Monthly Editorial Consolidation

01st March to 30th March 2024

Content

Implementing Bharatiya Sakshya Adhiniyam

This editorial is based on "*E-evidence, new criminal law, its implementation*" which was published in The Hindu on 01/03/2024. The article discusses various changes made to provisions concerning criminal laws in India, with a specific emphasis on electronic evidence in the proposed Bharatiya Sakshya Adhiniyam, intended to replace the Indian Evidence Act of 1872.

Tag: GS Paper - 2, Judiciary, Government Policies & Interventions, Constitutional Amendments.

The three newly-enacted criminal laws, the **Bharatiya Nyay Sanhita** (to replace the **Indian Penal Code**-**IPC**), the **Bharatiya Nagarik Suraksha Sanhita** (to replace the **Code of Criminal Procedure**- **CrPC**) and the **Bharatiya Sakshya Adhiniyam** (to replace the **Indian Evidence Act, 1872**) are to come into force on July 1, 2024.

The contents of the Indian Evidence Act (IEA), 1872 have changed little as far as the Bharatiya Sakshya Adhiniyam (BSA) is concerned. The scope of secondary evidence has been slightly broadened and some changes have been made in the provisions relating to electronic evidence in the BSA.

Note:

Evolution of Criminal Justice System:

➢ Throughout India's history, different criminal justice systems have evolved and gained prominence in different regions under different rulers.
   ❍ During British rule, criminal laws were codified in India, which remained largely unchanged until recently.
➢ IPC is the official criminal code of India drafted in 1860 in the wake of the first **law commission** established in 1834 under the **Charter Act of 1833**, and became effective from January 1st, 1862.
➢ The IEA, originally passed in India by the Imperial Legislative Council in 1872, during the British Raj, provides a set of rules and allied issues governing admissibility of evidence in the Indian courts of law.
   ❍ In line, CrPC provides procedures for administering criminal law in India. It was enacted in 1973 and became effective from 1st April 1974.
➢ The Parliament, in December 2023, passed three pivotal Bills: Bharatiya Nyaya (Second) Sanhita, 2023; Bharatiya Nagarik Suraksha (Second) Sanhita, 2023; and Bharatiya Sakshya (Second) Bill, 2023 to overhaul the criminal justice system.

What are the Different Provisions of BSA, 2023?

➢ The BSA, 2023 retains most of the provisions of the IEA,1872. These include:
   ❍ **Admissible Evidence:** Parties involved in a legal proceeding can only present admissible evidence. Admissible evidence can be classified as either 'facts in issue' or 'relevant facts'.
      ● Facts in issue refer to any fact that determines the existence, nature, or extent of any right, liability, or disability claimed or denied in a legal proceeding.
      ● Relevant facts are facts that are pertinent to a given case. The IEA provides for two kinds of evidence – documentary and oral evidence.
   ❍ **A Proven Fact:** A fact is considered proven when, based on the evidence presented, the Court believes it to either: (i) exist, or (ii) its existence so likely that a prudent man should act as if it exists in circumstances of the case.
   ❍ **Police Confessions:** Any confession made to a police officer is inadmissible. Confessions made in police custody are also inadmissible, unless recorded by a Magistrate.
      ● However, if a fact is discovered as a result of information received from an accused in custody, that information may be admitted if it distinctly relates to the fact discovered.
➢ **Key Changes Incorporated in BSA, 2023:**
   ❍ **Documentary Evidence:** Under the IEA, a document includes writings, maps, and caricatures. The BSA adds that electronic records will also be considered as documents. Documentary evidence includes primary and secondary evidence.
      ● Primary evidence includes the original document and its parts, such as electronic records and video recordings.
      ● Secondary evidence contains documents and oral accounts that can prove the contents of the original.
         ■ The BSA expands secondary evidence to include: (i) oral and written admissions, and (ii) the testimony of a person who has examined the document and is skilled to examine the documents.
   ❍ **Oral Evidence:** Under the IEA, oral evidence includes statements made before Courts by witnesses in relation to a fact under inquiry. The BSA allows oral evidence to be given electronically.
      ● This would permit witnesses, accused persons, and victims to testify through electronic means.

Changes proposed in criminal laws 𝕳𝕿

Union home minister Amit Shah has introduced three key bills in the Lok Sabha that, if approved, will overhaul India's criminal justice system. A look at key aspects of the bills

THE BHARATIYA NYAYA SANHITA (BNS) BILL, 2023
Proposed to replace Indian Penal Code (IPC), 1860

The IPC, which was framed by the British, is the official criminal code of India that lists various crimes and its punishments

KEY TAKEAWAYS
- Sedition deleted, but another provision **penalising secessionism**, separatism, rebellion and acts against sovereignty, unity and integrity of India brought in
- Provision of **death penalty** for gang rape of minors and for mob lynching
- **Community service introduced** as one of the punishments for the first time

THE BHARATIYA NAGARIK SURAKSHA SANHITA, 2023
Proposed to replace Code of Criminal Procedure (CrPC), 1973

The CrPC lays down the procedure for investigation, arrest, court hearing, bail and punishment in criminal cases

KEY TAKEAWAYS
- **Time-bound investigation**, trial and judgment within 30 days of the completion of arguments
- **Video-recording** of the statement of sexual assault victims to be made mandatory
- New provision for **attachment of property and proceeds** of crime

THE BHARATIYA SAKSHYA BILL, 2023
Proposed to replace the Indian Evidence Act, 1872

The IEA applies to all judicial proceedings in the country and defines the particulars of evidence produced and admissible in courts

KEY TAKEAWAYS
- **Documents to also include** electronic or digital records, e-mails, server logs, computers, smart phones, laptops, SMS, websites, locational evidence, mails, messages on devices
- **Digitisation of all records** including case diary, FIR, charge sheet and judgement
- Electronic or digital record shall have the same legal effect, validity and enforceability as paper records

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- **Admissibility of Electronic or Digital Records as Evidence:** Documentary evidence includes information in electronic records that have been printed or stored in optical or magnetic media produced by a computer.
  - Such information may have been stored or processed by a combination of computers or different computers.
- **Joint Trials:** A joint trial refers to the trial of more than one person for the same offence. The IEA states that in a joint trial, if a confession made by one of the accused which also affects other accused is proven, it will be treated as a confession against both.
  - The BSA adds an explanation to this provision. It states that a trial of multiple persons, where an accused has absconded or has not responded to an arrest warrant, will be treated as a joint trial.

