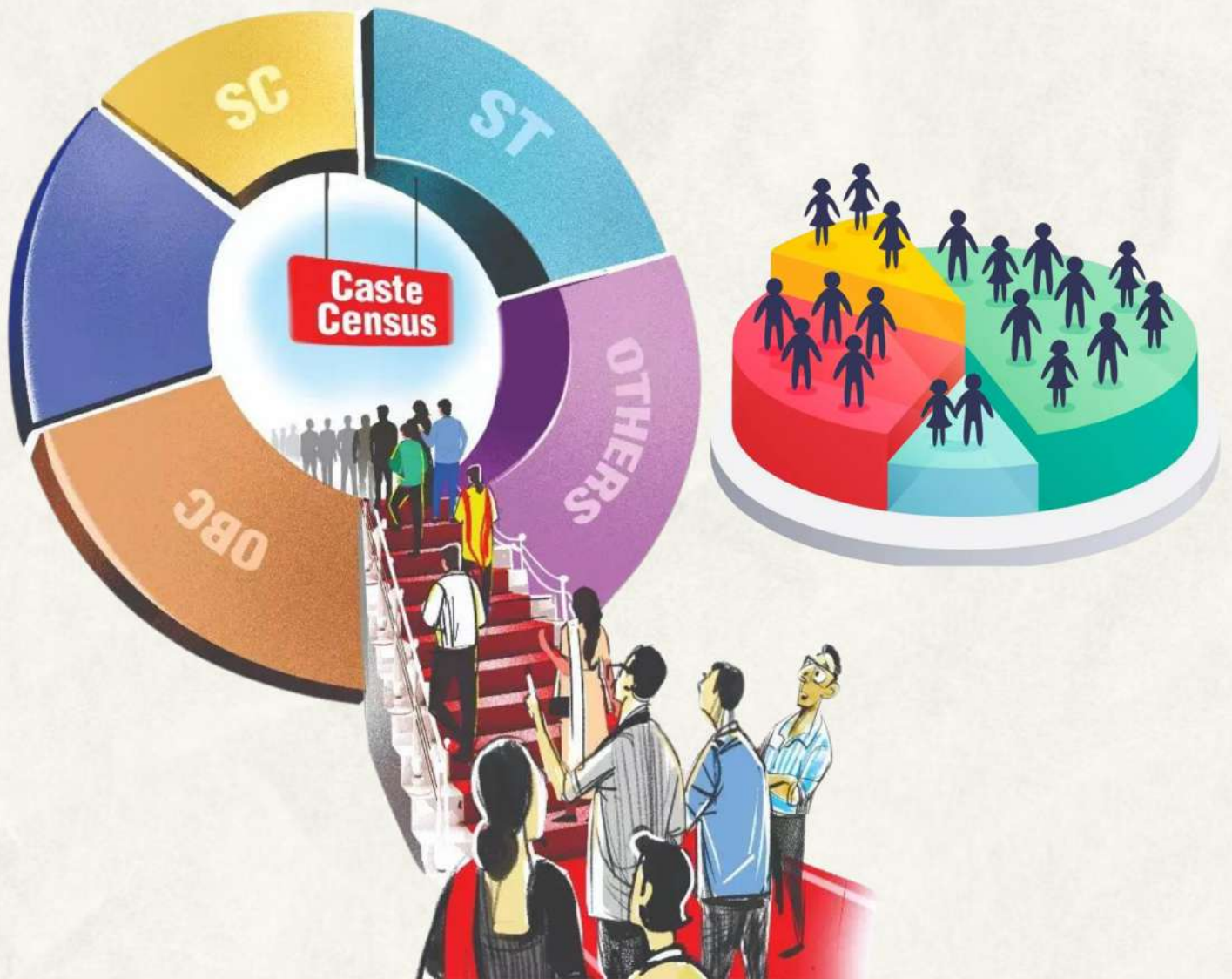# OFFICERS' PULSE

December 2024 (In Depth)

CURRENT AFFAIRS MONTHLY

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

Foreword

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

CONTENTS

1) CASTE CENSUS IN INDIA

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

Background

- India started counting its people in 1872. From 1952, the country also counted and published separate data on Scheduled Castes (SCs) and Scheduled Tribes (STs).
- India also publishes data related to the religions, languages and socio-economic status of its people.
- However, Caste census includes the caste-wise tabulation of India's population belonging to all castes, Other Backward Classes (OBCs), SCs and STs.
- The last caste census data was released in 1931. All our understanding of caste arithmetic is based on this exercise conducted some 90 years ago.
- Opposition parties say this is not acceptable, especially when caste is a crucial base for the formulation of multiple welfare schemes, amid fears that large sections of beneficiaries were being left out of government handouts.
- There have been calls from many avenues to include caste in the upcoming census.

Need of a Caste Census in India

- **Social imperative**: Caste continues to be a foundational social construct in India. Only about 5% of Indian marriages were inter-caste as of 2011-12.
    - The use of caste surnames and caste marks is still widespread. Residential segregation by caste persists.
    - Choices of candidates for elections and ministers for Cabinets continue to be dictated by caste considerations.
- **Legal imperative:** Constitutionally-mandated policies of social justice which include reservations in electoral constituencies, education and public employment cannot be pursued effectively without detailed caste-wise data.
    - Even though the Constitution uses the word class instead of caste, various rulings of the Supreme Court have held caste as a 'relevant criterion', 'sole criterion' or 'dominant criterion' for defining a backward class, and have demanded detailed caste-wise data for upholding reservation policies.
- **Administrative imperative:** Detailed caste-wise data is necessary to avoid/correct wrongful inclusions of undeserving castes and exclusions of deserving castes, and to guard against a few dominant castes in a reserved category crowding out others.
    - It is also needed for sub-categorising castes within a reserved category and to determine the income/wealth criterion for the creamy layer.
- **Moral imperative**: The absence of detailed caste-wise data has helped a group of elites, among upper castes and dominant Other Backward Classes (OBCs), to corner a disproportionate share of the nation's assets, incomes, and positions of power.

Challenges in conducting a Caste census

- **Upward Mobility Claims:** Individuals may report belonging to higher castes due to the perceived prestige associated with such affiliations. Historical records (e.g., between the 1921 and 1931 Censuses) indicate that some communities altered their caste claims for higher social status.
- **Downward Mobility Claims:** In current times there are greater chances for individuals to claim to belong to lower castes to access benefits such as reservations.
- **Complexity of Caste Classification:** The presence of similar-sounding caste names and surnames leads to confusion and misclassification.

