-Smart Technologies

Advanced modeling techniques such as deep learning-based approaches (e.g., XGBoost, GRU) provide insights into region-specific factors affecting wheat yields. These technologies can help farmers make informed decisions about sowing times and input usage.

Conclusion

Climate change poses a severe challenge to India's wheat production, threatening food security and rural livelihoods. While adaptation strategies like timely sowing and efficient resource use offer hope for mitigating yield losses in the short term, long-term solutions require innovative approaches tailored to regional needs. Policymakers must prioritize sustainable agricultural practices and invest in climate-resilient technologies to safeguard India's wheat production against future climatic uncertainties.

Source: The Hindu

UPSC Prelims Practice Questions

Q. Consider the following statements regarding the impact of climate change on wheat production in India:

1. **Rising temperatures during the wheat-growing season can reduce grain yield.**

2. Increased CO_2 levels always enhance wheat productivity.
3. Extreme weather events like unseasonal rainfall and heat waves can affect wheat quality.

Which of the statements given above is/are correct?
(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2, and 3

Answer: (b) 1 and 3 only

[2.20] Digital Conservation of India's Heritage

Syllabus: Art and Culture [GS Paper-1], Governance [GS Paper-2]

Context

India holds a vast and diverse collection of tangible cultural heritage, encompassing monuments, sites, and antiquities from prehistoric times to the colonial era. While organizations like the Archaeological Survey of India (ASI), State Archaeology Departments, and INTACH have documented parts of this heritage, much remains unrecorded. The absence of a unified database poses challenges for research, conservation, and management. To address this, the National Mission on Monuments and Antiquities (NMMA) was launched to systematically document and digitize India's built heritage, sites, and antiquities. Through standardized documentation, training, and public awareness, NMMA aims to create a comprehensive national database to ensure the preservation of India's cultural legacy.

What is Digitization of Cultural Heritage?

Digitization involves converting physical artifacts, manuscripts, monuments, paintings, and other cultural elements into digital formats. This process includes the use of high-resolution imaging, 3D scanning, virtual reality, and artificial intelligence to archive and replicate cultural treasures for posterity.

Importance of Digitization in India

- **Preservation for Future Generations**: India's rich cultural heritage faces challenges such as natural decay, climate change, and human-induced threats like vandalism. Digitization provides a long-term solution to safeguard this invaluable heritage.
- **Accessibility and Awareness**: Through digitization, artifacts and monuments can be made accessible to a global audience. This fosters awareness and appreciation of India's rich history and traditions.
- **Disaster Resilience**: Digital archives act as backups against potential damage caused by disasters like earthquakes, floods, or fires.
- **Promotion of Tourism and Education**: Virtual tours of historical sites and museums can boost tourism and educate people about India's cultural legacy without the constraints of physical travel.

National Mission on Monuments and Antiquities (NMMA)

- **Establishment and Objectives:** Established in 2007, NMMA focuses on recording, digitizing, and preserving India's built heritage and antiquities. Its key objectives include:
  - Creating a national database for better management and research.

- o Standardizing documentation practices across institutions and universities.
- o Raising awareness about cultural heritage conservation.
- o Providing training programs for state departments, museums, NGOs, and local authorities.
- o Strengthening collaboration between ASI, state departments, and stakeholders.
- **Achievements of NMMA**
  - **Digitization of Antiquities:** 12,34,937 antiquities have been digitized, including 4,46,068 from ASI Museums/Circles/Branches and 7,88,869 from other institutions.
  - **Documentation of Built Heritage and Sites:** 11,406 sites and monuments have been recorded.
  - **Budget Allocation:** Rs. 20 lakh was allocated for NMMA in FY 2024-25.

Legal Framework for Heritage Preservation

- **Ancient Monuments and Archaeological Sites and Remains Act, 1958**
  - o The **Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958**, aims to preserve monuments and archaeological sites of national importance. It regulates archaeological excavations and protects sculptures, carvings, and historical objects.
  - o Under the AMASR Act, an **ancient monument** is any structure, cave, rock sculpture, inscription, or monolith of historical, archaeological, or artistic significance, existing for at least 100 years. It also includes:
    - The remains and site of an ancient monument.
    - Adjoining land required for its preservation.
    - Pathways for public or research access.
  - To expand documentation, NMMA considers any structure predating **1950** as historically significant.
- **Antiquities and Art Treasures Act, 1972**

  The **Antiquities and Art Treasures Act, 1972**, classifies cultural objects as:
  - **Antiquities:** Coins, sculptures, paintings, inscriptions, manuscripts, and objects at least **100 years old**, reflecting past science, art, religion, or politics.
  - **Art Treasures:** Significant artworks, not classified as antiquities, declared valuable by the Central Government.

Indian Heritage in Digital Space (IHDS) Initiative

The **Indian Heritage in Digital Space (IHDS)** initiative leverages digital technologies for heritage preservation, enhancing documentation with interactive experiences.

- **Objectives of IHDS:**
  - o Promoting research in digital heritage technologies.
  - o Establishing a **crowdsourcing platform** for public participation.
  - o Developing a **storage and curation framework** for multimedia heritage research.
- **Role of Digital Technologies in Heritage Preservation:** Advanced tools like **3D scanning, virtual reality (VR), artificial intelligence (AI), and computer vision** are revolutionizing heritage conservation. These technologies enable:
  - **High-resolution digital archives** of manuscripts, monuments, and artifacts.
  - **Virtual reconstructions** of damaged heritage sites.
  - **Interactive experiences** for education and tourism.
  - **Improved research capabilities** for historians, architects, and conservationists.

Conclusion

Digitization and systematic documentation are crucial for preserving India's cultural heritage. NMMA plays a vital role in standardizing heritage records, training professionals, and increasing public awareness. By integrating digital technologies and fostering collaborations, NMMA ensures that India's vast heritage is systematically documented and protected for future generations. A unified digital repository strengthens conservation efforts and reinforces India's cultural identity globally.

Source: PIB

UPSC Mains Practice Question

Q. Discuss the role of the National Mission on Monuments and Antiquities (NMMA) in preserving India's cultural heritage. How can digital technologies enhance heritage conservation efforts? (250 words)

[2.21] Standing Stones of Mudumal

Syllabus - History [GS Paper-1]

Context

Recently, the Standing Stones of Mudumal, located in Telangana's Narayanpet district, have been brought to the tentative list of UNESCO World Heritage Sites.

Key Highlights

- Mudumal Megalithic Menhirs (Standing Stones) are large status stones (aka menhirs), a few accomplishing heights of 10 to 14 ft, that were probably erected by prehistoric communities, organized in a sample.
- Located near the banks of the Krishna River.
- These stones are believed to have been used for funerary rites and astronomical observations, showcasing the superior information of celestial activities by prehistoric communities.
- This site is a significant remnant of the megalithic life in South Asia, dating back about 3500 to 4000 years.
- Archaeologists advise that those megaliths date back to 1000 BCE – 300 BCE, making them contemporary to the Iron Age cultures of South India.

Significance of Mudumal Menhirs

- **Astronomical Importance:** These menhirs are cautiously located to align with celestial occasions including solstices and equinoxes.
- **Cultural and Spiritual Relevance:** One unique menhir is worshipped as Goddess Yellamma, and the site is locally referred to as 'Niluralla Thimmappa' (Thimmappa of the Standing Stones).

Path to UNESCO Recognition

- The inclusion of Mudumal's Standing Stones in the UNESCO Tentative List is the first step towards accomplishing full World Heritage repute. The subsequent steps contain:

- o **Detailed Documentation & Research:** Further archaeological and ancient studies will give a boost to the nomination process.
- o **Government and Public Support:** The Indian government, at the side of the history conservation body, has to actively push for its reputation.
- o **UNESCO Evaluation:** Experts will examine the site's cultural and historical fee before making a final decision.

Megalithic Culture in India
- It is related to Neolithic and Iron Age societies that thrived between 1500 BCE and 500 CE, particularly within the Deccan Plateau.
- The standing stones in Mudumal align with comparable megalithic traditions discovered in different components of South India, including in Karnataka and Kerala.

Other Similar Sites in India
- **Hire Benekallu in Karnataka:** It is known for its huge collection of menhirs, dolmens, and cave artwork, earning a place at the UNESCO Tentative List in 2021.
- **Vibhutihalli in Karnataka:** It showcases a big square area of boulders organized in avenues, demonstrating solar alignments.
- **Nilgiri Dolmens in Tamil Nadu:** These contain dolmens, stone circles, cists, and petroglyphs.

Other Global Sites
- Stonehenge in England and the Carnac stones in France (those have already been identified by UNESCO).
- The biggest recognized menhir is the Grand Menhir Brisé in France, once standing at 20.6 m tall.

*Source: **The Indian Express***

Mains PYQ

1. *The rock-cut architecture represents one of the most important sources of our knowledge of early Indian art and history. Discuss. (2020)*

- Recently, the Standing Stones of Mudumal, located in Telangana's Narayanpet district, have been brought to the tentative list of UNESCO World Heritage Sites.
- Mudumal Megalithic Menhirs (Standing Stones) are large status stones (aka menhirs), a few accomplishing heights of 10 to 14 ft, that were probably erected by prehistoric communities, organized in a sample.
- Located near the banks of the Krishna River.
- These stones are believed to have been used for funerary rites and astronomical observations, showcasing the superior information of celestial activities by prehistoric communities.
- This site is a significant remnant of the megalithic life in South Asia, dating back about 3500 to 4000 years.