What are the Various Crucial Changes Introduced in BSA, 2023?

➢ **Precise Definition of "Document":** An illustration to the definition of "document" (which includes electronic and digital records) says that an electronic record on emails, server logs, documents on computers, laptop or smartphone, messages, websites, locational evidence, and voice mail messages stored on digital devices are documents.

➢ **Clarity With Respect to Primary (Electronic) Evidence:** It says that where a video recording is simultaneously stored in electronic form and

transmitted or broadcast or transferred to another, each of the stored recordings shall be primary evidence.

- ○ This may help the investigating agencies in fixing culpability of a cyber-criminal even if he destroys his original electronic record to deny the allegations as it may be collected from other sources without its value getting diminished.

➢ **Synchronisation with IT Act, 2000:** Section 63, which deals with admissibility of electronic records, includes terms such as 'semiconductor memory' and 'any communication device' for better visibility.

- ○ However, this does not change the impact of the provision because the definition of 'electronic form' given in the **IT Act, 2000** includes information generated, sent, received or stored in 'computer memory'.

What are the Different Concerns with Respect to Provisions of BSA, 2023?

➢ **Issues Regarding Electronic Records:**

- ○ **Tampering of Electronic Records:**

  - ● In 2014, the **Supreme Court** recognised that electronic records are susceptible to tampering and alteration. It stated that without adequate safeguards, if the whole trial is based on proof of electronic records, it may lead to a travesty of justice.

- ○ **Ambiguity in Admissibility of e-Records:**

  - ● The BSA provides for the admissibility of electronic records and gives the Court discretion to consult an Examiner of Electronic Evidence to form an opinion on such evidence.

  - ● The BSA includes electronic records in the definition of documents. It retains the provision from the IEA that all documents must be admissible as primary evidence, unless it qualifies as secondary evidence (original has been destroyed, or is with the person against whom the document must be proved).

➢ **Information Obtained in Police Custody May be Provable:** The IEA provides that if a fact is discovered as a result of information received from an accused in police custody, that information can be admitted if it distinctly relates to the fact discovered. The BSA retains this provision.

- ○ Over the years, the Supreme Court and various Law Commission reports have highlighted that

facts may have been discovered in custody due to the accused being subject to duress and torture.

➢ **Discrimination Between Accused Within or Outside Police Custody:** Under the IEA, information received from an accused in police custody is admissible if it relates to a fact discovered, whereas similar information is not admissible if it was received from an accused outside police custody. The BSA retains this distinction.

What Steps Need to be Taken to Make BSA More Effective?

➢ **Report of Standing Committee on Home Affairs:** The Standing Committee on Home Affairs (2023) noted the importance of safeguarding the authenticity and integrity of electronic and digital records as they are prone to tampering.

- ○ It recommended mandating that all electronic and digital records collected as evidence during investigation be securely handled and processed through proper chain of custody.

➢ **Guidelines Framed by Karnataka High Court:** In 2021, the Karnataka **High Court** introduced guidelines for minimum safeguards during the search and seizure of electronic records. These include:

- ○ ensuring that a qualified forensic examiner accompanies the search team,

- ○ prohibiting the Investigating Officer from using the seized electronic device during search and seizure of electronic records,

- ○ seizing any electronic storage device (such as pen drives or hard drives) and packing them in a Faraday bag.

  - ● Faraday bags block the transmission of electromagnetic signals, which can disrupt or destroy data stored in the device.

➢ **Incorporating Directive Proposal of EU:** In the **EU**, the Draft Directive Proposal for a **Mutual Admissibility of Evidence and Electronic Evidence in Criminal Proceedings** aims to establish uniform minimum standards for the use of electronic evidence. Key principles include:

- ○ Mandating the use of electronic evidence only if there is sufficient evidence that it has not been manipulated or forged,

- ○ Ensuring that evidence is sufficiently secured against manipulation from the time of production to the chain of custody, and

○ Requiring the involvement of IT experts at the request of the accused.

➢ **Recommendations of Law Commission, 2003:**

○ Facts discovered using any threat, coercion, violence or torture in consequence of information received from accused in police custody should not be provable.

○ Facts should be relevant whether discovered in police custody or outside custody.

○ Insert a new provision which states that if a person in police custody is injured, it is presumed that the police caused the injuries. The burden of proof will be on the authority.

○ Insertion of a new provision relating to the prosecution of a police officer for causing bodily injury to a person in police custody. The Court will presume that the officer caused the injury. The Court will consider the following before drawing a presumption:

● period of the custody

● statements made by the victim about the injury

● examination by a medical practitioner

● any recorded statements by a magistrate.

➢ **Recommendations of Malimath Committee, 2003:** To revamp the criminal justice system, it made recommendations covering various aspects. Some of the key recommendations were:

○ Introducing a new category of offences called 'social welfare offences' for minor violations that can be dealt with by imposing fines or community service.

○ Replacing the adversarial system with a 'mixed system' that incorporates some elements of the inquisitorial system such as allowing judges to play an active role in collecting evidence and examining witnesses.

○ Reducing the standard of proof required for conviction from 'beyond reasonable doubt' to 'clear and convincing evidence'.

○ Making confessions made before a senior police officer admissible as evidence.

Conclusion

The Bharatiya Sakshya Adhiniyam introduces clarity in the definition and admissibility of electronic records, particularly emphasising the importance of expert certification and hash algorithms for secure use of electronic mediums. However, this may pose challenges for cyber laboratories, as the workload is expected to increase substantially.

It is crucial for enforcement agencies to raise awareness about encryption methods and ensure the necessary infrastructure is in place before the laws come into effect. Overall, these changes reflect a commitment to modernising criminal laws in India to address emerging challenges in the digital age.

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Maratha Reservation Demand: Strength or Reason

This editorial is based on "Strength vs reason: On legislation and reservation to certain social groups" which was published in The Hindu on 29/02/2024. This article examines the unanimous decision by the Maharashtra State Assembly to grant 10% reservation in education and government jobs to the Maratha community.