- o For instance, in Rajasthan, surnames like 'Dhanak,' 'Dhankia,' and 'Dhanuk' are categorized as SC, while 'Dhanka' is classified as ST.
  - o In Bengal, 'Sen' refers to an upper caste, whereas 'Sain' is an OBC barber community.
  - o Enumerators may inadvertently misrecord information, further complicating classification.
- **Enormous Diversity of Castes:** The SECC 2011 identified over 46.7 lakh castes/sub-castes, with over 8.2 crore acknowledged errors. This diversity makes standardization and accurate classification a formidable challenge.
- **Sensitivity of the Topic:** Caste remains a sensitive and taboo subject in many parts of India. Respondents and enumerators may feel uncomfortable discussing it, leading to indirect methods of classification (e.g., relying on surnames) and increasing errors.
- **Potential for Data Errors:** Historical instances and recent controversies (e.g., the inclusion of 'hijra' and 'kinnar' in the Bihar Census of 2022) highlight the high likelihood of inaccuracies in caste data collection.

Way Forward

- The Caste census can be taken up with proper mechanisms to get credible data.
- Measures like enlisting sociological/anthropological experts to draw up a draft list of castes specific to each State, publish the draft list online, inviting suggestions and comments from the public before finalising it, and giving only that list to the enumerators can help.
- The questionnaire should be so designed as to ask the names of the sub-caste, caste, larger caste group, and the caste surname of the respondent. Internet-enabled hand-held devices and proper training for the enumerators can make the task easy and foolproof.

2) SIGNIFICANCE OF PRAGATI PLATFORM

(GS-II: Important Aspects of Governance, Transparency and Accountability, E-governance-applications, models, successes, limitations, and potential; Citizens Charters, Transparency & Accountability and institutional and other measures)

Background

- **PRAGATI (Pro-Active Governance And Timely Implementation)** is an Information and Communication Technology (ICT) based multi-purpose and **multi-modal platform** launched in 2015 by the Prime Minister's office (PMO).
- It is aimed at **addressing common man's grievances and simultaneously monitoring and reviewing important programmes** and projects of the Government of India as well as projects flagged by State Governments.
- It is also a robust system for bringing **e-transparency and e-accountability** with real-time presence and exchange among the key stakeholders.
- It also **promotes cooperative federalism** as it brings on one platform the Secretaries of Government of India and the Chief Secretaries of the States.

Significance of the platform

- **Timely Project Completion:** PRAGATI has helped fast-track over 340 major infrastructure projects worth approximately $205 billion, including long-delayed initiatives like the Chenab Bridge and Bogibeel Bridge.
- **Bottleneck Resolution:** By identifying and addressing challenges such as land procurement, regulatory delays, and inter-agency coordination, the platform has turned around stalled projects.
- **Leadership from the Top:** Direct oversight by the Prime Minister ensures that infrastructure development remains a national priority, fostering a culture of urgency and accountability.

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- **Inter-Agency Coordination:** The platform bridges the divide between central and state agencies, creating unprecedented cooperation across political and administrative boundaries.
  - It has effectively accelerated projects in states governed by different political parties, underscoring its unbiased focus on national progress.
- **Multi-Tool Platform:** It leverages video conferencing, drone feeds, and data management for real-time monitoring and problem-solving.
- **Social Development:** PRAGATI has catalysed progress in social programmes, such as rural electrification and the provision of tap water connections to millions of households, showcasing its utility beyond physical infrastructure.
- **Global Model for Development:** PRAGATI's success provides a template for emerging economies to accelerate infrastructure projects, reduce inefficiencies, and modernise governance.
  - Its principles can be helpful for large-scale, multi-stakeholder initiatives like Africa's Programme for Infrastructure Development in Africa (PIDA).

Conclusion
- Studies indicate a high return on infrastructure investments in India, with a gain of ₹2.5–3.5 in GDP for every rupee spent. PRAGATI's role in faster implementation of the schemes thus becomes important.
- PRAGATI supports India's ambition to become a developed nation by 2047.
- Not only India but the entire Global South can benefit from PRAGATI's combination of digital innovation and high-level coordination thus providing **a valuable model for accelerating development**.

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

Definition
- The **Right to Disconnect** refers to the right of employees to disengage from work-related communications, such as emails, phone calls, or messages, outside of official working hours.
- This right ensures that employees are not obligated to respond to their employers or participate in work-related activities during their personal time, promoting work-life balance and mental well-being.

Need for this right in India
- **Rising Workplace Stress:** A study by ADP Research Institute revealed that 49% of Indian workers report workplace stress negatively affecting their mental health. Prolonged stress leads to burnout, reduced productivity, and mental health challenges.
- **Excessive Working Hours:** Professional women in India often work over 55 hours per week, as highlighted in the report. This disrupts personal life, family time, and overall well-being, especially in sectors like IT, auditing, and media.
- **Mental Health Concerns:** Overworking impacts mental health and increases the risk of coronary diseases, as shown by Harvard Business Review research.
- **Legislative Gaps:** Unlike countries such as France, Portugal, and Australia, India does not have explicit laws addressing employees' right to disconnect.
  - Current laws and judicial precedents primarily emphasize dignity and safety at the workplace but lack provisions for work-life balance.
- **Impact on Productivity:** Research by the University of Oxford and British Telecom shows a strong link between employee happiness and productivity. Overwork reduces efficiency and harms business outcomes.

- **Marginalized Workers and Unorganized Sector:** Employees in marginalized and unorganized sectors face more severe exploitation, with excessive hours often being the norm.

Way Forward
- In 2018, MP Supriya Sule introduced a Private Member Bill in the Lok Sabha, which delineated the right to disconnect from work after working hours.
- In recent years, there has been no significant legislative effort to recognise employees' right to disconnect from work outside working hours or to impose a duty on employers to be mindful of employee well-being and avoid overworking them.
- In its march towards becoming the third largest economy by 2030, India must recognise that the right to disconnect will increase productivity and ensure the growth and well-being of both employees and employers.
- A proper legislation which covers not only formal employees but also informal employees should be made to ensure a good work-life balance for Indians. This has potential to improve the overall productivity of the nation.

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

Definition
- Universal Health Coverage (UHC) is a healthcare system framework ensuring that **all individuals and communities receive the health services they need.** including preventive, curative, rehabilitative, and palliative care, **without facing financial hardship.**
- UHC is supported by the principles of **equity, accessibility, affordability, and quality,** guaranteeing that health is a right for everyone, regardless of socio-economic status.