[2.22] Shaping of the Women Constituency in Indian Elections

Syllabus - Governance [GS Paper-2]

Context

Rajeshwari Deshpande's study, 'Shaping of the Women Constituency in Indian Elections: Evidence from the NES Data' analyses political participation of women in India.

Key Highlights

- **Voting Conduct & Agency:** Women's balloting patterns and decisions are regularly left out, with political events treating them as a homogeneous institution and not thinking about elements like caste, class, and religion.
- **Welfare Programs:** Political events often frame women as passive beneficiaries of welfare programs like Ujjwala and Pradhan Mantri Awas Yojana, reinforcing a based image.
- **Voting vs. Political Power:** Despite extended turnout, women's political participation stays restrained beyond voting.
- **Male Migration Impact:** In states with large-scale male migration, women's voter turnout has accelerated, particularly in socially and economically 'backward' areas.
- **State-Specific Voting Patterns:** In states with strong regional parties (e.g., Tamil Nadu, Kerala), women's decisions align more with local actions as opposed to national gender based developments.

Women's Political Participation in India

- Unlike many countries wherein the gender gap in political participation started narrowing in the Nineties, India noticed this shift best in the 2010s.
- In the 2019 trendy elections, woman voter turnout barely exceeded male voter turnout, with women making up 49.5% of the voters.
- In the 2024 Lok Sabha elections, women had a slightly higher vote casting share (65.8%) as compared to men (65.6%).
- Women, mainly in rural regions, are becoming more politically conscious, lively, and involved in village-level decision-making.

Global Goals

- Women's equal participation and control in politics are vital for attaining the Sustainable Development Goals (SDGs) via 2030.
- SDG 5 makes a speciality of gender equality and women's empowerment.
- Balanced political participation and power-sharing among men and women in decision-making is a key goal set in the Beijing Declaration and Platform for Action.

Factors Influencing Women's Political Participation

- **Socio-Cultural Norms:** Traditional gender roles and cultural expectations often limit women's public and political involvement.
- **Education and Literacy:** Higher literacy rates and education levels empower women to participate more actively in politics.
- **Economic Independence:** Women's team of workers participation and financial independence can improve their political corporation.`
- **Caste, Class, and Religion:** Women's political selections are formed by their caste, class, and religious identities, influencing their voting conduct and party affiliations.

- **Political Party Strategies:** The outreach and engagement of political events with women through centered guidelines or welfare schemes impact their participation.
- **Social Movements:** Women's involvement in social movements and activism can fortify their engagement in formal politics.
- **Regional and State-Specific Factors:** Regional political contexts, such as the power of local parties and issues specific to states, can form women's political conduct.

Conclusion
- The decentralization of governance which is taking place for the last decade has elevated the importance of measuring participation of women in decision making.
- Proper gender budgeting has already been labored out for inclusive growth of women.
- With more responsive statistics on women participation, better gender budget projects goal to move the country closer to a gender equal society.

Source: The Hindu

Mains PYQ

1. *What are the continued challenges for Women in India against time and space? (2019)*

- Rajeshwari Deshpande's study, 'Shaping of the Woman Constituency in Indian Elections: Evidence from the NES Data' analyses political participation of women in India.
- **Voting Conduct & Agency:** Women's balloting patterns and decisions are regularly left out, with political events treating them as a homogeneous institution and not thinking about elements like caste, class, and religion.
- **Welfare Programs:** Political events often frame women as passive beneficiaries of welfare programs like Ujjwala and Pradhan Mantri Awas Yojana, reinforcing a based image.
- **Voting vs Political Power:** Despite extended turnout, women's political participation stays restrained beyond voting.
- **Male Migration Impact:** In states with large-scale male migration, women's voter turnout has accelerated, particularly in socially and economically 'backward' areas.

[2.23] MAGA Effect Outside the US

Syllabus - International Relations [GS Paper-2]

Context
Donald Trump's competitive trade rules, specially the imposition of higher tariffs, have had global economic repercussions.

Key Developments Under Trump's Economic & Trade Policies
- **Tariff Impositions & Trade Wars:**
  - Imposed tariffs on China, the EU, Canada, and Mexico, leading to retaliatory measures.
  - Affected worldwide supply chains, economic growth, and market balance.
  - Increased costs for U.S. Purchasers and businesses, contributing to inflationary pressures.

- **Challenges to International Organizations:**
    - Reduced U.S. Contributions to the UN, and NATO.
    - Signed executives orders to withdraw from membership of the World Health Organization (WHO).
- **Withdrawal from Global Agreements:**
    - Signed govt order directing U.S. withdrawal from the Paris climate agreement — again.
    - Exited the Trans-Pacific Partnership (TPP), affecting trade alliances in the Indo-Pacific.
- **Impact on the U.S. Dollar & Inflation:**
    - Higher tariffs raised home expenses, impacting purchasing power.
    - Trade tensions led to fluctuations in global markets, affecting investor confidence.
    - Some countries explored opportunity trade settlements, elevating concerns about the U.S. Dollar's role as the global reserve forex.

India's Response

- Since 2016, India has raised tariffs and extended security measures, diverging from its earlier trend of decreasing import duties.
- Despite internal pressure, India maintained higher tariffs but is now reassessing its stance in reaction to Trump's trade guidelines.
- The Union Budget has decreased customs responsibilities on numerous gadgets, signaling a shift far from securities, aiming for higher trade relations with the U.S.
- Average customs obligations were decreased to 10.66% from 11.66%.
- Duty cuts on items inclusive of bourbon, high-end cars, and bikes are supposed mainly for Washington.
- The tariff cuts aim to address issues over India's high-tariff economy as global trade barriers upward thrust.

China's Consumption Push

- To counter the trade warfare with the U.S., China has brought a complete intake growth plan, marking the maximum significant regulations in over 40 years.
- The plan includes raising workers' income and improving domestic spending to shift from an export-pushed to a consumption-driven financial system.
- China aims to make people extra assured in spending, with the government concentrating on a round 5% boom.
- Analysts anticipate an additional stimulus in 2025 to mitigate the impact of U.S. tariffs.

Europe's stand

- European leaders are reacting to the U.S. hazard to withdraw security help, with Germany growing defense spending and putting in a 500-billion-euro infrastructure fund.
- Although the short-term impact on GDP is uncertain, those measures aim to reinforce Europe's security and economic growth.
- Some European countries are thinking about closer ties with Canada, in all likelihood with Canada joining the EU, as Trump's policies push Canada away.

Way Ahead

- **Expanding FTAs:** India has already signed key Free Trade Agreements (FTAs) with UAE, Australia, and ASEAN nations, and is negotiating offers with the United Kingdom, EU, and Canada.

- **Boosting Domestic Manufacturing:** The Production-Linked Incentive (PLI) scheme must be multiplied to help key sectors like electronics, prescription drugs, and green energy.
- **Promoting Agricultural & Service Exports:** Strengthening worldwide markets for Indian agriculture, textiles, IT, and prescription drugs.
- **Strengthening WTO's Role:** India ought to push for truthful change policies, specially for growing nations in the WTO.
- **Championing BRICS & G20 Economic Reforms:** India, as a key BRICS and G20 member, must lead discussions on de-dollarization, alternative payment mechanisms, and sustainable finance.
- **Reforming IMF & World Bank Voting Rights:** Advocating for more illustration of rising economies in financial decision-making.

Source: The Indian Express

Mains PYQ

1. *'What introduces friction into the ties between India and the United States is that Washington is still unable to find for India a position in its global strategy, which would satisfy India's National self-esteem and ambitions'. Explain with suitable examples. (2019)*

- Donald Trump's competitive trade rules, specially the imposition of higher tariffs, have had global economic repercussions.
- Imposed tariffs on China, the EU, Canada, and Mexico, leading to retaliatory measures.
- Affected worldwide supply chains, economic growth, and market balance.
- Increased costs for U.S. Purchasers and businesses, contributing to inflationary pressures.

[2.24] India-Netherlands Defence Partnership

Syllabus: International Relations [GS Paper-2]

Context
India and the Netherlands have been deepening their defence cooperation, reflecting a shared commitment to peace, stability, and prosperity. This partnership is driven by mutual interests in maritime security, technological innovation, and industrial collaboration.

Historical Context of India-Netherlands Relations
India and the Netherlands thus have a long history of diplomatic relations since 1947. This is also closely followed by extensive partnerships in other sectors from trade to clean energy and technology. There is currently a growing interest in defence cooperation, given the changing scenario in global security.

Key Developments in Defence Cooperation
High-Level Engagements
- In early February 2024, Indian Defence Minister Rajnath Singh and his Dutch counterpart Kajsa Ollongren met to discuss the enhancement of bilateral military cooperation. Talks touched upon the fostering of industrial cooperation and the involvement of Indian vendors into Dutch supply chains.