Tag: GS Paper - 2, Government Policies & Interventions, Welfare Schemes, Issues Relating to Development, GS Paper - 1, Social Empowerment, Poverty and Developmental Issues

The Maharashtra State Assembly unanimously passed a bill that allocates 10% reservation in education and government jobs to the Maratha community, based on a report from the Justice (retired) Sunil B Shukre-led **Maharashtra State Backward Class Commission (MSBCC)**.

Despite this being the third such legislation in a decade, previous attempts at extending quotas to Marathas have faced legal challenges. The pressing question now is whether the **Maharashtra State Reservation for Socially and Educationally Backward Classes Bill, 2024** will withstand judicial scrutiny.

What Are the Key Facts About the Maratha Community in India?

➢ **Legacy of Warriors and Rulers:** The Marathas are a prominent community in India, primarily found in the state of Maharashtra. Historically, they were warriors and rulers in the region, known for their military prowess and leadership under the Maratha Empire, which was established in the 17th century by **Shivaji Maharaj**.

➤ **Social Structure:** Over time, the Marathas diversified into various professions, including agriculture, trade, and politics. While the top layer of the Marathas—with surnames like Deshmukh, Bhonsle, More, Shirke, Jadhav—are the Kshatriyas (warriors), the rest belong to a predominantly agrarian sub-caste called Kunbi.

➤ **Influence Beyond Maharashtra:** The Gaekwad dynasty which ruled the Baroda princely state, and the Scindias, and Bhonsles of Thanjavur in Tamil Nadu, are examples of powerful Maratha dynasties that have settled outside Maharashtra.

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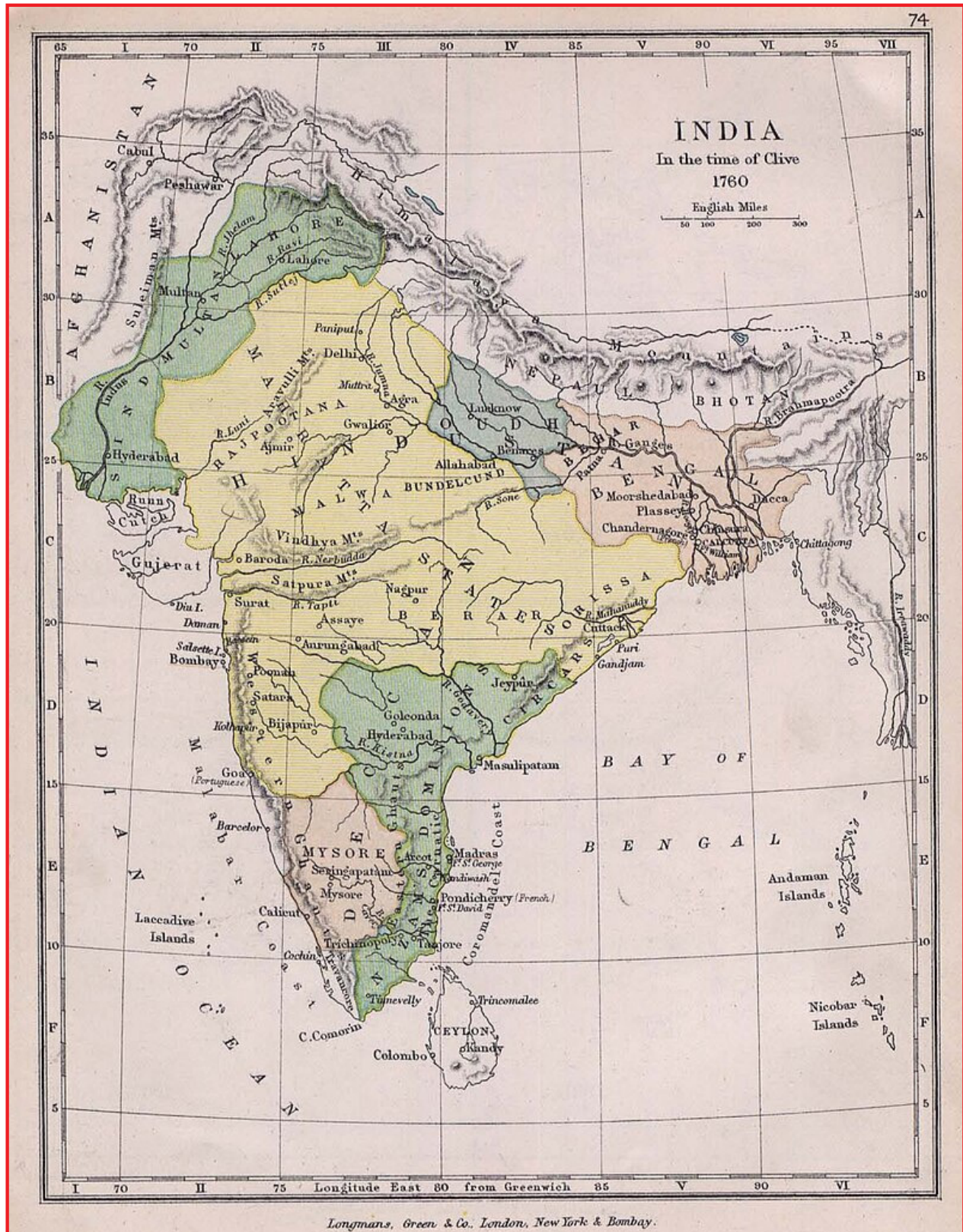
What are the Highlights of the Maratha Reservation Bill?

➢ **Reservation for the Maratha community:** The Bill identifies the Maratha community as a socially and educationally backward class, and provides 10% reservation to this class in recruitment for government jobs, and admissions to public as well as private educational institutions.

   ○ The Bill specifies that the 10% reservation for the Maratha community will be over and above the seats reserved for various communities under existing Acts in the state.

➢ **Creamy layer:** Reservation will be available only to those persons who do not fall in the **creamy layer** bracket.

   ○ Creamy layer refers to criteria such as a family income level, above which a person is not eligible to get the benefit of reservation.