UHC in India
- **Ayushman Bharat** is a flagship scheme of Government of India launched to achieve the vision of **Universal Health Coverage (UHC)** by holistically addressing the healthcare system at the primary, secondary and tertiary level.
- Ayushman Bharat is an umbrella of two major health initiatives, namely **Ayushman Arogya Mandirs (AAM) and Pradhan Mantri Jan Arogya Yojana (PM-JAY).**
- **Ayushman Arogya Mandirs:** Under this component, the Government of India aims at creation of 1,50,000 Ayushman Arogya Mandirs (previously known as Health and Wellness Centres) by transforming the existing Sub Centres and Primary Health Centres.
  - These centres will deliver **Comprehensive Primary Health Care** that is universal and free to users, with a focus on wellness and the delivery of an expanded range of services closer to the community.
- **Pradhan Mantri Jan Arogya Yojana** is the largest **health assurance scheme** in the world which aims at providing a health cover of Rs. 5 lakhs per family per year for s**econdary and tertiary care hospitalization** to over 12 crores poor and vulnerable families.

Challenges to UHC in India
- **Insufficient Public Healthcare Spending:** India's public spending on health has consistently been below the WHO-recommended 3% of GDP, limiting the availability and quality of public healthcare services. Out-of-pocket expenses remain high, ranging from 45-54% of total health spending, contrary to the Sustainable Development Goal (SDG) target of 20%.
- **Human Resource:** There is a severe shortage of trained and skilled medical personnel, especially specialists at Community Health Centres (CHCs), where vacancies reach up to 80%.

- **Corporatisation and Commercialisation of Healthcare:** The growing influence of corporate and venture capital in tertiary healthcare facilities has driven up costs.
  - Profit motives result in excessive diagnostics, unnecessary procedures, and a lack of accountability, making healthcare unaffordable for many.
- **Inequities in Access and Quality:** While programmes like Ayushman Bharat aim to strengthen primary care and insure vulnerable populations, the perception remains that healthcare is expensive and inaccessible.
- **Weak Governance and Accountability:** Poor regulation and oversight of the private sector, combined with insufficient enforcement of laws and standards, hinder the delivery of affordable and quality healthcare.
  - A new practice of leasing district hospitals to private investors is further eroding public trust in the Government as a credible health service provider.
- **Neglect of Social Determinants of Health:** Effective UHC implementation requires addressing social determinants such as nutrition, clean water, sanitation, education, and income inequality. India's health strategy often neglects these factors, limiting long-term improvements in health outcomes.
- **Non Communicable diseases:** The reduction in communicable diseases means that 60 percent of mortality now is due to **non-communicable diseases**, the four leading causes being cardiac ailments, cancers, COPD and diabetes. These diseases are expensive to treat and require longitudinal attention.
  - These diseases are expensive to treat and require longitudinal attention. They are the results of sedentary lifestyles, rapid urbanisation, shifts in dietary habits, like increased intake of junk foods, alcohol, tobacco and other addictive substances, and the ageing of the population.

Way Forward

- **Public Health Expenditure:** Raising public health spending to at least 3% of GDP, (WHO recommendations) to ensure better resourcing of public facilities, reduce out-of-pocket expenditures, and enhance service delivery can be the starting step.
- **Strengthen Primary Healthcare Systems:** Building a comprehensive, community-based primary healthcare by enhancing infrastructure, ensuring the availability of essential medicines, and deploying family doctors and public health specialists. A robust primary care system can reduce hospitalisations and lower healthcare costs in the long term.
- **Address Social Determinants of Health:** Implement policies to improve nutrition, ensure safe drinking water, promote sanitation, provide universal education, and reduce income disparities. Strengthening these determinants is essential for achieving equitable and sustainable health outcomes.
- Given the paucity of budgetary resources, India has done relatively well. Several communicable diseases have been either eradicated or controlled. Maternal mortality and infant mortality have also shown impressive reduction. Building up on these measures can help India to move fast on the path towards UHC.

UPSC PYQ:

Public health system has limitation in providing universal health coverage. Do you think that private sector could help in bridging the gap? What other viable alternatives do you suggest? (2015)

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5) A CASE FOR 'ONE CANDIDATE ONE CONSTITUENCY'

(GS-II: Parliament and State Legislatures—Structure, Functioning, Conduct of Business, Powers & Privileges and Issues Arising out of these)

Background

- Under the **Representation of the People Act 1951 (RP Act 1951)**, there was **no limit on the number of constituencies a candidate could contest until 1996.**
- This resulted in candidates contesting from multiple constituencies, sometimes more than two, winning them and vacating all but one seat, in accordance with Section 70 of the same Act. This necessitated **by-elections frequently.**
- The Parliament **amended the Act in 1996** to limit the number of **constituencies** that a candidate can contest from, to **two**, with an aim of discouraging one candidate from contesting from multiple constituencies.
- Despite this, the practice has continued. The numbers are even more frequent in State Legislative Assembly elections, leading to frequent by-elections.
- There were 44 by-elections for State Assemblies in November 2024 due to the resignation of sitting legislators.
- This calls for introducing the idea of **'One Candidate, One Constituency' (OCOC)** to mandate one candidate to contest only in one constituency. This practice has become common in most European countries.

Need for OCOC

- **Saving Taxpayers money:** OCOC eliminates the need for by-elections, reducing the financial strain on taxpayers.
    - Based on the numbers of 2024 elections, the Government has to spend around 12.76 crore rupees in conducting elections for one Parliamentary constituency.
- **Reducing Expenditure by Political parties:** It also discourages excessive election spending by political parties, which is often linked to unaccounted money, leading to greater financial transparency.
    - According to the estimates by the Centre for Media Studies, ₹250 crore per constituency is spent by the political parties.
- **Ensuring a Level Playing Field:** The by-election necessitated by the vacation of a winning candidate within an initial six months tends to **favour the ruling party.** This is due to the fact that the ruling party can mobilise resources and provide patronage to party workers.

    - Such a scenario of a non-level playing field is skewed against the Opposition, which has negative implications for parliamentary democracy.
    - The financial burden of organising a by-election disproportionately falls on the already **defeated candidate and their party,** forcing them to spend resources once again.
- **Prioritizing People's Interests:** A single candidacy emphasizes the candidate's commitment to serving one constituency, focusing on voter concerns rather than political interests.
- **Preserving Electoral Integrity:** Restricting candidates to one constituency helps maintain clarity and faith in the electoral process, which may lead to greater voter participation in the election process.
    - By ensuring that elected representatives remain accountable to a single constituency, OCOC enhances meaningful representation.
- **Encouraging Responsible Leadership:** OCOC prevents leaders from contesting multiple constituencies as a self-serving strategy, thereby promoting genuine public service.