- The main message of the meeting manifested in themes about maritime security and defence manufacturing, suggesting growth in India's industrial ecosystem with respect to these sectors.

Focus on Maritime Security

- Considering its strategic importance to global trade and regional stability, maritime security in the Indian Ocean Region (IOR) has been paramount to both countries. The increasing engagement of the Indian Navy and the Royal Netherlands Navy illustrates the mutual commitment to this cause.
- India sees in the Netherlands a partner that shares its interests in strengthening maritime security with respect to the upgrade of naval capabilities, namely the induction of long-range missiles and enhancement of air defense.

Industrial Collaboration

- India has encouraged Dutch OEMs to cooperate with Indian defence industries, thereby aligning with the "Make in India" policy and self-reliance in defence production.
- The increase in defence budgets in the Netherlands—expected to exceed $20 billion by 2025—offers great potential for joint ventures and technology transfers related to autonomous systems, robotics, and advanced combat technologies.

Strategic Synergies

Technological Innovation

- Both nations have complementary advantages with regard to technology and innovation. The Netherlands is a front-runner in high-tech areas like semiconductors and clean energy that induce progress in defence technologies.
- India's growing ecosystem of defence startups, research institutes and all make it a potential field to nourish co-innovation.

Cybersecurity and Space

- As the country looks at space capabilities and Defence Cyber Command, these avenues for collaboration will focus on cybersecurity and satellite-based surveillance.
- Both critical areas address the growing gaps in dealing with such new threats as cyberattacks on critical infrastructure.

Challenges

1. Bureaucratic Hurdles: Streamlining processes for joint ventures remains a challenge.
2. Geopolitical Dynamics: Balancing partnerships with other nations while deepening bilateral ties requires careful diplomacy.

Future Prospects

The India-Netherlands defence partnership is poised for significant growth. Key areas of focus include:

- Expanding joint naval operations to ensure freedom of navigation in international waters.
- Collaborating on advanced technologies like artificial intelligence (AI) and unmanned systems.
- Strengthening supply chains to enhance resilience against global disruptions.

The commitment to dialogue through platforms like the Raisina Dialogue further reinforces the strategic alignment between the two nations.

Conclusion

The evolving defence partnership between India and the Netherlands reflects a shared vision for a secure and prosperous future. By leveraging their respective strengths, both nations can address common security challenges while fostering economic growth through industrial collaboration. As

they continue to deepen their ties, this partnership stands as a testament to the importance of international cooperation in an increasingly interconnected world.

Source: [AIR](AIR)

UPSC Mains Practice Questions

Q. Examine the scope for collaboration between India and the Netherlands in the fields of water management, climate change, and sustainable development. How can India benefit from Dutch expertise in these areas? (250 words)

[2.25] India's First PPP Green Waste Plant in Indore

Syllabus: Environment [GS Paper-3]

Context

Indore, recognized as India's cleanest city for seven consecutive years, is set to achieve another milestone in waste management by launching the country's first Public-Private Partnership (PPP) model green waste processing plant. This initiative aligns with the Swachh Bharat Mission-Urban (SBM-U) and aims to revolutionize waste management while promoting environmental sustainability.

Overview of the Green Waste Processing Plant

The plant is being set up in Bicholi Hapsi on about 55,000 square feet of land and will take up wood and branches from Indore to be processed into wood pellets, which can serve as a useful alternative to fossil fuels. The facility has been designed to accommodate 100 tonnes per day (TDP) capacity and would earn substantial revenue for the Indore Municipal Corporation (IMC) at Rs 3,000 per tonne royalty for supplying green waste.

Significance of the PPP Model

The plant is run along the PPP model, where the land is provided by IMC, transports green waste to the facility, and a private firm does infrastructure development, installation, and operation. The synergy between public entities and private sectors regarding sharing risks and expenses in efficient functioning would be further strengthened under the PPP model that promotes sustainable urbanization by invoking private proficiency in waste management.

Waste Processing and Products

The facility will recycle wood and branches gathered from different possible sources such as public gardens, institutional premises, and rural areas. The green waste, on the other hand, will also be collected separately for making compost, which includes leaves and flowers. While wood and branches will be further processed into wood pellets-the wood pellets made by crushing, drying, compressing, and heating the woods to activate lignin, a natural binding agent. Eco-friendly alternative to coal in industries such as National Thermal Power Corporation (NTPC)-reducing air pollution and energy conservation.

Environmental Impact

The initiative addresses multiple environmental challenges:

- **Reduction in Air Pollution:** By replacing coal with wood pellets for energy production.
- **Sustainable Waste Management:** Transforming green waste into valuable resources instead of landfill disposal.

- **Energy Conservation:** Promoting renewable energy alternatives.

Additionally, sawdust derived from green waste can be repurposed into biodegradable products such as disposable plates, furniture composites, and soil fertilizers. This enhances resource efficiency while reducing reliance on non-renewable materials like plastics.

Economic Benefits

The plant is expected to generate substantial economic benefits:
- **Revenue Generation:** IMC earns Rs 3,000 per tonne of processed material.
- **Employment Opportunities:** The facility creates jobs in waste collection, transportation, processing, and product distribution.
- **Cost Recovery for Contractors:** Private firms can sell biomass products to recover costs.

Challenges and Solutions

While the project is promising, certain challenges must be addressed:
- **Seasonal Variations in Waste Generation:** Green waste increases during autumn but remains lower during other seasons. To ensure continuous operation, IMC plans to collect waste from rural areas.
- **Infrastructure Requirements:** The private firm must ensure adequate sheds, electricity, water supply, and operational efficiency.

By adopting innovative solutions like compost pits for garden waste and expanding collection networks, these challenges can be mitigated effectively.

Alignment with National Goals

This initiative aligns with India's broader goals under the Swachh Bharat Mission:
- Promoting Garbage-Free Cities through advanced waste management systems.
- Supporting renewable energy production to reduce dependence on fossil fuels.
- Enhancing urban cleanliness and sustainability.

Moreover, Indore's success in implementing innovative waste-to-energy models has inspired replication efforts globally. Over 72 countries are studying Indore's strategies for potential adoption.

Conclusion

Indore's first PPP-model green waste processing plant marks a significant step toward sustainable urban development. By converting green waste into renewable resources like wood pellets and biodegradable products, the initiative not only addresses environmental concerns but also generates economic benefits. As India's cleanest city continues to lead in innovative waste management practices, this project sets a benchmark for other cities aiming to achieve sustainability under the Swachh Bharat Mission.

Source: The Print

UPSC Prelims Practice Question

Q. With reference to Green Waste, consider the following statements:
1. **Green waste primarily consists of biodegradable organic materials such as grass clippings, leaves, and food scraps.**
2. **It can be processed through composting and anaerobic digestion to produce bioenergy and organic fertilizers.**

3. Incineration is the most environmentally friendly method for managing green waste.

Which of the statements given above is/are correct?

(a) 1 and 2 only

 (b) 2 and 3 only

 (c) 1 and 3 only

 (d) 1, 2, and 3

Answer: (a) 1 and 2 only

[2.26] Kerala's Drug Menace: A Growing Crisis

Syllabus: Security Issues [GS Paper-3]

Context

Kerala, known for its picturesque landscapes and progressive social indicators, is currently grappling with a severe drug crisis. The escalation of drug abuse, particularly among the youth, has raised alarm bells across the state, leading to a significant increase in violence and social disintegration. This issue has not only captured the attention of local authorities but has also become a matter of national concern.

The Scope of the Drug Menace

- **Rising Statistics:** The statistics surrounding drug abuse in Kerala are alarming. In 2024, the state registered 24,517 cases under the Narcotic Drugs and Psychotropic Substances (NDPS) Act, marking a staggering 330% increase from previous years. The first month of 2025 alone saw around 2,000 new cases, indicating that the crisis is far from abating.

- **Shift in Drug Types:** Historically, Kerala was primarily associated with cannabis use; however, there has been a notable shift towards synthetic drugs such as MDMA and methamphetamine. Reports indicate that MDMA seizures have surged by over 65% in just one year. This shift poses new challenges for law enforcement and public health officials.

Factors Contributing to the Crisis

Geographic Vulnerability: Kerala's long coast makes it vulnerable to drug-trafficking. From here, there is easy access to drugs through major drug routes, including Bangalore and Chennai. Use of the dark web only adds to the appalling situation, whereby enforcement is made very complicated, granting traffickers a high degree of anonymity.

Social Dynamics: Rising drug consumption can be conceived through some social factors:

- **Youth Aspirations:** In the absence of job openings and opportunities for education, a lot of young people escape through drugs.

- **Cultural Influences:** Media glorifying violence and crime put drugs in an attractive light before impressionable youths.

- **Family Dynamics:** Many users come from broken homes where parenting is questionable. This absence of family support inadvertently gifts drugs to the angry young man.

Impact on Society

- **Drug-Driven Violence:** These effects extend well beyond personal health, as they spill over into violent activity within communities. The incidents of violence related to drugs have dramatically escalated. Family murder and spousal murder are examples where domestic events were associated with the addict's uncontrolled behavior.