➢ **Carry forward of vacancies:** In case a reserved seat lies vacant in any year, the vacancy will be carried forward for up to five years.

➢ **Penalty:** Admissions or appointments made in contravention of the provisions of the Act will be void.

➢ **Procedure for issuing caste and validity certificate:** Provisions under existing Acts that deal with providing caste certificates will apply to the Maratha community as well.

What is the Constitutional Basis of the Maratha Reservation Bill?

The Bill specifies the Maratha community as a Socially and Educationally Backward Class under **Article 342A (3)** of the Indian Constitution. It provides reservation for this class under **Articles 15(4)**, **15(5)**, and **16(4)** of the Constitution.

➢ **Article 342A (3)** states that every state or union territory can prepare and maintain a list of socially and educationally backward classes (SEBCs). These lists can be different from the Central List.

➢ **Article 15(4)** empowers the state to make special provisions for the advancement of any SEBCs of citizens or the Scheduled Castes and the Scheduled Tribes.

➢ **Article 15(5)** enables the state to make provision for the reservation of seats in admission to educational institutions for the backward classes, the Scheduled Castes and the Scheduled Tribes, except for **minority educational institutions**.

➢ **Article 16(4)** authorizes the state to make provision for the reservation of appointments or posts in favour of any backward class of citizens which, in the opinion of the state, is not adequately represented in the services under the state.

What are the Arguments in Favour of Maratha Reservation?

➢ **Recommended by Several Maharashtra State Backward Classes Commissions (MSBCC)** :

   ○ **Narayan Rane Committee**: In **2014**, a Narayan Rane-led committee recommended 16% reservation for Marathas ahead of elections, later challenged and stayed by the Bombay High Court.

   ○ **Gaikwad Commission:** In **2018**, the Maharashtra government enacted the Socially and Educationally Backward Class (SEBC) Act based on the Gaikwad Commission's findings, granting 16% reservation.

      ● The Bombay High Court reduced this to 12% in education and 13% in jobs. It was later overturned by the Supreme Court on account of the breach of the 50% reservation limit.

   ○ **Maharashtra State Backward Class Commission:** The Maharashtra State Reservation for Socially and Educationally Backward Classes Bill 2024, was drafted based on a Maharashtra State Backward Class Commission report.

      ● This report identified the Marathas as socially and educationally backward, justifying the need for a reservation.

      ● The commission's report highlighted "exceptional circumstances and extraordinary situations" justifying reservations to the Maratha community above the 50% ceiling set by the Supreme Court

   ○ **Historical Marginalization**: Despite being a historically dominant and influential community in Maharashtra, Marathas argue that they have faced marginalization in education, employment, and other spheres. They believe that reservation status will help address historical injustices and uplift the community.

      ● The **Gaikwad Commission** found that 76.86 % of Maratha families were engaged in agriculture and farm labor, around 50% lived in mud houses, only 35.39% had personal tap water connections, 13.42% of Marathas were not literate with only 35.31% having primary education, 43.79 % having cleared HSC and SSC.

   ○ **Economic Disparities:** Many Marathas, particularly those in rural areas, face economic challenges and lack access to opportunities for socio-economic advancement. Reservation is seen as a means to provide them with better access to education and employment opportunities.

      ● The **Shukre Commission** describes extreme poverty, the decline in agricultural income, and

partitions in land holdings as reasons for the poor status of the Marathas. It also notes that 94% of farmers who have died by suicide in the state belonged to the Maratha community.

○ **Inadequate Representation in Public Services**: The demand for the Maratha reservation has been fueled by concerns over access to education and employment, particularly in competitive exams where limited seats are available.

  ● The **Shukre Commission** finds inadequate representation of the community in all sectors of public services and says the Marathas have remained "completely out of the mainstream" due to their backwardness.

○ **Social Mobility:** Reservation for Marathas is seen as a means to facilitate upward social mobility within the community, enabling individuals from marginalized backgrounds to access overall social advancement.

  ● The **Shukre commission** notes that the population of Marathas in the state is 28%, while 84 % of them are not advanced, adding that such a large backward community cannot be added to the OBC bracket.

What are the Arguments Against the Maratha Reservation?

➤ **Lack of Social and Economic Backwardness** :

○ Marathas historically held significant land ownership and political power. Critics argue they may not meet the criteria for reservation as socially and economically backward.

○ Marathas own over 75% of the land in the State as well as 86 of the 105 sugar factories besides controlling about 55% of educational institutions and over 70% of cooperative bodies.

○ Marathas have dominated the political landscape with 11 of the 20 Chief Ministers coming from the community, and over 60% of all the members of the Legislative Assemblies of Maharashtra have been Marathas since 1962

➤ **Need for a Detailed Inquiry** :

○ The Commission concluded its survey within a span of 9 days (from January 23 to January 31, 2024). However, as the report has not been made public, there is little information available regarding the sample design, the questionnaire used, or the methodology employed for data analysis.

○ The bill declares Marathas to be socially and educationally backward, but the details available from the Shukre Commission's report, seem to primarily emphasize the community's economic backwardness. Almost nothing concrete is available about their social and educational backwardness.

○ The inferences drawn by the commission in the report are that 84% of the Marathas fall in the non-creamy layer, 21.22% of Maratha families are below the poverty line, and 94% of the farmers who have committed suicide are Marathas. All three are contentious claims.

➤ **Legal Concerns:**

○ Maharashtra currently has a reservation of 52%, including various categories such as SC, ST, OBC, Vimukt Jati, Nomadic Tribes, and others. With the addition of 10% reservation for the Marathas, the total reservation in the state will now reach 62%.

○ Extending reservations beyond the 50% cap set by the Supreme Court raises legal concerns.

○ Given the history of previous Maratha reservation attempts facing legal challenges and eventual setbacks in higher courts, doubts persist about the new Bill's ability to withstand judicial scrutiny, especially in light of the Supreme Court's previous ruling striking down Maratha reservations due to insufficient empirical data justifying quota extension beyond the 50% ceiling.

➤ **The Kunbi Certificate Controversy:**

○ A draft notification proposing recognition of "sage soyare" (extended relatives of Marathas with Kunbi lineage) as Kunbi, eligible for OBC reservation, stirred controversy.