- **Strengthening Party Systems:** It shifts focus from individual leaders' dominance to party-based, collective leadership, fostering a healthier democratic process.

Way Forward

- **Amendments to RP Act 1951:** Amending Section 33(7) of the RP Act 1951 to ban one candidate contesting from multiple constituencies for the same office can be done.
  - The ECI, in 2004, recommended the government ban the practice of contesting multiple constituencies.
  - The 255th Law Commission report in 2015 made the same recommendation.
- **Recovery of Expenditure:** Recovering the full cost of by-elections from the candidate vacating a seat can serve to discourage candidates from contesting simultaneously.
  - The ECI recommended cost imposition on candidates contesting from multiple constituencies in 2004.
- **Delayed By elections:** A more effective deterrent would be to hold the by-elections after a year, allowing voters ample time to make an informed decision and giving the defeated candidate sufficient time to recover and prepare strategically for another contest.
  - This would also provide a more balanced and fair electoral process.
  - This could be done by amending Section 151A, Representation of Peoples Act 1951 which provides for by-election within six months of the occurrence of vacancy.
- The frequent need for by-elections takes time and money resources that could otherwise be better invested in the country's development.
- If "one person, one vote" is the core democratic principle for voters, it is time to enforce "one candidate, one constituency" for candidates.

6) CRITICAL MINERALS AND INDIA
(GS-I: Distribution of Key Natural Resources across the world (including South Asia and the Indian sub-continent); factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India))

Background

- There is no global definition of critical minerals, but essentially, they are mineral deposits with high economic vulnerability and high global supply chain risk.
- Globally, there is a gap between projected supply and projected demand for many critical minerals by the end of this decade, especially in **cobalt and lithium.**
- They are used for making EV batteries and are also critical for making semiconductors and high-end electronics manufacturing.
- These minerals are also used in manufacturing fighter jets, drones, radio sets and other critical equipment, hence it is critical for aerospace, communications and defence industries.
- As India seeks to expand its manufacturing and technological capability, critical minerals will become vital to fulfill this ambition.
- However, **India, a major critical mineral importer**, still depends on other countries, primarily China, for its mineral security, raising a cause of strategic concern.

Measures by India to access Critical Minerals

- **Building bilateral ties with resource-rich countries** such as Australia, Argentina, the United States, Russia, and Kazakhstan to secure the supply of lithium and cobalt is an important step by India.
  - India established the **Khanij Bidesh India Ltd. (KABIL)**, a joint venture company with a mandate "to ensure a consistent supply of critical and strategic minerals to the Indian domestic market".

- o The objective was to **achieve mineral security by securing agreements,** and acquisitions through government-to-government, government-to-business, and business-to-business routes.
  - o KABIL has set up agreements with Australia, Argentina, Chile, and Bolivia and Kazakhstan to secure supplies of critical minerals.
- **International Engagement** through multilateral or minilateral initiatives are also an important pillar in critical mineral security.
  - o India has joined groupings like **Indo-Pacific Economic Framework for Prosperity (IPEF), Mineral Security Partnership (MSP) and the G-7,** for cooperation in the critical mineral supply chain.
  - o These cooperative engagements aim to align India with the **global best practices** in the critical mineral sector and also **facilitate knowledge sharing and capacity building,** which is important for coordinating with international partners such as the U.S., the European Union (EU), South Korea, and Australia.
  - o To further this collaboration with western partners, India's **Ministry of Mines signed a MoU with the International Energy Agency** to strengthen cooperation on critical minerals.

Measures Needed in Future

- **Enhancing Private Sector Participation:** Develop a clear critical mineral supply chain strategy that aligns with India's growth prospects and national security priorities. A roadmap should be created for private sector engagement across the supply chain, addressing de-risking mechanisms.
- **Strengthening Diplomatic Capacity:** A dedicated Mineral Diplomacy Division within the Ministry of External Affairs can be created with special positions for mineral diplomacy in key diplomatic missions.
  - o Expanding diplomatic training programs focussed on critical mineral trade, negotiation, and global collaboration can also be explored.
- **Forging Sustainable and Strategic Partnerships:** Build trusted partnerships with bilateral partners and multilateral forums, emphasizing shared benefits and long-term commitments.
  - o Collaboration with key partners such as the EU, South Korea, and Quad members should be prioritized to leverage their expertise, technology, and resources.
- **Developing a Comprehensive Policy Framework:** Integrate critical mineral strategies into India's broader industrial, environmental, and security policies.
- **Focusing on National Security Implications:** Assess vulnerabilities in critical mineral supply chains that could impact national security and economic growth.
  - o Diversify sourcing to reduce dependence on any single country or region, particularly addressing risks posed by geopolitical tensions.

Conclusion

- Giving proper focus and support to these measures can help India to gain strength in mineral diplomacy and enable it to better complement the domestic critical mineral initiatives.

7) REMOVAL OF HIGH COURT JUDGES

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

Background

- Fifty-five Members of Parliament (MPs) of the Rajya Sabha have submitted a motion, for removing Allahabad High Court Judge, Justice Shekhar Kumar Yadav, to Chairman of the Rajya Sabha.

- Justice Yadav made communally-charged remarks while speaking at an event organised by the Vishwa Hindu Parishad.
- This incident has called for a study into the procedure to remove High Court Judges.

Procedure of Removal

- Articles 217 of the Constitution provide that a judge of the High Court shall be removed by the President, on the **grounds of 'proved misbehaviour' or 'incapacity'** after a motion is passed in **each House of Parliament** by a majority of the total membership of that House and by a majority of not less than two thirds of the members of that House present and voting **(special majority)** in the same session.
- The **Constitution does not define** the terms 'proved misbehaviour' or 'incapacity.'
- The Supreme Court has opined in various cases that wilful misconduct in office, corruption, lack of integrity or any other offence involving moral turpitude would constitute misbehaviour.
- Incapacity here means a medical condition that may include physical or mental incapacity.
- The detailed procedure for removal is provided in the **Judges (Inquiry) Act, 1968.**
- It stipulates that a notice of motion for removal should be signed by not less than 50 members in the Rajya Sabha and 100 members in the Lok Sabha.
- The Chairman or Speaker may after due consideration and consultation admit or refuse to admit the motion.
- If admitted, a **three-member committee** will be constituted consisting of **Supreme Court/High Court judges and a distinguished jurist.**
- If the Committee, after investigation, absolves the judge of any misbehaviour or incapacity, the motion pending shall not be proceeded with.
- If found guilty of misbehaviour or suffering from incapacity, the committee report will be taken up in the Houses of Parliament which would then need to pass the motion with special majority.