- **School-Attending:** Drug abuse among the youth is reigning popular or within the schools. A report says that students below the age of 14 pedaled drugs, prompting preventive measures by the school and their parents such as increased surveillance and drug testing.

Government Response

- **Legislative Action:** Not only the ruling Left Democratic Front (LDF), but also the opposition United Democratic Front (UDF), is taking the issue seriously, given the escalation of the crisis. This issue has been repeatedly debated in the assembly and has made its way to demands for stricter laws to control narcotics in Kerala.
- **Anti-drug Campaigns:** Other campaigns launched by the government include Vimukthi, meant to spread awareness of substance abuse dangers and motivate rehabilitation initiatives. Yet critics cite that while they publicize active enforcement of the laws, actual efforts are directed to users and not to the largely unchallenged major traffickers.

Challenges Ahead

Need for Comprehensive Strategies: It is believed that in order to meaningfully fight this crisis, every strategy thus far outlined remains an integral necessity. These strategies will require:

- **Strengthening Law Enforcement:** A shift in focus should occur to help dismantle trafficking syndicates as opposed to continued prosecution of the user.
- **Community Involvement:** Involving families and communities in preventive tactics weighs heavily in favor of fostering an environment supportive of at-risk youth.
- **Mental Health Support:** Addressing any underlying mental health conditions contributing to substance abuse.

Future Outlook: As Kerala continues to confront this pressing issue, it is crucial that all stakeholders—government agencies, educational institutions, families, and communities—collaborate to create a cohesive strategy that not only addresses immediate concerns but also lays the groundwork for long-term solutions.

Conclusion

The escalating drug menace in Kerala presents a complex challenge that requires urgent attention. With rising statistics reflecting an alarming trend among youth and increasing instances of violence linked to substance abuse, it is imperative that comprehensive strategies are implemented. Only through coordinated efforts can Kerala hope to reclaim its status as a safe and progressive society free from the grips of narcotics.

Source: Pressreader

UPSC Mains Practice Question

Q. The menace of drug abuse poses a serious challenge to societal well-being and national security. Analyze the key factors contributing to the rise of drug abuse in India and suggest a multi-pronged strategy to combat this issue.

[2.27] Increased in spending for Healthcare sector in India

Syllabus - Health [GS Paper-2]

Context

The Union Health Minister J.P. Nadda, while addressing the Rajya Sabha, highlighted the government's policy shift closer to a complete and inclusive healthcare version under the National Health Policy 2017.

Background

- India's healthcare system has evolved from a healing method (post-disease remedy) to a preventive and holistic method (early detection and well being merchandising).
- **Key Milestones in Healthcare Development:**
  o **1946 –** Bhore Committee recommends regular healthcare.
  o **1983 –** First National Health Policy (NHP) prioritizes primary health.
  o **2005 –** National Rural Health Mission (NRHM) released.
  o **2017 –** National Health Policy (NHP) shifts awareness from curative to preventive healthcare.
  o **2018 –** Ayushman Bharat launched, marking a paradigm shift.
  o The World Health Organization (WHO) recommends that countries spend at the least 5% of GDP on healthcare.

Healthcare Sector of India

- **Healthcare Sector:** It comprises hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical system.
- **Public Sector:** It incorporates constrained secondary and tertiary care institutions in key cities and focuses on presenting fundamental healthcare facilities in the form of Primary Healthcare Centers (PHCs) in rural areas.
- **Private Sector:** The private sector provides the majority of secondary, tertiary, and quaternary care institutions with a major attention in metros, tier-I, and tier-II cities.
- **The Ministry contains:** The Department of Health and Family Welfare, that is responsible for imposing public health schemes and regulating scientific training,

Concerns with Low Public Expenditure on Healthcare

- **Limited Access to Healthcare Services:** Low public spending hampers accessibility to healthcare services, especially in rural and remote areas where infrastructure is already missing.
- **Neglected Preventive and Primary Care:** A large share of healthcare spending in India is directed towards tertiary care, neglecting preventive and primary healthcare services.
- **Higher Disease Burden:** Low public spending on healthcare contributes to a higher burden of preventable diseases including communicable diseases, malnutrition, and maternal and infant health issues.
- **Increased Out-of-Pocket Expenditure:** The lack of public healthcare infrastructure has led people to use private health services more, and that has accelerated the financial burden on citizens.

Recent steps Taken by the Government for Strengthening Healthcare Sector

- **National Health Policy 2017:** It outlines the government's vision to acquire the very best possible stage of health and well-being for all and emphasizes preventive and promotive healthcare.
- **Ayushman Arogya Mandirs:** 1.75 lakh health centers functioning with 369 crore visits.
- **National Digital Health Mission (NDHM):** Launched in 2020, NDHM aims to create a digital health environment, inclusive of health IDs for residents and the establishment of a national digital health infrastructure.
- **Health and Wellness Centers (HWCs):** The government is running in the direction of remodeling primary health facilities into HWCs to offer comprehensive primary healthcare services, including preventive and promotive care.
- **Pradhan Mantri Swasthya Suraksha Yojana (PMSSY):** PMSSY goals to enhance tertiary care capacities and support medical education within the country by setting up new AIIMS establishments and upgrading current government medical faculties.
- **Research and Development Initiatives:** The government has been encouraging studies and development in healthcare, including support for the improvement of vaccines, tablets, and medical technology.
- **National Medical Commission (NMC) Act:** The NMC Act, passed in 2019, aims to deliver reforms in scientific education and exercise by replacing the Medical Council of India (MCI) and selling transparency and duty.
- **Jan Aushadhi Scheme:** The Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) targets to offer high-quality standard drug treatments at low priced fees via Jan Aushadhi Kendras.

Way Ahead

- The COVID-19 pandemic had proven the cracks in India's health system and highlighted the need for expanded public investment in healthcare.
- Effective primary health care can prevent the prevalence of more critical health issues, that means that universal health effects may be advanced notably through investing in primary healthcare.

Source: The Indian Express

Mains PYQ

1. *"Besides being a moral imperative of a Welfare State, primary health structure is a necessary precondition for sustainable development." Analyse. (2021)*

- The Union Health Minister J.P. Nadda, while addressing the Rajya Sabha, highlighted the government's policy shift closer to a complete and inclusive healthcare version under the National Health Policy 2017.
- India's healthcare system has evolved from a healing method (post-disease remedy) to a preventive and holistic method (early detection and well being merchandising).

[2.28] Ramnath Goenka Awards

Syllabus - Governance [GS Paper-2]

Context

At the 19th edition of the Ramnath Goenka Awards for Excellence in Journalism awards ceremony, President Droupadi Murmu emphasized the essential role of journalism in maintaining democracy.

Journalism in Democracy

- Journalism is often called the 'Fourth Estate', because it acts as a watchdog, ensuring transparency, keeping power accountable, and supplying citizens with the information essential to make knowledgeable selections.
- In a democracy, the free flow of dependable records strengthens public discourse, permitting active citizen participation.

Historical Significance of Journalism

- **Colonial Era & Early Restrictions:** The British government enacted laws such as the Vernacular Press Act (1878) to cut back nationalist sentiments.
- **Exposing corruption:** Investigative journalism has uncovered scandals just like the Bofors rip-off, the 2G spectrum case, and the Vyapam scam.
- **Framing Legislations:** Newspapers and TV debates have stimulated key policies and legal reforms, which includes the Right to Information (RTI) Act.
- **Ensuring electoral integrity:** Media insurance of elections educates citizens about applicants, regulations, and political manifestos.

Functions of Journalism in a Democracy

- **Providing Accurate and Timely Information:** A well-functioning democracy depends on knowledgeable voters.
- **Acting as a Watchdog:** The media plays a critical position in preserving governments, groups, and institutions accountable.
- **Facilitating Public Debate and Opinion Formation:** Through editorials, debates, and opinion pieces, journalism provides a platform for numerous viewpoints, fostering a way of life of discussion and dissent—both essential for a wholesome democracy.
- **Educating Citizens:** Beyond information, journalism presents crucial evaluation of monetary regulations, health troubles, and international affairs, enabling people to understand complex subjects affecting their lives.
- **Defending Press Freedom and Human Rights:** A loose press is the foundation of any democracy. Independent journalism ensures that governments do not suppress dissenting voices, for this reason keeping democratic ideals.

Challenges inside the Modern Journalism Landscape

- **Fake News and Misinformation:** With the rise of social media, unverified and deceptive statistics spreads hastily, often influencing public opinion and electoral outcomes.
- **Political and Corporate Influence:** Media houses regularly face strain from political parties and company entities, leading to biased reporting. This undermines journalistic integrity and influences public trust.
- **Attacks on Press Freedom:** Journalists global face censorship, felony threats, and physical violence. In India, reports of intimidation and arrests under sedition laws have raised concerns about declining press freedom.

- **Financial Sustainability:** The transition to virtual media has disrupted traditional revenue models, making it tough for impartial information organizations to continue to exist without company or political backing.