  ● Opposition parties have raised questions about the viability of the new reservation and its potential impact on existing OBC reservations.

➤ **Political Motivations:**

○ Some critics question the timing and political motivations behind the push for the Maratha reservation.

○ They argue the decision may be driven by electoral considerations rather than genuine concerns for social justice.

What Should be the Way Forward?

➤ **Need for a Comprehensive Socio-economic Census :**

○ Addressing demands of politically dominant groups such as the Marathas, which have stratifications due to significant intra-community variations in terms of income and educational outcomes, suggests a case for a comprehensive socio-economic census.

○ Such a census will establish the true nature of backwardness and discrimination across States and could even clarify a new means of providing affirmative action based on the data while staying true to principles of social justice.

➢ **Evidence-Based Legislation**: Ensure that the Maratha Reservation Bill is legally sound and withstands judicial scrutiny by providing robust empirical data to justify the reservation beyond the 50% quota ceiling set by the Supreme Court.

➢ **Need for Comprehensive Approach:**

○ While reservation may address immediate concerns, it may not effectively address the root causes of Maratha's backwardness.

○ Increasing more employment opportunities is often considered more essential than expanding reservation policies.

○ The government should adopt integrated policies that combine reservation with targeted welfare programs, skill development initiatives, and infrastructure projects to ensure holistic development for Marathas.

➢ **Ensure Fair Competition without Discrimination :**

○ Ensuring that all individuals are treated fairly and without discrimination is a fundamental aspect of promoting equality. This means that people should not face disadvantages or privileges based on their background, such as their parents' status.

○ Encouraging competition on a level playing field, where individuals have equal opportunities to succeed based on their skills, abilities, and efforts, is crucial. This promotes excellence by motivating individuals to strive for their best.

➢ **Balancing the Reservation and Merit:** While giving reservations to the communities, the efficiency of the administration has to be looked upon too. Reservation beyond the limit will lead to ignorance of the merit, which will disturb the entire administration.

○ The main purpose of reservation is to address the issue of historical wrongs done to the less advantaged communities but the merit beyond a certain point must not be neglected too.

Conclusion

The reservation policy serves as a crucial tool for fostering a strong and inclusive society in India, but its effectiveness hinges on its ability to genuinely uplift the most marginalized sections of society. However, when reservation benefits are misused or manipulated for personal gain, it can undermine the integrity of the policy and perpetuate inequalities.

By focusing on the genuine welfare of the downtrodden and implementing complementary measures for socio-economic empowerment, India can move towards a future characterized by equality, opportunity, and prosperity for all.

■■■

Plastic Waste Crisis in the Indian Himalayan Region

This editorial is based on "_Mountains of plastic are choking the Himalayan States_" which was published in The Hindu on 04/03/2024. The article explores the detrimental effects of unscientific plastic disposal in the Indian Himalayan Region (IHR), leading to soil and water pollution and adversely affecting biodiversity. It also proposes solutions to mitigate these issues.

Tag: GS Paper - 2, Government Policies & Interventions, GS Paper-3, Environmental Pollution & Degradation, Scientific Innovations & Discoveries.

Plastic is ubiquitous everywhere, from the top of the highest mountain to the deepest of trenches in the ocean. It is found even inside the human lungs and placenta. **Microplastics** are formed by the degradation and the fragmentation of large plastic pieces that are improperly disposed of. Microplastic deposition and accumulation has been found in the Himalayan mountains, rivers, lakes and streams.

The **Indian Himalayan Region (IHR)** is a critical source of water in the subcontinent, feeding a number of major rivers of India that include the Indus, Ganges and Brahmaputra river systems. Unscientific plastic disposal is causing soil and water pollution in the IHR and impacting its biodiversity, which is having an adverse impact on the fresh water sources that communities downstream depend on.

Note:

➢ **The Indian Himalayan Region (IHR):**

○ It refers to the mountainous area in India that encompasses the entire Himalayan range within the country. It stretches from the northwestern part of India in Jammu and Kashmir to the northeastern states along the border with countries like Bhutan, Nepal, and Tibet (China).

○ It covers 11 states (Himachal Pradesh, Uttarakhand, Sikkim, all northeast states, and West Bengal) and 2 UTs (Jammu & Kashmir and Ladakh).

Indian Himalayan Region (IHR)

1. LADAKH　　　　6. WEST BENGAL (Darjeeling)　　11. MANIPUR
2. JAMMU & KASHMIR　7. ARUNACHAL PRADESH　　12. MIZORAM
3. HIMACHAL PRADESH　8. NAGALAND　　　　　13. TRIPURA
4. UTTARAKHAND　　9. ASSAM(Karbi Anglong & North Cachar)
5. SIKKIM　　　　10. MEGHALAYA
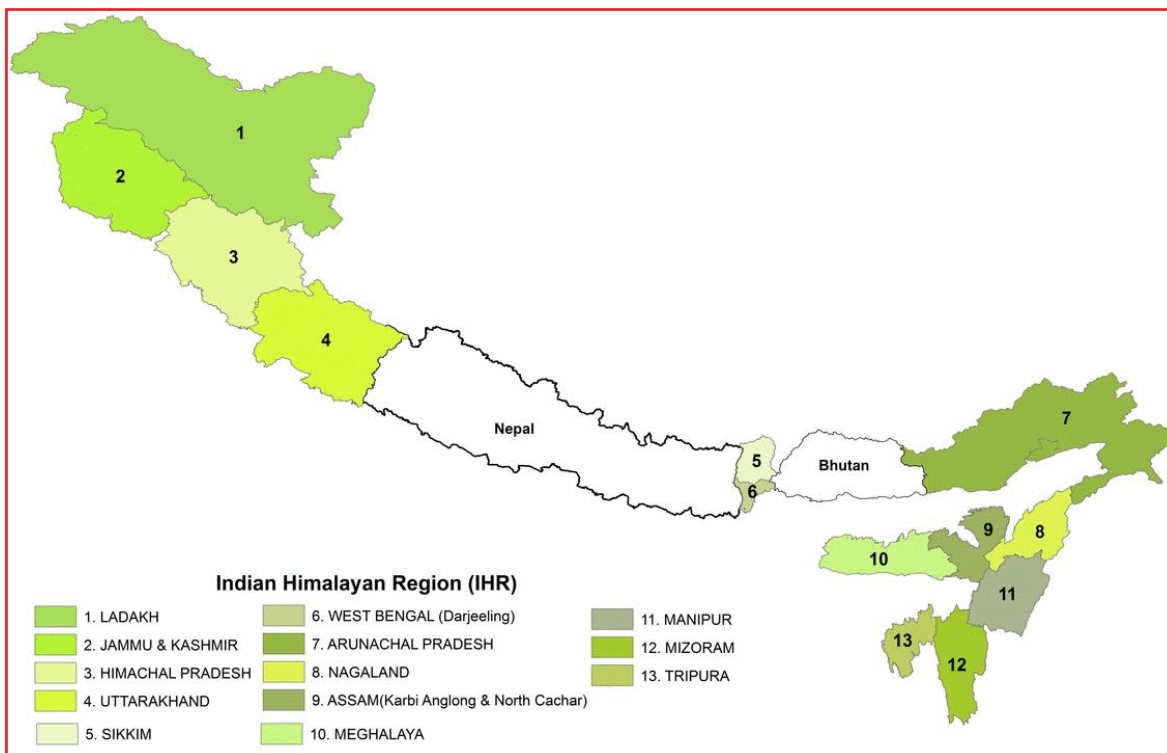
What are the Recent Indicators of Rising Plastic Pollution in IHR?