Conclusion

- **Judges (Inquiry) Bill, 2006** was not passed by the Parliament. This bill had defined 'misbehaviour' to include violation of code of conduct for the judges.
- This bill proposed imposition of 'minor measures,' like issuing warnings, public or private censure, withdrawal of judicial work for a limited time etc., for misconduct that does not warrant removal.
- Revival of this bill with an updated code of conduct for the Judges could help in avoiding these kinds of issues in the future.
- It is important that Judges display behaviour that suits the high constitutional office they hold.

8) UNDERSEA WARFARE POWER OF INDIA

(GS-III: Security Challenges and their Management in Border Areas - Linkages of Organized Crime with Terrorism)

Background

- Undersea warfare power refers to a nation's ability to project military strength and maintain dominance beneath the ocean's surface.
- This capability encompasses a range of systems, platforms, and technologies designed to operate in the underwater domain for strategic, defensive, and offensive purposes.
- Submarines; Unmanned Underwater Vehicles (UUVs); Underwater Weapon Systems like Torpedoes and mines; Sonar, Communication and Detection Systems and support Infrastructure are components in Undersea warfare.

Recent Advancements in India's Undersea Warfare

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- **Commissioning of INS Arighaat (2024):** In 2024, India commissioned its second indigenous nuclear-powered ballistic missile submarine (SSBN), INS Arighaat. This submarine is advanced in many ways and has significantly enhanced India's **nuclear triad** by strengthening its strategic nuclear deterrence capabilities.
  - *Nuclear triad is the ability of a nation to launch nuclear weapons from land, air and undersea.*
- **Successful Testing of the K-4 SLBM:** India successfully tested the **K-4 submarine-launched ballistic missile (SLBM)** from INS Arighaat. This missile has a range of 3,500 kilometers, allowing India to target distant threats, including significant parts of China.
- **Approval of Project-77:** The Indian government approved Project-77, which involves the **construction of two nuclear-powered attack submarines (SSNs)** at an estimated cost of ₹40,000 crore. These submarines are planned to have over 90% indigenous content, with the first SSN expected to be delivered by 2036-37.
- **Progress on Project 75(I):** Under Project 75(I), India is moving forward with plans to acquire advanced **Air-Independent Propulsion (AIP)**-enabled conventional submarines. Germany's Thyssenkrupp Marine Systems (TKMS) and Spain's Navantia are competing to build these submarines.
- **Development of 100-Tonne Unmanned Underwater Vehicles (UUVs):** These vehicles will be used for surveillance, reconnaissance, and other underwater operations, providing a cost-effective solution to enhance India's undersea warfare capabilities.

Challenges in India's Undersea Warfare
- **Budgetary Constraints:** India faces budgetary challenges in balancing planned acquisitions and modernization with available financial allocations. High-cost projects, such as nuclear-powered submarines and advanced conventional submarines, require sustained funding over **long gestation periods**, which is often difficult to secure.
- **Procurement and Project Delays:** Lengthy and complex processes for specifying requirements, shortlisting manufacturers, and issuing and evaluating tenders cause delays in the execution of undersea warfare projects.
- **Dependence on Foreign Technology:** While India has made advances in indigenous production, reliance on foreign partners for advanced technologies, especially for complex systems like propulsion, sonar, and weapons remains high. Meeting high indigenous content requirements while ensuring technological sophistication is a steep challenge.
- **Technological and Operational Demands:** The evolving nature of maritime threats requires constant innovation and upgrades in undersea warfare capabilities. Developing and deploying advanced technologies, such as Air-Independent Propulsion (AIP) and unmanned underwater vehicles (UUVs), demand significant technical expertise and infrastructure.
- **Strategic and Force Balancing:** Building a balanced blue-water navy that integrates undersea power with surface and aerial capabilities requires careful planning and resource allocation. Addressing the operational demands of securing maritime stability while advancing undersea capabilities poses a strategic challenge.

Way Forward
- The year 2024 started on a high note for the Indian Navy, with Operation Sankalp expanding from the Strait of Hormuz to the Red Sea to ensure the safety and the security of shipping from piracy and providing assistance to ships targeted by the Houthis.
- The Navy's continued response in addressing piracy, hijacking, and drone attacks on international merchant shipping has reinforced its status as a preferred security partner and first responder.
- Special focus on Undersea warfare and general focus on all the sectors of the Navy would do well not only for India's growth as a maritime nation but also support India's maritime

visions of Security and Growth for All in the Region (SAGAR) and a free, open, and inclusive Indo-Pacific.

9) FERTILISERS IN INDIAN AGRICULTURE
(GS-III: Issues related to Direct and Indirect Farm Subsidies and Minimum Support Prices; Public Distribution System - Objectives, Functioning, Limitations, Revamping; Issues of Buffer Stocks and Food Security; Technology Missions; Economics of Animal-Rearing)

Background
- The role of the fertiliser industry is critical in ensuring that our soils are healthy and well-nourished.
- High-yielding seeds of various crops are a catalyst of change in agriculture but they can deliver high productivity only with nutrients provided by the fertilisers.
- Crops require the right mix of three nutrients viz. **Nitrogen, Phosphorus, and Potassium or NPK** (N helps in plant growth and development, P not only accelerates blooming and the growth of roots but also helps plants to withstand stress and K helps the process of photosynthesis and is essential to plant growth).
- Imbalanced use of N, P and K leads to the **loss of fertility of the soil** over a period of time, which affects efficiency of fertilizer use and crop productivity.
- In India, **urea**, **a nitrogen-based fertilizer**, is the most commonly used fertiliser because it is highly subsidised. The overuse of nitrogenous fertilizers has led to an **imbalanced fertilizer application** in the country, **heavily skewed toward nitrogen.**
- This imbalance has resulted in an **abnormally high NPK ratio of 10.9:4.9:1** against the recommended ratio of **4:2:1.**