Key Legislations

- **Press Council Act, 1978:** It established the Press Council of India to maintain journalistic ethics.
- **Right to Information (RTI) Act, 2005:** Enables reporters access to government records and promotes transparency.
- **Whistle Blowers Protection Act, 2014:** Provides protection to individuals (inclusive of journalists) who disclose corruption.
- **Cable Television Networks (Regulation) Act, 1995:** Regulates content broadcast on TV channels to ensure responsible reporting.
- **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021:** Introduces content regulation for digital news media.
- **Defamation Laws (Indian Penal Code Sections 499 & 500):** Often misused to suppress press freedom however also ensures accountability.

Way Forward

- **Legal Reforms and Press Freedom Protections:** strengthening the Press Council of India to act as a more effective watchdog.
- **Media Literacy & Ethics Training:** Encouraging ethical journalism through education applications.
- **Financial Independence & Sustainability:** Encouraging impartial journalism via offers and subsidies.

Source: The Indian Express

Mains PYQ

1. *What do you understand by the concept of "freedom of speech and expression"? Does it cover hate speech also? Why do films in India stand on a slightly different plane from other forms of expression? Discuss. (2014)*

- At the 19th edition of the Ramnath Goenka Awards for Excellence in Journalism awards ceremony, President Droupadi Murmu emphasized the essential role of journalism in maintaining democracy.
- Journalism is often called the 'Fourth Estate', because it acts as a watchdog, ensuring transparency, keeping power accountable, and supplying citizens with the information essential to make knowledgeable selections.
- In a democracy, the free flow of dependable records strengthens public discourse, permitting active citizen participation.

[2.29] Incentive scheme to promote low-value BHIM-UPI transactions

Syllabus - Economy [GS Paper-3]

Context

The Union Cabinet, chaired by the Prime Minister has accredited an incentive scheme to promote low-cost BHIM-UPI transactions (Person-to-Merchant – P2M) for the financial year 2024-25.

Key Highlights

- **Incentive Structure:**
  - 0.15% per transaction incentive for small merchant transactions as much as ₹2,000.
  - Incentive distributed among Acquiring Bank, Issuer Bank, Payment Service Provider Bank, and App Providers.
- **Objectives:**
  - Promote the indigenous BHIM-UPI platform.
  - Strengthen the indigenous BHIM-UPI platform and improve transaction volumes to ₹20,000 crore in FY 2024-25.
  - Promote characteristic phone-based UPI 123PAY & offline UPI Lite/LiteX for financial inclusion.
  - Encourage UPI adoption in Tier three to Tier 6 towns, specifically rural and remote areas.
- **Key Benefits:**
  - Zero cost UPI services for small traders.
  - Continues the Merchant Discount Rate (MDR) exemption brought in 2020 for UPI transactions.
  - MDR is the rate paid through merchants once they are given digital payment.

Unified Payments Interface (UPI)

- It is a sophisticated version of Immediate Payment Service (IMPS)- round–the-clock funds transfer service to make cashless payment quicker, less difficult and smoother.
- UPI is a system that powers multiple bank accounts into a single mobile application (of any participating bank), merging several banking functions, seamless fund routing & service provider payment into one hood.
- UPI is currently the biggest among the National Payments Corporation of India (NPCI) operated systems such as National Automated Clearing House (NACH), Immediate Payment Service (IMPS), Aadhaar enabled Payment System (AePS), Bharat Bill Payment System (BBPS), RuPay and so forth.
- The top UPI apps these days encompass PhonePe, Paytm, Google Pay, Amazon Pay and BHIM, the latter being the Government imparting.
  - As part of an agreement, India's UPI might be connected to Singapore's PayNow.
  - NPCI launched UPI with 21 member banks in 2016.

- **Achievements:**
  - Digital transactions via UPI recorded out of the ordinary growth during the pandemic year 2020-21 and several countries have evinced interest to examine from Indian experience in order that they may replicate the version.

- The fee of transactions made using the UPI crossed USD 100 billion in a month for the first time in October, 2021 as per data from the NPCI, in addition cementing its function as India's most famous digital payment system.
- India's virtual payments industry is in all likelihood to develop from Rs. 2,153 trillion at 27% Compounded Annual Growth Rate (CAGR) to Rs. 7,092 trillion by 2025.
- The increase is likely to come on the lower back of strong use cases of merchant payments, government rules along with Jan Dhan Yojana, personal data protection bill along with the increase of MSMEs, boom of millennials and excessive telephone penetration.

- **Challenges:**
  - The threat of cybercrime in the international banking and financial services industry has increased amid the coronavirus pandemic.
    - E.g., Malicious Software Cerberus
  - Fraudulent claims, chargebacks, faux purchaser debts, merchandising/coupon abuse, account takeover, identification robbery, card element robbery and triangulation frauds are rising as challenges.

Source: The Indian Express

The Union Cabinet, chaired by the Prime Minister has accredited an incentive scheme to promote low-cost BHIM-UPI transactions (Person-to-Merchant – P2M) for the financial year 2024-25.
- **Incentive Structure:**
  - 0.15% per transaction incentive for small merchant transactions as much as ₹2,000.
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  - Strengthen the indigenous BHIM-UPI platform and improve transaction volumes to ₹20,000 crore in FY 2024-25.
  - Promote characteristic phone-based UPI 123PAY & offline UPI Lite/LiteX for financial inclusion.

[2.30] Roadmap for Sagarmala 2.0

Syllabus - Infrastructure [GS Paper-3]

Context
The 4th National Sagarmala Apex Committee (NSAC) Meeting was held under the chairmanship of Union Minister Sarbananda Sonowal to check the Sagarmala Programme and discuss the roadmap for Sagarmala 2.0.

Key Highlights
- **Introduction of Sagarmala 2.0:**
  - An upgrade of the Sagarmala Programme with a new consciousness on shipbuilding, restore, breaking, and recycling.
  - ₹40,000 crore budgetary help to drive clean investments.

- o Supports Maritime Amrit Kaal Vision (MAKV 2047) which aims to place India some of the global's top five shipbuilding countries.
- **Launch of Sagarmala Startup Innovation Initiative (S2I2):**
  - o Aims to reinforce Research, Innovation, Startups, and Entrepreneurship (RISE) in the maritime sector.
  - o Encourages green shipping, smart ports, logistics tech, shipbuilding, and coastal sustainpotential.
  - o Provides funding, mentorship, and industry partnerships for maritime startups.
- **Impact on India's Maritime Growth:**
  - o Coastal shipping increased by 118% in a decade.
  - o Inland waterway cargo rose by 700%.
  - o 9 Indian ports rank among the world's top 100, with Vizag in the top 20 container ports.

About Sagarmala Project

- The Sagarmala Programme changed into authorized by using the Union Cabinet in 2015 which aims at holistic port infrastructure development along the 7,516-km long shoreline via modernisation, mechanisation and computerisation.
- The imaginative and prescient of the Sagarmala Programme is to lessen logistics costs for EXIM (Export-Import) and domestic trade with minimal infrastructure investment.
- Sagarmala could improve India's product exports to USD 110 billion by 2025 and create 10 million new jobs (4 million in direct employment).
- The Ministry has commenced the bold Project of Sagarmala Seaplane Services (SSPS) with potential airline operators.

Components of the Sagarmala Programme

- **Port Modernization & New Port Development:** De-bottlenecking and potential enlargement of current ports and development of new Greenfield ports.
- **Port Connectivity Enhancement:** Enhancing the connectivity of the ports to the hinterland, optimizing cost and time of shipment movement via multi-modal logistics answers which include domestic waterways (inland water shipping and coastal shipping).
- **Port-connected Industrialization:** Developing port-proximate business clusters and Coastal Economic Zones to reduce logistics price and time of EXIM and domestic cargo.
- **Coastal Community Development:** Promoting sustainable development of coastal communities through potential development & livelihood technology activities, fisheries development, coastal tourism and so forth.
- **Coastal Shipping & Inland Waterways shipping:** Impetus to move cargo through the sustainable and environment-friendly coastal and inland waterways mode.

Source: The PIB

Mains PYQ

1. *Defining blue revolution, explain the problems and strategies for pisciculture development in India. (2018)*

- The 4th National Sagarmala Apex Committee (NSAC) Meeting was held under the chairmanship of Union Minister Sarbananda Sonowal to check the Sagarmala Programme and discuss the roadmap for Sagarmala 2.0.
- An upgrade of the Sagarmala Programme with a new consciousness on shipbuilding, restore, breaking, and recycling.
- ₹40,000 crore budgetary help to drive clean investments.
- Supports Maritime Amrit Kaal Vision (MAKV 2047) which aims to place India some of the global's top five shipbuilding countries.

[2.31] Heatwaves in India and Their Impact

Syllabus: Geography [GS Paper-1], Environment [GS Paper-3]

Context

Heatwaves are becoming increasingly frequent and severe in India, posing significant challenges to public health, agriculture, and infrastructure. The India Meteorological Department (IMD) has issued heatwave alerts for several regions, emphasizing the need for awareness and preparedness.

What is a Heatwave?

A heatwave is a prolonged period of excessively high temperatures, often accompanied by high humidity, that surpasses the usual climatic conditions of a region. According to the IMD:
- In plains, a heatwave is declared when the maximum temperature exceeds 40°C and is 4.5°C above normal.
- In hilly areas, it is declared when temperatures exceed 30°C with a similar deviation.
- Severe heat waves occur when the temperature rises more than 6.4°C above normal.