➢ **Report by SDC:**
  ○ A recent report by the Social Development for Communities (SDC) Foundation Dehradun highlighting the plight of towns in Uttarakhand drowning in plastic waste is a stark reminder of the malaise.

➢ **Findings of the NGT:**
  ○ **National Green Tribunal (NGT)** issued notices to the Ministry of Environment, Forest and Climate Change, the **Central Pollution Control Board (CPCB),** the Himachal Pradesh State Pollution Control Board, on waste dumping in eco-sensitive areas by tourists and commercial establishments.
    ● This brings to limelight the issues of waste dumping with impunity and without any significant deterrence by tourists and commercial establishments.

➢ **Observation at Deepor Beel, a Ramsar Site:**
  ○ In Assam, at the **Ramsar site** of **Deepor Beel**, Greater adjutant storks have been feasting on the plastic waste in the landfill instead of fish from the wetland. In Manipur, growing pollution in rivers, that include the Nambul, has been widely reported.

➢ **Audit Results of Himalayan Clean up (2018-21):**
  ○ The Himalayan Clean up (2018-21) that was conducted by the Integrated Mountain Initiative

with Zero Waste Himalayas and the **National Productivity Council of India's** waste and brand audit show increasing plastic waste, especially non-recyclables, in the Indian Himalayan Region.
  ● The Himalayan Clean up (2022) waste audit results showed that 92.7% of trash was plastic, with 72% of waste being non-recyclable plastic.

What are the Concerns Related to Plastic Waste Management in India?

➢ **Very High Mismanaged Waste Index (MWI):**
  ○ In 2023, India reached its **plastic overshoot day** on 6th January, which is shocking especially as the **Extended Producer Responsibility (EPR)** portal of CPCB claims that there is a systemic ability to deal with plastic waste. India has one of the highest MWI, at 98.55%, in the world (after Kenya, Nigeria and Mozambique) which is the gap in waste management capacity and plastic consumption.

➢ **Abysmal Waste Recycling Rate:**
  ○ The Government of India claims that it recycles 60% of plastic waste. In statistical analysis done by the Centre for Science and Environment (CSE) using CPCB data, India is merely recycling (through mechanical recycling) 12% of its plastic waste.
    ● Close to 20% of this waste is channelised for end-of-life solutions such as co-incineration, plastic-to-fuel and road making, which means we are burning 20% of our plastic waste and still calling it 'recycling' and when 68% of plastic waste is unaccounted for.

➢ **Lack of Recognition for the Needs of the Hills:**

   ○ **Solid Waste Management Rules (SWM) 2016, Plastic Waste Management (PWM) Rules 2016** and **EPR 2022** constitute the regulatory framework for plastic waste management for India (at the country level).

   ○ Special needs of hill areas are recognised by the SWM but are not factored in while creating a mandate for both local bodies and Producers, Importers and Brand Owners (PIBOs), while PWM and EPR have not even recognised the special needs of the hills.

➢ **Leachate From the Landfills:**

   ○ Waste segregation exists on paper, but a closer look shows landfills overflowing with mixed waste. The leachate from the mixed waste causes soil and groundwater pollution while fumes from such mixed waste cause air pollution. A huge amount of plastic waste which can be recycled still remains in landfills.

What are the Different Reasons Behind Rising Plastic Pollution in IHR?

➢ **Poor Waste Collection Infrastructure:**

   ○ Reports from **NITI Aayog** and the **World Bank** estimate that the IHR now generates more than five to eight million metric tons of waste annually. Uttarakhand and Himachal Pradesh have witnessed more than 400 million tourists since 2010 and are among the worst-performing states when it comes to solid waste management.

      ● Poor waste collection and infrastructure leads to more than 60% of waste being dumped, burned, or swept downstream into key rivers like the Ganga, Yamuna, and Sutlej.

      ● Additionally, waste dumping has an adverse effect on the more than 30,000 species of local flora and fauna, some of which are rare and on the verge of extinction.

➢ **Changing Consumption Patterns in Rural Areas:**

   ○ In recent decades, both durables and consumables—especially Fast-Moving Consumer Goods (FMCGs) in multilayered plastic packaging—have reached most villages in the Himalayas. Household products made of cloth, wood, leaves, bamboo, and other local materials are being rapidly replaced with cheaper plastic products at a large scale.

      ● For instance, the households inside the Govind Wildlife Sanctuary (a snow leopard conservation area) in Uttarkashi and the thousands of tourists who visit it every year generate more than 15 metric tons of dry waste per month - all of which is either dumped in the forest/river/hillside or burnt.