Issues in India's Fertilizer Industry
- **Fertilizer Subsidy Policy:** This highly imbalanced use of N, P and K, and the neglect of micronutrients, leading to suboptimal results on agricultural productivity and thereby farmers' profitability, is largely caused by the fertiliser subsidy policy.
  - The subsidy amounted to Rs 1.88 lakh crore, which was almost 4 percent of the Union budget of the last fiscal year.
- **Price Distortion and over usage of Urea:** Urea bags almost two-thirds of the subsidy and its price is controlled by the government, roughly at $70/tonne. This is the cheapest in the world by a wide margin and has remained almost constant for over a decade.
  - This easy availability is used as an excuse to use too much Urea than actually needed. It also distorts the price of other fertilizers in the market.
  - Apart from this, at least 20-25 percent of urea is being diverted to non-agricultural uses and also leaking to neighbouring countries.
- **Low Efficiency:** The **Nutrient Use Efficiency (NUE)** of our current fertiliser use is **not more than 35 to 40 per cent.** The rest of the fertilisers' quantity, especially N, is going into the atmosphere as nitrous oxide.
- **High Import Dependency**: India imports 60% of its diammonium phosphate (DAP) fertilizers, making it vulnerable to external supply disruptions and geopolitical actions.
- **Supply Chain Disruptions**: Geopolitical factors, such as China's 2021 ban on phosphate fertilizer exports, lead to significant delays during critical cropping seasons, affecting agricultural productivity.
- **Price Volatility**: Fertilizer prices are directly impacted by fluctuations in natural gas prices, which serves as a key input for ammonia and fertilizer production.
- **Limited Domestic Production**: Insufficient domestic production capacity increases reliance on imports, exposing the sector to global market uncertainties.

- **Environmental Impact**: Overuse and inefficient application of fertilizers contribute to soil degradation and environmental pollution, affecting long-term agricultural sustainability.
  - Over-reliance on chemical fertilizers contributes to soil degradation, water pollution, and greenhouse gas emissions, further impacting sustainability.

Measures to improve India's Fertilizer sector

- **Deregulate Fertiliser Prices with Direct Income Transfers:** The fertiliser sector should be deregulated by **removing price controls,** allowing market forces to drive innovation and efficiency.
  - Farmers can be compensated through **direct income transfers,** such as digital coupons, enabling them to purchase fertilisers as per their requirements.
- **Promote Balanced Nutrient Application:** Reforms must focus on encouraging the proper application of macronutrients like nitrogen (N), phosphorus (P), and potassium (K), as well as micronutrients like iron, zinc, and boron.
- **Encourage the Adoption of Innovative Fertiliser Technologies:** The government should promote the use of advanced products like nano-urea, nano-DAP, and superphosphates.
  - These technologies can enhance nutrient use efficiency, reduce wastage, and minimize environmental damage, but their adoption is currently hindered by the subsidy structure.
- **Targeted Implementation:** To ensure effective reform, data from fertiliser sales, soil health cards, PM-KISAN, land records, and farmers' bank accounts should be integrated.
  - This will enable targeted and efficient support mechanisms, such as per-hectare direct income transfers, to facilitate the transition away from price controls.
- **Building Trust Among Farmers:** The government needs to actively engage with farmers to explain how these reforms will benefit them, the nation's agricultural productivity, and the environment. Gaining farmers' trust is essential to ensure the success of these changes.

Conclusion

- Less than 5 per cent of Indian soils have high or sufficient nitrogen, only 40 per cent have sufficient phosphate, 32 per cent have sufficient potash and just 20 per cent are sufficient in organic carbon.
- India's soils also suffer from a deficiency of micronutrients like sulphur, iron, zinc, boron, etc.
- The Indian fertiliser industry had played a massive and crucial role in addressing this and making India a net exporter of agri-produce.
- The future lies in making this process more and more sustainable in all ways possible to increase productivity, reduce water usage and increase the profitability of farmers.

UPSC PYQ:

What are the different types of agriculture subsidies given to farmers at the national and at state levels? Critically analyse the agricultural subsidy regime with reference to the distortions created by it. (2013)

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10) LESSONS FROM INDIAN OCEAN TSUNAMI 2006
(GS-III: Disaster and Disaster Management)
Background

- The 2004 tsunami affected a number of countries, making it a truly global disaster.
- Two decades later, India has made substantial strides in disaster preparedness, response, and mitigation. However, evolving risks, fuelled by urbanisation, climate change, and the

growing complexity of disasters and increasing frequency of extreme weather events, require continuous innovation and vigilance.

- Revisiting the experience from the 2006 Tsunami offers valuable lessons for shaping future strategies.

Six Critical Lessons

- **The Importance of Mangroves:** Mangroves are critical for providing natural protection to coastal areas, as they act as vital buffers against waves. However, widespread destruction of mangroves for activities such as **shrimp farming, meeting basic wood and fuel needs**, and tourism has disrupted ecosystems and increased vulnerability to wave damage.
- **Social Changes Due to Privatization:** The privatization of common resources, such as beaches, has had profound social and economic impacts.
  - o For instance, in Thailand, the privatization of coastlines displaced local communities, leading to significant labor changes, including the rise of the informal sector and the sex industry.
  - o This economic shift made Thailand's economy more vulnerable to global fluctuations, demonstrating the risks associated with prioritizing private interests over public access to natural resources.
  - o India can learn from these developments to prevent similar issues.
- **Economic Disruptions and Resource Degradation:** The tsunami created economic disruptions, where rents, land prices, and the cost of goods and services rose, primarily benefiting asset owners while laborers and traditional workers were at the receiving end.
  - o Local markets were disrupted, and traditional livelihoods were replaced by casual, low-paid labor.
  - o Addressing these economic and environmental challenges is crucial, but no systematic studies have been conducted to analyze these economic change patterns.
- **Inequalities in Relief and Rehabilitation:** Vulnerable populations, such as laborers, Dalits, tribes, immigrants, ethnic minorities, widows, and single women, lacked adequate access to aid.
  - o Asset-based damage assessments further disadvantaged those without substantial assets.
- **Gender-Insensitive Relief Efforts:** In Indian fishing communities, women, who are mostly involved in processing and marketing fish or running small businesses, rarely own assets or property.
  - o As a result, they were excluded from relief measures, which were distributed based on male-dominated lists of affected individuals.
  - o Gender-sensitive policies were found to be essential to ensure equitable support in disaster response.
- **Respecting Local Institutions:** Relief agencies many a times failed to respect community-based local institutions, which play a critical role in coastal communities.
  - o In these areas, local organization often revolves around concepts of shared resources and collective decision-making, such as the kuppams in India.

Way Forward

- Despite progress, millions in India, in coastal villages, floodplains, and urban slums remain vulnerable to disasters.
- Empowering at-risk communities through **education and guidance** is essential to prepare them for potential disasters.
- Embedding **risk reduction into development plans** is crucial for creating resilient communities with shared ownership.