The World Meteorological Organization (WMO) defines heatwaves as periods of abnormally high temperatures lasting at least five consecutive days, with daily maximum temperatures exceeding the average by 5°C or more.

Causes of Heatwaves

1. **Meteorological Factors**:
   - High-pressure systems trap warm air near the surface, preventing heat dissipation.
   - Lack of cloud cover intensifies solar radiation.
2. **Climate Change**:
   - Rising global temperatures due to greenhouse gas emissions have increased the frequency and intensity of heatwaves.
   - Urban heat islands, caused by concrete structures and reduced vegetation, exacerbate the problem in cities.
3. **Geographical Factors**:
   - Regions like northern and central India are more prone to heatwaves due to their arid and semi-arid climates.

Impacts of Heatwaves

1. **Public Health**:
   - Heatwaves can cause heat exhaustion, heatstroke, and dehydration.
   - Vulnerable groups, including children, the elderly, and those with pre-existing health conditions, face higher risks.

- Prolonged exposure to extreme heat can lead to cardiovascular and respiratory issues.
2. **Agriculture**:
   - High temperatures reduce crop yields by affecting soil moisture and plant growth.
   - Livestock suffer from heat stress, impacting milk and meat production.
3. **Economy**:
   - Increased energy demand for cooling strains power grids.
   - Heatwaves disrupt labor productivity, particularly in outdoor sectors like construction and agriculture.
4. **Environment**:
   - Heatwaves exacerbate water scarcity and increase the risk of wildfires.
   - They also affect biodiversity, with many species struggling to adapt to rising temperatures.

Heatwave Preparedness and Safety Measures

1. **Government Initiatives**:
   - The IMD issues daily heatwave warnings and advisories.
   - Heat Action Plans (HAPs) have been implemented in several states to mitigate the impact of heatwaves.
2. **Individual Precautions**:
   - **Stay Hydrated**: Drink plenty of water and avoid alcohol and caffeinated beverages.
   - **Avoid Peak Heat Hours**: Limit outdoor activities between 12 PM and 3 PM.
   - **Wear Appropriate Clothing**: Opt for lightweight, light-colored, and loose-fitting clothes.
   - **Use Cooling Measures**: Use fans, air conditioning, or take cool showers to regulate body temperature.
3. **Community Measures**:
   - Establish cooling centers in public spaces.
   - Conduct awareness campaigns to educate people about heatwave risks and safety.

Conclusion

Heatwaves are a growing challenge in India, driven by climate change and urbanization. While immediate safety measures can mitigate their impact, long-term strategies are essential to build resilience against extreme heat. Public awareness, government initiatives, and community participation are key to addressing this pressing issue. By adopting sustainable practices and enhancing preparedness, India can safeguard its population and economy from the adverse effects of heatwaves.

Source: BS

UPSC Prelims Practice Question

Q. Consider the following statements regarding heatwaves in India:
1. **A heatwave is declared when the maximum temperature reaches 40°C or more in the plains and 30°C or more in hilly areas.**
2. **The India Meteorological Department (IMD) considers both temperature thresholds and deviations from normal to declare a heatwave.**

3. **Urban heat islands can intensify heatwave conditions in cities.**

Which of the statements given above are correct?
 (a) 1 and 2 only
 (b) 2 and 3 only
 (c) 1 and 3 only
 (d) 1, 2, and 3

Answer: (d) 1, 2, and 3

[2.32] Inter-State Child Trafficking Issues

Syllabus: Social Issues [GS Paper-2]

Context

Child trafficking remains a grave issue in India, fueled by poverty, lack of awareness, and inadequate enforcement of laws. In a significant breakthrough, the Rachakonda Police in Hyderabad recently dismantled an inter-state child trafficking racket, rescuing multiple infants and arresting several individuals involved in the illegal trade. This operation sheds light on the alarming scale of child trafficking and highlights the need for stringent measures to combat such crimes.

Details of the Operation

Rescue Efforts

The Rachakonda Police rescued 16 infants during a meticulously planned operation spanning Telangana and Andhra Pradesh. These children were reportedly procured from impoverished families in Delhi, Pune, and other states and sold to childless couples for amounts ranging from ₹1.8 lakh to ₹5.5 lakh.

Arrests Made

The police arrested 27 individuals, including adoptive parents and members of the trafficking network. Among those apprehended were key figures such as:

- An ex-ASHA worker from Malakpet
- A mediator from Nagpur
- A lab technician at Gandhi Hospital
- The owner of a marriage bureau in Ghansi Bazaar, Hyderabad
- A businessman from Abdullapurmet.

These individuals played diverse roles in sourcing, transporting, and selling infants.

Modus Operandi

The traffickers operated through an organized network across multiple states:

1. Procurement: Infants were sourced from vulnerable families under false pretenses or coercion.
2. Transport: Babies were shifted across states using air travel to avoid detection.
3. Sale: The children were sold to childless couples who sought to bypass legal adoption procedures.

Legal Framework and Charges

Applicable Laws

The arrested individuals have been charged under various provisions of Indian law:

- Indian Penal Code (IPC): Sections 370 (trafficking) and 372 (prohibiting sale or purchase of children for immoral purposes).
- Juvenile Justice Act: Provisions related to illegal adoption.

Challenges in Enforcement

Despite robust laws such as Article 23 and 24 of the Constitution and the Immoral Traffic (Prevention) Act, enforcement remains a challenge due to:

- Lack of coordination among states.
- Difficulty in tracing biological parents.
- Emotional bonds formed by adoptive parents with trafficked children.

Underlying Causes

Child trafficking thrives due to several socio-economic factors:

1. Poverty: Families sell children out of desperation for survival.
2. Demand for Quick Adoption: Legal adoption processes are lengthy and complex, leading couples to opt for illegal means.
3. Lack of Awareness: Vulnerable families often fall prey to false promises made by traffickers.

Impact on Society

- **On Children:** The trafficked children undergo extreme physical and emotional trauma. They cannot avail of the opportunities of education, healthcare, and stable family environment.
- **On Society:** Child trafficking brings forth the fact that poverty is transferred from one generation to another; destroys the values of society, and instills distrust in legal systems preserving the vulnerable population.
- **Role of Law Enforcement:** With the Rachakonda Police operation, there has been an emphasis on the important aspect of proactive policing to curb child trafficking. Special teams were formed around the tracing of traffickers and the rescue of infants. Efforts are underway to track absconders and their biological parents.

Way Forward:

To effectively address child trafficking:

1. **Strengthen Legal Frameworks:** Simplifying the adoption laws reduces consumption demand for illegal practices.
2. **Enhance Coordination:** Strengthening the inter-state cooperation among law enforcement agencies.
3. **Raising Awareness:** There should be sensitization of vulnerable communities on possible effects of trafficking.
4. **Improved Rehabilitation:** Psychological support and settlement in safe environments for rescued children.

Conclusion

The recent bust by the Rachakonda Police highlights the pervasive nature of child trafficking in India and serves as a wake-up call for authorities to intensify efforts against this heinous crime. While the rescue of infants is commendable, sustained vigilance, legal reforms, and public awareness are crucial to eradicating this menace from society.

UPSC Mains Practice Question

Q. Discuss the root causes of child trafficking in India and analyze the effectiveness of existing legal frameworks in combating this issue. Suggest measures to strengthen child protection mechanisms.

[2.33] Shortcomings of Swadesh Darshan Scheme

Syllabus - Governance [GS Paper-2]

Context
Public Accounts Committee (PAC), led by K.C. Venugopal, criticized the Tourism Ministry for negative execution of the Swadesh Darshan scheme.

Key Highlights
- The panel was reviewing a report of the Comptroller and Auditor General on the scheme.
- Despite the Ministry of Tourism's claims of completion for most of the sanctioned projects, the panel determined vast discrepancies.

About Public Accounts Committee (PAC)
- **Constitutional Status:** Not a constitutional body; formed under Rule 308 of the Rules of Procedure and Conduct of Business in Lok Sabha.
- **Composition:** 22 members (15 from Lok Sabha, 7 from Rajya Sabha)
  - Elected yearly by ParliamentChairperson appointed by the Speaker of Lok Sabha.
  - The Chairperson is generally from the opposition party, not the ruling party.
- **Function:**
  - Examines audit reviews of the CAG of India
  - Scrutinises public expenditure to ensure it isn't always extravagant or abnormal
  - Ensures accountability of the Executive to the Legislature
  - Works in tandem with CAG to maintain fiscal discipline and transparency

Swadesh Darshan
- The Ministry of Tourism launched its flagship scheme of 'Swadesh Darshan' in 2014-15.
- The Ministry has now made it as Swadesh Darshan 2.0 with the objective to increase sustainable and accountable destinations following a tourist & destination centric approach.
- **Theme-Based Tourist Circuits:** It identifies diverse thematic circuits based on specific topics along with:
  - Spiritual circuits (e.g., Char Dham Yatra, Buddhist circuit)
  - Cultural circuits (e.g., North East Circuit, Tribal Circuit)
  - Heritage circuits
  - Wildlife circuits
  - Coastal circuits

- **Funding:** The Ministry of Tourism allocates budget to diverse states and Union Territories for the development of these circuits.