➢ **Heavy Influx of Tourists and Single-Use Products:**

   ○ With more travel options via road, train, and air, tourists are increasingly flocking to Himalayan states. Additionally, they visit more remote rural destinations and trekking routes. Their urban consumption patterns influence local residents to procure and sell packaged FMCGs, Polyethylene Terephthalate (PET) bottles, and **single-use plastics** to meet the large demand generated by the tourism, food, and hospitality sectors. This leads to widespread littering, dumping, and burning of waste in and around tourist areas.

➢ **Difficult Terrain for Logistics Etc:**

   ○ The difficult Himalayan terrain increases the costs of daily operations, complicates transportation logistics, and widens the distance from the nearest recycling factories. The IHR has a dearth of dry waste processing (material recovery facilities), and wet waste processing (composting or biogas units). The designated informal dumping points are typically near riverbanks so that the waste can get washed away during the monsoon.

➢ **Lack of Reach of Extended Producer Responsibility (EPR):**

   ○ Even though the Ministry of Environment, Forest and Climate Change has mandated FMCG brands to set up and support reverse logistics for their plastic waste as a part of their EPR mandate under the Plastic Waste Management Rules 2016, **most brands do not invest in reverse logistics in hilly areas due to the high cost of collection**.

      ● Moreover, many of the products available in these villages are produced by local brands, which do not have the capacity to invest in reverse logistics. Tourists carry products by the more popular brands with them, and the waste they leave behind does not get collected or recycled.

➢ **Lack of Policy Enforcement and Convergence:**

   ○ Waste collection in the IHR is sporadic, and waste is immediately dumped either at designated sites that lack environmental clearance or directly downhill and in rivers. Informal waste pickers and scrap dealers play a major role in material recovery, but only for high-value materials such as PET plastic, metals, cardboard, and glass.

      ● Additionally, such waste picking remains limited to urban and tourist areas. It doesn't

help that most **gram panchayats** and village or block development officers are ill-equipped to handle the exponentially increasing waste generation by local and floating populations.

➢ **Ineffective Collaboration Among Government Departments:**

❍ One major challenge is the lack of effective collaboration among various government departments. For instance, the Ministry of Drinking Water and Sanitation oversees the **Swachh Bharat Mission-Gramin**, which provides Rs 16 lakh per block for building a plastic waste management unit. The responsibility of ensuring the optimal use of these funds lies with the panchayati raj department.

● However, **SWAJAL's** role is limited to constructing the facility, and there is uncertainty about who will manage its operations. Gram pradhans are hesitant to use these grants for day-to-day operations because such activities require proof of completion through geotagging, which is not feasible for routine operations.
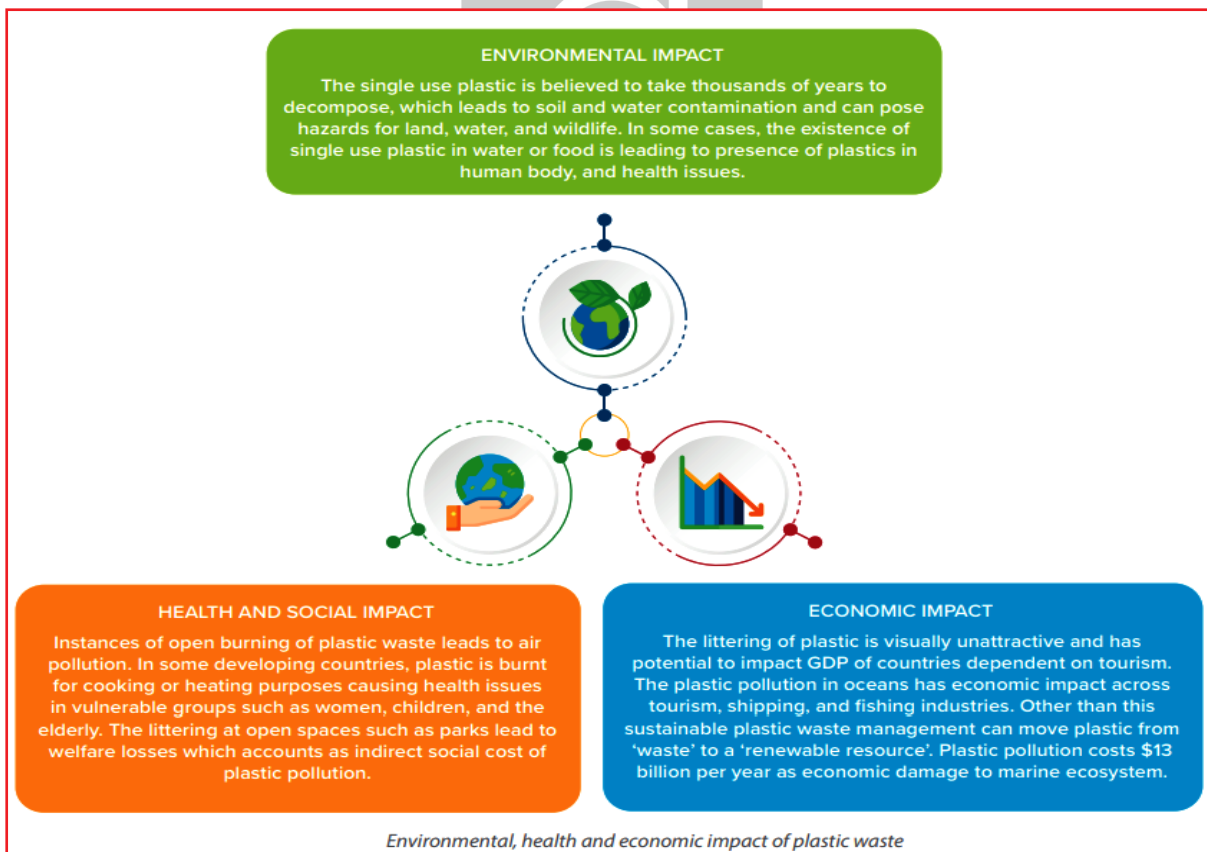
➢ **Social Stigma and Informal Livelihoods:**

❍ There is social stigma attached to working with waste as a means of livelihood. In most urban areas, informal migrant workers are involved in waste collection and segregation. However, rural areas do not attract these migrant workers, further exacerbating the crisis which calls for urgent redressal on war footing.