- Repetition builds readiness, and **workshops, training, and consultative sessions** focused on generational recall with local knowledge can ensure sustained preparedness.
- Ultimately, disaster management is no longer just about survival. It is about ensuring that tragedies lead to learning and transformation.
- By honouring the memory of those lost, we can build a future where resilience and preparedness are the cornerstones of every community.

UPSC PYQ:

On December 2004, tsumani brought havoc on 14 countries including India. Discuss the factors responsible for occurrence of Tsunami and its effects on life and economy. In the light of guidelines of NDMA (2010) describe the mechanisms 15 Marks for preparedness to reduce the risk during such events. (2017)

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11) STUDENTS FROM MARGINALISED COMMUNITIES IN INDIA'S PREMIER INSTITUTIONS
(GS-II: Welfare Schemes for Vulnerable Sections of the population by the Centre and States and the Performance of these Schemes; Mechanisms, Laws, Institutions and Bodies constituted for the Protection and Betterment of these Vulnerable Sections)

Background
- In 2024, a student from the Scheduled Caste community, lost his seat at IIT Dhanbad after he was unable to pay the seat booking fee of ₹17,500 that was required to secure his admission.
- His case gained widespread attention on social media, prompting the **Supreme Court of India to intervene** by exercising its extraordinary powers under Article 142 to grant him admission.
- This is one of the many problems faced by students from marginalised communities in India's premier institutions.

Issues faced by these Students
- **Financial Constraints**: Marginalised students often face severe financial challenges due to high tuition fees and frequent fee hikes in institutions such as IITs, IIMs, and central universities. The **inadequate financial aid mechanisms,** such as interest-free scholarships and insufficient support through schemes like Vidyalakshmi, exacerbates their difficulties in accessing education.
- **Systemic Inequalities**: There is a significant **underrepresentation of faculty members from marginalised communities in premier institutions.** Despite Scheduled Castes, Scheduled Tribes, and Other Backward communities constituting the majority of India's population, their presence in academic positions remains minimal.
- **Dropouts Due to Financial Pressure**: A large number of students drop out of prestigious institutions due to their inability to sustain the financial burden.
  - The Human Resources Development Ministry reported that 2,461 students dropped out of IITs in just two years (2017 and 2018).
- **Caste-Based Discrimination**: These students frequently face social discrimination and prejudice on campuses, including derogatory remarks and social isolation. They are often judged based on their clothing, language, and other visible markers of their caste identity, making it difficult for them to integrate with their upper-caste peers.
- **Emotional and Mental Health Struggles**: Social isolation, caste-based harassment, and systemic inequalities take a significant toll on the mental health of these students. The

emotional stress is often compounded by family and societal expectations to secure employment. In extreme cases, this has led to student suicides.

- **Unemployment and Lack of Job Opportunities**: Even after completing their education, many Dalit students struggle to secure employment due to high unemployment rates and caste discrimination in the job market.
    - o An RTI filed in 2024 about IIT placements showed that approximately 8,000 students (38%) across 23 IIT campuses remained unplaced this year. This percentage will be higher for students from marginalised communities.

Measures to help these Students

- **Financial Support**: The government and institutions should increase the availability of scholarships and fellowships specifically for marginalized students. Need-based fee waivers and interest-free loans should be implemented to ensure that these students can afford higher education.
- **Systemic Reforms**: Strict enforcement of reservation policies in faculty recruitment is essential to ensure adequate representation of SC, ST, and OBC communities.
    - o **Regular audits** should be conducted to monitor **compliance with caste-based reservation** policies in both education and employment sectors.
- **Addressing Discrimination**: Educational institutions must establish **anti-discrimination cells** to address caste-based harassment effectively with suitable punishments.
- **Mental Health Support**: Institutions should provide accessible mental health resources, including counseling and peer support groups tailored to the needs of these students.
    - o Faculty and staff should also be trained to recognize and address caste-related mental health challenges.
- **Better Employment Opportunities**: Campus placement programs should be strengthened to ensure equitable opportunities for Dalit students. Collaborations with industries to create reserved job opportunities for marginalized students can help address the unemployment issue.
- **Policy Interventions**: The government should cap fee hikes in public educational institutions to ensure affordability.
    - o A comprehensive national policy should be formulated to systematically address caste-based inequalities in education and employment. This policy should focus on creating a more equitable system for students from marginalized communities.

Conclusion

- There are many cases of deserving students not getting proper education due to financial constraints and systemic inequalities.
- Adherence to these measures over a long term basis can help in addressing the concerns of the marginalised students. This will ensure that the developmental path of India is equitable and inclusive.

12) CLIMATE FINANCING
(GS-III: Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment)

Background

- Climate finance refers to local, national or transnational financing, drawn from public, private and alternative sources of financing, that seeks to support mitigation and adaptation actions that will address climate change.
- Finance has been a major point of climate change negotiation since the launching of the United Nations-led climate change negotiations which led to the **United Nations Framework Convention on Climate Change (UNFCCC) 1992.**

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- The Convention, the **Kyoto Protocol and the Paris Agreement** call for financial assistance from Parties with more financial resources to those that are less endowed and more vulnerable.
- **Article 4 (7) of the UNFCCC** clearly says "that the extent to which the developing country Party will be fulfilling their climate action commitments is contingent on how much finance and technology they get from developed country Parties".
- The **Paris Agreement retains, in Article 9(1),** the provision relating to finance, binding the developed countries to mobilise finance for the developing countries.
- In pursuance of their responsibility, the developed countries agreed in 2009 that they would collectively mobilise $100 billion a year by 2020.
- The **29th Conference of the Parties (COP 29)** meeting at Baku, Azerbaijan, in November 2024, was meant for the Parties to the Paris Agreement to **replace the $100 billion goal with a higher goal,** taking into account the needs and the priorities of developing countries to tackle the climate crisis.

Significance of Climate Financing

- **Equity in Climate change response:** Climate financing ensures that developed countries, which have historically contributed the most to greenhouse gas emissions, take on greater financial responsibility to assist developing nations that have contributed the least but are most vulnerable to climate impacts.
- **Mitigation of Greenhouse Gas Emissions:** Climate financing enables large-scale investments in clean energy, energy efficiency, and carbon sequestration projects, which are essential for reducing emissions and meeting global temperature targets.
- **Adaptation to Climate Change Impacts:** Developing countries can use climate finance to build resilience to climate change by improving infrastructure, disaster response systems, and sustainable agricultural practices.
- **Support for Vulnerable Nations:** Least Developed Countries (LDCs) and Small Island Developing States (SIDS), which face severe climate impacts, can use the funding to address loss and damage caused by climate change.
- **Promotion of Sustainable Development:** Climate financing promotes a transition to sustainable economic models by supporting green technologies, clean energy solutions, and climate-smart urban planning in developing nations.
- **Fulfillment of Global Climate Agreements:** Adequate climate finance is essential for achieving commitments under the Paris Agreement, including Nationally Determined Contributions (NDCs) and long-term climate strategies.