Key issues raised
- **Lapses in Planning:** No feasibility research performed before undertaking release.
- **Financial Mismanagement:** Budget overruns due to negative making plans; approvals granted without Detailed Project Reports (DPRs).
- **Weak Monitoring:** No formal mechanism for project assessment or approval; several projects not on time or incomplete.
- **Tourism Ministry's Claim vs. Reality:** The Ministry of Tourism claimed that 75 out of 76 projects have been completed, but the committee found that several initiatives, along with the Kanwaria path in Bihar, Tribal circuit in Telangana, and Sree Narayana Guru Ashram in Kerala, remained incomplete or non-functional.

Way Ahead
- The committee has advised the Ministry of Tourism to conduct physical inspections of all the projects and provide a whole report within 3 weeks.
- The committee also requested for info on how the scheme impacted employment generation and the way it affected tourist footfall, as those have been key signs of the scheme's success.

Source: ***The Hindu***

Mains PYQ

1. *How can the mountain ecosystem be restored from the negative impact of development initiatives and tourism? (2019)*

- Public Accounts Committee (PAC), led by K.C. Venugopal, criticized the Tourism Ministry for negative execution of the Swadesh Darshan scheme.
- The panel was reviewing a report of the Comptroller and Auditor General on the scheme.
- Despite the Ministry of Tourism's claims of completion for most of the sanctioned projects, the panel determined vast discrepancies.
- The Ministry of Tourism launched its flagship scheme of 'Swadesh Darshan' in 2014-15.
- The Ministry has now made it as Swadesh Darshan 2.0 with the objective to increase sustainable and accountable destinations following a tourist & destination centric approach.

[2.34] Contradiction Between High Per Capita Income and Poverty Levels

Syllabus - Economy [GS Paper-3]

Context
Recently, the Supreme Court of India Bench, led by Justice Surya Kant, raised concerns over contradiction in some states' claims of high per capita income even as a huge component in their population maintains to remain below the poverty line (BPL).

Key Highlights

- The court expressed the issue over the disparity between economic indicators and ground realities during a hearing on food security for migrant people.
- It puzzled how states could claim high per capita income whilst reporting as much as 70% of their population as BPL.
- It emphasized that such contradictions undermine the credibility of development claims and highlight systemic issues in the distribution of sources.
- The court also scrutinized the efficiency of backed ration schemes, wondering whether they genuinely attain the meant beneficiaries or serve as political tools.
- SC reiterated that access to food is a <u>fundamental right</u> under <u>Article 21</u> of the Constitution, and ensuring food safety for the negative is a constitutional responsibility.
- The Supreme Court referred to that corruption and mismanagement in the <u>Public Distribution System (PDS)</u> exacerbate the problem.

Per Capita Income in India

- <u>Per Capita Income (PCI)</u> is the average income earned consistent with character in a specific region over a given period. It is calculated as:
  - In India, per capita income are predicted by the <u>National Statistical Office (NSO)</u> and suggested yearly in the Economic Survey.

Defining Poverty in India

- Poverty is generally described as the lack of access to fundamental human needs which includes food, refuge, healthcare, and education.
- The **Tendulkar Committee (2009)** and **Rangarajan Committee (2014)** furnished different methodologies to estimate poverty.
  - **Tendulkar Committee:** It defined poverty based on expenditure on food and essential goods.
  - **Rangarajan Committee:** It counseled a higher poverty line, increasing the estimated wide range of vulnerable people. It endorsed a new poverty line of ₹972 per capita per month in rural regions and ₹1407 in urban areas for the year 2011-12.
- **Poverty Statistics:** per NITI Aayog's Multidimensional Poverty Index (MPI) 2023:
  - India's poverty rate declined from 29.17% (2013-14) to 11.28% (2023).
  - 415 million people have been lifted out of poverty between 2005-06 and 2019-21.
  - Bihar, Jharkhand, and Uttar Pradesh have the highest poverty quotes.

Reason For High Per-Capita Income & High Poverty Level

- **Wealth Concentration:** A high per capita income frequently reflects urban prosperity and business hubs as opposed to equitable wealth distribution.
- **High Cost of Living:** States with high Per Capita Income, including Goa and Kerala, also have high living costs, making it tough for lower-income corporations to have the funds for necessities.
- **Agricultural Distress:** States like Punjab and Tamil Nadu have strong GDPs however be afflicted by agrarian crises, leaving rural populations in monetary misery.
- **Informal Sector Dominance:** A big part of the workforce in high-PCI states works in casual sectors, incomes low wages and lacking social safety.
- **Ineffective Welfare Implementation:** Many government welfare schemes fail to reach meant beneficiaries due to:
  - Corruption and Mismanagement;
  - Outdated Data;

Way Forward

- **Targeted Welfare Schemes:** Expanding direct cash transfers and food security projects for lower-income groups.
- **Employment Reforms:** Strengthening social security for informal workers and promoting skill-based employment opportunities.
- **Decentralized Economic Growth & Empowering Local Governance:** Encouraging rural entrepreneurship to balance income ranges across regions.
- **Updating Data Systems:** There is an urgent need to reform PDS, the usage of generation and ensure higher beneficiary focus.
- **Strengthening Taxation Policies:** Imposing wealth taxes or modern taxation to improve wealth redistribution.
- **Strengthening Transparency:** There is a need for impartial audits, transparent data collection, and standardized poverty metrics.

*Source: **The Hindu***

Mains PYQ

1. *Though there have been several different estimates of poverty in India, all indicate reduction in poverty levels over time. Do you agree? Critically examine with reference to urban and rural poverty indicators (2015)*

- Recently, the Supreme Court of India Bench, led by Justice Surya Kant, raised concerns over contradiction in some states' claims of high per capita income even as a huge component in their population maintains to remain below the poverty line (BPL).
- The court expressed the issue over the disparity between economic indicators and ground realities during a hearing on food security for migrant people.
- It puzzled how states could claim high per capita income whilst reporting as much as 70% of their population as BPL.
- It emphasized that such contradictions undermine the credibility of development claims and highlight systemic issues in the distribution of sources.

[2.35] PEPSU Muzhara Movement

Syllabus: History [GS Paper-1]

Context

The PEPSU Muzara Movement was a significant agrarian struggle in Punjab during the mid-20th century. It aimed to secure land ownership rights for tenant farmers, known as Muzhara, who had been exploited under the feudal system of landlords (biswedars) and princely rulers. This movement played a pivotal role in dismantling oppressive land tenancy systems and empowering marginalized farmers in the Patiala and East Punjab States Union (PEPSU).

Historical Background

The biswedari System

- Introduced by the Maharaja of Patiala in the late 19th century, the biswedari system established landlords (biswedars) as local authorities who controlled vast tracts of land.
- The original landowners were reduced to tenant farmers (Muzharas), forced to pay batai (half of their crop yield) to landlords.
- This system led to widespread exploitation, with farmers working under conditions akin to slavery, as their produce was passed on to landlords, the Maharaja, and British colonial authorities.

Early Resistance

- Tenant farmers began resisting this system during the 1920s through movements like Akali and Praja Mandal.
- The Riyasti Praja Mandal, formed in 1927 under Sewa Singh Thikriwala, organized tenants to stop paying batai and initiated protests against feudal oppression.

The Emergence of the Muzara Movement

Goals and Objectives

- The movement aimed to secure hereditary ownership rights for tenant farmers who had tilled the land for generations.
- It sought democratic reforms to abolish feudal practices and ensure equitable distribution of land.

Key Events

1. **1930s: Beginning of Resistance**
   - Farmers refused to surrender their crops to landlords and faced severe retaliation from feudal authorities.
   - Armed groups of 30–40 people emerged to protect tenant farmers from landlord attacks.

2. **1948: Post-Independence Struggles**
   - After Independence, PEPSU province was formed, comprising 784 villages under Patiala Riyasat.
   - The Maharaja ordered one-third of village lands to be allocated to landlords, sparking widespread protests.

3. **March 19, 1949: Kishangarh Incident**
   - At Kishangarh village in Mansa district, security forces clashed with protesting farmers, killing four farmers, a policeman, and a patwari (land revenue official).
   - This tragic event became a turning point in the movement and symbolized farmer resistance against feudalism.

Role of Leaders

Teja Singh Sutantar

- A revolutionary leader who played a key role in mobilizing tenant farmers during the movement.
- Sutantar was instrumental in organizing protests across villages and advocating for agrarian reforms.

Praja Mandal Leaders

- Sewa Singh Thikriwala, Bhagwan Singh Longowalia, and Jagir Singh Joga led grassroots efforts to unite tenant farmers against landlords.

Outcome of the Movement

Legislative Reforms

1. **PEPSU Tenancy Act (1952):**
   o Enacted by the Congress ministry following recommendations from an Agrarian Reforms Committee.
   o Allowed tenant farmers to become landowners by paying compensation equivalent to twelve times the annual land revenue.