Challenges in Climate Financing

- **Inadequate Funding Levels:** The promised $100 billion per year, only met in 2022, falls far short of the trillions required by developing countries to meet their Nationally Determined Contributions (NDCs) and adapt to climate impacts.
    - *NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change.*
    - *The **Paris Agreement (Article 4, paragraph 2)** requires each Party to prepare, communicate and maintain successive nationally determined contributions (NDCs) that it intends to achieve.*
- **Debt and Conditional Financing:** Loans and other conditional financing mechanisms dominate the current funding pattern provided by the developed countries. Ideally, these should be provided as grants to the developing countries in accordance with the equity principle. This increases the debt burden of developing countries.

- **Skewed Access to Finance:** High borrowing costs and the perception of risk in developing nations make it difficult for them to access affordable climate finance from private and public sources.
- **Lack of Transparency and Equity:** The absence of a universally accepted definition of "climate finance" and insufficient allocation for vulnerable countries hinder the equitable distribution of funds.
- **Reliance on Private Sector Investments:** Shifting the burden to private investors can lead to a focus on profit-driven projects rather than addressing urgent climate adaptation needs or supporting low-income regions.

Conclusion

- At COP 29, in response to persistent demand by all the major negotiating groups belonging to the developing south that the developed north mobilise $1.3 trillion by 2030, the developed north agreed to release only $300 billion per year by 2035.
- This cannot meet the financing needs of the developing countries to achieve their NDCs .
- In expecting the developing south to bring out more ambitious NDCs and implementing the same effectively, it is equally important on the part of the developed north to raise their scale and quality of climate finance architecture.
- This alone will ensure adequate, directly accessible and affordable climate finance to the developing countries.

13) DIGITAL GOVERNANCE IN INDIA

(GS-II: Important Aspects of Governance, Transparency and Accountability, E-governance-applications, models, successes, limitations, and potential; Citizens Charters, Transparency & Accountability and institutional and other measures)

Definition

- Digital governance in India refers to the **integration of digital tools, platforms, and technologies into public administration** to improve service delivery, enhance transparency, streamline workflows, and empower government employees.
- It uses technology to promote efficient communication and make possible informed decision-making thus ensuring **governance more accountable, transparent, and inclusive.**

Government Measures in Digital Governance

- **iGOT Karmayogi Platform (2020)**: The iGOT Karmayogi platform is an online training portal launched in 2020 to train government officials with essential skills in **data analytics, public administration, and digital technologies.**
- It offers **personalized learning paths** that foster continuous improvement and adaptability.
- **e-Office Initiative**: The e-Office initiative digitizes government workflows, reducing reliance on paperwork and improving operational efficiency.
- By **automating file management,** workflows, and grievance redressal processes, it promotes real-time communication and enhances transparency within the system.
- **Government e-Marketplace (GeM)**: The Government e-Marketplace is an online platform that facilitates procurement processes in an efficient, transparent, and accountable manner in government procurements.
- **Digital Literacy Programs**: The government has introduced several digital literacy programs aimed at familiarizing employees with the essential tools of e-governance, cybersecurity, and digital communication to enhance their efficiency in a technology-driven environment.

Challenges in Digital Governance

- **Resistance to Change**: A significant challenge in digital governance is the resistance to change among certain segments of the workforce.
- Bureaucratic structures are at times slow to adapt, and while some employees quickly embrace new technologies, others require additional training and support to navigate the digital landscape effectively.
- **Lack of Incentives**: One of the concerns with platforms like iGOT Karmayogi is the potential for them to be viewed as mere attendance trackers rather than meaningful skill development tools.
- True success lies in ensuring that these programs lead to tangible outcomes, such as opportunities to apply new skills in relevant roles, rather than serving only to improve performance reviews.
- **Digital Divide**: The digital divide, particularly in rural areas, presents a significant obstacle. Limited access to high-speed internet and digital tools can exclude many government employees and, by extension, citizens, from fully participating in digital governance.
- **Cybersecurity Risks**: As government operations increasingly move online, the **risk of data breaches and cyberattacks grows.** Protecting sensitive information is crucial, making it essential to train employees in robust cybersecurity protocols.
- **Need for Continuous Learning**: The rapid evolution of digital tools requires **ongoing training and upskilling** to ensure that employees remain confident and capable in their roles.
- Capacity-building programs must remain dynamic and adaptable to keep pace with technological advancements.

Way Forward

- India's digital governance initiatives have laid a strong foundation, but many more initiatives in a consistent manner are required to fully utilize the potential of digital transformation.
- Robust infrastructure, targeted training, and a commitment to building a dynamic workforce, can help India to set a global benchmark for digital governance.
- The key lies in ensuring that every employee, regardless of background, rank, or location, is equipped to excel in the digital age.
- Only then can we achieve a governance model that is accountable, transparent, and inclusive for all.

MODEL QUESTIONS

1. Assess the need of a Caste census in India. Also analyse the challenges in this process.

2. The PRAGATI platform has improved the status of scheme and project implementation in the country. Explain.

3. Define the idea of Right to disconnect. Explain its need in Indian workplaces.

4. Define Universal Health Coverage. Is India facing challenges in achieving this goal? Elaborate.

5. Assess the need of implementing 'One Candidate, One Constituency' (OCOC) in Indian context.

6. Has India taken any measures to secure a critical mineral supply chain network? Discuss in detail.

7. Explain the procedure to remove a Judge of the High Court.

8. Analyse the recent developments in India's Undersea warfare sector.

9. Examine the various issues faced by the fertiliser sector in India. Suggest practical measures to address the issues.

10. It's been two decades since the Indian Ocean Tsunami. Do you think India has learned from this disaster in protecting its vast coastal population? Justify your stand.

11. Students from marginalised sections face challenges in India's higher educational institutions. Critically examine the statement and provide solutions to address such a situation.

12. COP 29 has failed to provide adequate financing for the developing countries to reach their Nationally Determined Contributions (NDCs). Critically Examine.

13. Assess the state of digital governance in India's administrative setup.