2. **Abolition of biswedari System:**
   o The oppressive landlord system was dismantled, granting ownership rights to thousands of tenant farmers.

Impact on Farmers

- Farmers gained control over their lands, ending decades of exploitation and slavery-like conditions.
- The movement inspired subsequent struggles for agrarian justice in India.

Conclusion

The PEPSU Muzara Movement exemplifies how collective action can challenge entrenched systems of oppression. By securing land ownership rights for tenant farmers, it laid the foundation for agrarian reforms in post-Independence India. Its legacy continues to inspire movements advocating for social justice and equitable resource distribution.

Source: The Indian Express

UPSC Prelims Practice Question

Q. With reference to the PEPSU Muzara Movement, consider the following statements:

1. It was a peasant movement against the high land revenue demands of the British government.
2. The movement primarily took place in the princely state of Patiala and East Punjab States Union (PEPSU).
3. The Muzaras were tenant farmers who demanded land ownership rights.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2, and 3

Ans. - B

[2.36] India and Brazil: Leaders in Global Climate Action

Syllabus: International Relations [GS Paper-2]

Context

The upcoming COP30 climate conference, set to be held in Belém, Brazil, underscores the shifting dynamics of global climate leadership. With developed nations faltering in their commitments, countries like India and Brazil from the Global South are emerging as pivotal players in addressing climate change. Andre Correa do Lago, the COP30 President-Designate and former Brazilian ambassador to India, has emphasized the critical role these nations can play in advancing sustainable solutions.

The Global South's Leadership Potential

- **Challenges with Developed Nations:** The Global North has been traditionally ahead in climate negotiations but is being faulted currently for failing to keep up with financial and emission reduction commitments under the Paris Agreement; the void of leadership as seen with the U.S. exit from the agreement, with Europe currently preoccupied with defense priorities, has allowed for other countries such as India and Brazil to take a step forward.
- **Strengths of India and Brazil:** Both countries possess unique advantages:
    - **Scientific Expertise:** India and Brazil have very strong scientific institutions that can innovate new technologies for renewable energy and climate adaptation strategies.
    - **Vulnerable Populations:** Their enormous populations, a significant proportion of which are economically disadvantaged, give the nations a keen awareness of climate change's adverse effects.
    - **Commitment to Multilateralism:** Both countries have consistently participated in multilateral frames such as BRICS and BASIC, where they pushed for fair climate policies.

India's Role in Climate Action

- **Renewable Energy Leadership:** India has emerged as a global leader in renewable energy, particularly solar power. Initiatives like the International Solar Alliance (ISA) showcase its commitment to clean energy transitions. Despite its reliance on coal, India's advancements in solar and wind energy position it as a key player in reducing global emissions.
- **Equity Advocacy:** India has continuously raised its case for equity in climate negotiations. Prime Minister Narendra Modi made balanced economic development and environmental sustainability complementary to him and fair resource sharing for developing countries.
- **Hosting COP33:** This is reflected in India's offer to host COP33 at greater commitment on the global climate governance scene as aligned with India's goal-to-strengthen South-South Cooperation with Brazil.

Brazil's Vision for COP30

- **Implementation Focus:** Under Andre Correa do Lago's leadership, Brazil intends to ensure the implementation of commitments made at previous UN climate conferences. This also concerns the voids left by developed countries with respect to financial support and emission reduction.
- **Biodiversity on the Table:** The hosting of COP30 in Belém, in the Amazon region, indicates Brazil's intention to keep biodiversity, an aspect of sustainable development, in focus. The conference also seeks to encourage ecotourism and to inform the world about the importance of the Amazon in combating climate change.
- **Collaborating with India:** Brazil is looking to enhance its partnership with India through joint projects under such frameworks as ISA and the Coalition for Disaster Resilient

Infrastructure (CDRI). This collaboration ultimately aims at enhancing climate resilience all over the world.

Conclusion

India and Brazil's leadership at COP30 represents a significant shift toward empowering the Global South in climate governance. Their collaboration could pave the way for innovative solutions that address both development needs and environmental challenges. As Andre Correa do Lago aptly stated, these nations "understand the real world" better than developed countries due to their unique socio-economic contexts. By leveraging their strengths, they can inspire collective action against climate change while ensuring equity and inclusivity in global policies.

Source: The Hindu

UPSC Mains Practice Questions

Q. Discuss the role of India and Brazil in global climate negotiations, focusing on their potential to lead the Global South in climate action and the challenges they face in influencing international policies.

[2.37] India's Role as a Stabilizing Force in the Arctic

Syllabus : Governance [GS Paper-2], Economy [GS Paper-3]

Context

India's growing presence in the Arctic has been recognized as a stabilizing factor amidst rising geopolitical tensions, particularly between NATO countries and Russia. Russian Ambassador Denis Alipov recently emphasized India's constructive approach to Arctic affairs, contrasting it with the militarization and unilateral policies pursued by some Western nations. This article explores India's strategic, economic, and scientific interests in the Arctic and its role in fostering peace and cooperation in the region.

India's Strategic Interests in the Arctic
Countering NATO Militarization:
- The Arctic has become a focal point of global politics due to climate change, resource abundance, and emerging shipping routes. However, NATO's increased military activity has raised tensions.
- Russia views India's involvement as a counterbalance to NATO's confrontational approach, ensuring a more stable and cooperative environment.

Managing China's Influence:
- India seeks to counter China's growing presence in the Arctic under its "Polar Silk Road" initiative. By collaborating with Russia, India aims to prevent Beijing from dominating Arctic governance and resources.
- The Northern Sea Route (NSR) is critical for India to diversify trade routes and secure energy supplies without over-reliance on China.

Strengthening Strategic Autonomy:

- India's Arctic policy aligns with its broader goal of maintaining strategic autonomy by diversifying partnerships. Its non-aligned stance has been well-received by Russia, fostering trust and collaboration.

Economic Opportunities for India in the Arctic

Energy Security:

- The Arctic holds vast reserves of oil and gas, which are vital for India's growing energy needs. India has already invested $15 billion in Russian energy projects, securing a foothold in this resource-rich region.
- Collaborating with Russia allows India to ensure reliable energy supplies while reducing dependency on volatile Middle Eastern sources.

Trade and Connectivity:

- Melting ice caps are reshaping global shipping routes. While the NSR offers limited direct advantages for India, linking it with the International North-South Transport Corridor (INSTC) can reduce costs and enhance connectivity.
- The Chennai-Vladivostok Maritime Corridor further integrates India's trade network with Russia's Far East, potentially reducing travel time to Europe by two weeks.

Scientific Collaboration in the Arctic

Climate Research:

- Indian scientists are studying the Arctic's impact on South Asian monsoons, contributing to a deeper understanding of global climate dynamics.
- Collaborative research on atmospheric sciences, glaciology, and polar biology is being conducted through partnerships between Indian and Russian institutions such as the Indian National Centre for Polar and Oceanic Research.

Space Technologies:

- Space technologies play a crucial role in Arctic governance by enabling better communication, navigation, and resource management. India's space cooperation with Russia enhances its capabilities in this domain.

India-Russia Cooperation: A Strategic Partnership

Joint Development Initiatives:

- Russia has invited India to participate in Arctic projects, including energy extraction and infrastructure development along the NSR. This partnership strengthens bilateral ties while diversifying Russia's investor base away from China.
- A memorandum of understanding on NSR cooperation is under negotiation, focusing on cargo transit, polar navigation training for Indian sailors, and shipbuilding projects.

Balancing Geopolitical Dynamics:

- Both nations aim to maintain the Arctic as a zone of peace and stability. They oppose unilateral actions that disrupt multilateral governance frameworks like the Arctic Council.
- By aligning with Russia on Arctic issues, India enhances its influence in global geopolitics while promoting multipolarity.

Challenges and Way Forward

- **Rising Militarization:** NATO's militarization of the Arctic poses challenges to India's vision of sustainable development in the region. To address this, India must advocate for an inclusive security architecture that prioritizes cooperation over confrontation.

- **Expanding Infrastructure:** India's limited infrastructure in the Arctic needs enhancement. Utilizing Russian research stations and investing in polar shipbuilding can strengthen its operational capabilities.
- **Comprehensive Policy Framework:** While India's 2022 Arctic Policy emphasizes sustainability, it must incorporate geopolitical considerations to safeguard long-term interests. A balanced approach that integrates economic, scientific, and strategic objectives is essential.

Conclusion

India's constructive approach toward the Arctic positions it as a stabilizing force amidst rising tensions fueled by NATO militarization and great power rivalries. Its collaboration with Russia not only secures vital economic opportunities but also strengthens its strategic autonomy. By fostering peace, sustainability, and multilateral cooperation in the region, India is carving out a significant role for itself on the global stage.

Source: **The Hindu**

UPSC Prelims Practice Question

Q. With reference to India's engagement in the Arctic region, consider the following statements:

1. **India is a permanent member of the Arctic Council.**
2. **India's first Arctic research station is named Himadri.**
3. **The Northern Sea Route, which passes through the Arctic, can reduce shipping distance between Europe and Asia.**

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2, and 3

Answer: (b) 2 and 3 only