➢ **Inadequate Funding Capacity:**

❍ Another important factor to be noted is that the per capita amount provided by the central government to gram panchayats under the **Swachh Bharat Mission-Gramin** guidelines is insufficient to meet the expenses in hilly areas due to the widely spread-out population and difficult terrain as compared to villages in the plains, which have a much higher population density.

ENVIRONMENTAL IMPACT
The single use plastic is believed to take thousands of years to decompose, which leads to soil and water contamination and can pose hazards for land, water, and wildlife. In some cases, the existence of single use plastic in water or food is leading to presence of plastics in human body, and health issues.

HEALTH AND SOCIAL IMPACT
Instances of open burning of plastic waste leads to air pollution. In some developing countries, plastic is burnt for cooking or heating purposes causing health issues in vulnerable groups such as women, children, and the elderly. The littering at open spaces such as parks lead to welfare losses which accounts as indirect social cost of plastic pollution.

ECONOMIC IMPACT
The littering of plastic is visually unattractive and has potential to impact GDP of countries dependent on tourism. The plastic pollution in oceans has economic impact across tourism, shipping, and fishing industries. Other than this sustainable plastic waste management can move plastic from 'waste' to a 'renewable resource'. Plastic pollution costs $13 billion per year as economic damage to marine ecosystem.

Environmental, health and economic impact of plastic waste

What are the Various Steps Required to Mitigate the Crisis in IHR?

➢ **Ensuring Sufficient Investments:**

❍ The systemic nature of the problem implies that no singular institution or stakeholder can be held responsible for it. There is certainly an urgent need to solve the waste management problem in the IHR, but the current efforts in this direction are not commensurate with the scale of the issue.

- Given the significant global investment in tackling ocean plastic pollution, it's time we also invested the required resources to protect the mighty Himalayas.

➢ **Coordination With Rural Residents:**

❍ In addition to tackling the environmental challenges caused by waste pollution, gram panchayats, village development officers, and national entities such as the **National Rural Livelihoods Mission** must coordinate and work with rural residents to overcome this stigma and support efforts to generate livelihood opportunities for them in waste collection operations, material recovery, and market linkages for alternative products.

➢ **World Bank Study With KGGTF:**

❍ The World Bank, in collaboration with Korean Green Growth Trust Fund (KGGTF), embarked on a regional study to close the data gap and analyze the current Plastic Waste Management (PWM) situation in the mountainous regions of India, Nepal, and Pakistan.

- A key recommendation from the study is a systematic and phased approach **aimed to improve PWM services in the mountainous regions of India, Nepal, and Pakistan**.

  - The approach in which the work is done in phases would be most suited as there are several activities related to SWM that are carried out simultaneously.

  - A multi-tiered process ensures that the government and other partners are able to manage all of the moving pieces in waste management cycle, which includes institutional capacity, policy making, and enforcement, influencing behaviors of the waste producers, and improving technologies.

➢ **Need For Adopting State Specific Initiatives:**

❍ States across the IHR have also been taking various initiatives including enacting laws to curb this menace which need to be adopted by other States also:

- Himachal Pradesh and Sikkim have special State laws banning the use of plastics:

  - Himachal Pradesh has a buy back policy for non-recyclable and single-use plastic waste since 2019.

  - Sikkim banned packaged mineral water use from January 2022 and has a fairly robust regulatory system.

  - Mizoram has been proactive on the regulatory front — the Aizawl Municipal Corporation made by-laws under the PWM in 2019.

  - Tripura has made policy changes, enacted municipal by-laws and has a State-level task force to eliminate Single Use Plastic.

➢ **Segregating Different Types of Plastics:**

❍ The collective mandate of SWM/PWM/EPR requires waste segregation at source. Segregation of not only plastic from other waste but also different types of plastics is a prerequisite for any strategy to dispose of plastic waste in a scientific and sustainable manner.

- Segregation of waste and the participation of the people in this endeavour with the help of sustained public education campaigns are a sine qua non.

➢ **Devolving Powers to Local Bodies:**

❍ Under the SWM, PWM and EPR, the task of waste management from collection to its scientific disposal is the duty of local bodies. They can take help from PIBOs for the setting up and operationalisation of the plastic waste management system, as mandated under the EPR. Though local bodies are the pivot of the waste management system in the country, a commensurate devolution of power to them is still work in progress.

- The value of the EPR certificate which is earned by a PIBO in the IHR could be higher than one earned in the rest of the country for every ton of plastic waste processed.

➢ **Including Traditional Institutions:**

❍ Very few States have enacted model by-laws and very few local bodies themselves have made by-laws to operationalise the mandate. There is no clarity regarding the mandate to ensure collaboration between local bodies and PIBOs.

❍ There is a need to include traditional institutions within the definition of local bodies when it comes to the IHR (prevalent in many States in the northeast). It is important to note that under Swachh Bharat Mission (SBM) and the **Fifteenth Finance Commission**, money was allocated to these traditional institutions.

➢ **Integrating Rich Biodiversity With Waste Management:**

❍ There is a need for appropriate resource allocation and support that is considerate of and reflective of the rich biodiversity, ecological sensitivity and fragility of the IHR, besides taking into account the specific geographical challenges of mountain waste management.

➤ **Plugging Data Gaps:**
- ○ Data gaps in terms of the quantum and quality of waste being generated in the Indian Himalayan Region States should be plugged. Convergence in existing schemes such as SBM, the **Mahatma Gandhi National Rural Employment Guarantee Act, 2005** and the Finance Commission's grants could be used to create the infrastructure, maintain and run operations.

➤ **Augmenting Resources on Expedited Basis:**
- ○ The Swachh Bharat Kosh Trust set up to facilitate the channelisation of philanthropic contributions and corporate social responsibility funds towards this cause could also be used to augment resources.
- ○ The **Atal Mission for Rejuvenation and Urban Transformation (AMRUT)** and **Smart Cities Scheme** under which many cities in the Indian Himalayan Region are selected, could also work in convergence on the issue of scientific waste management and making cities in the Indian Himalayan Region free of plastic.

What are the Initiatives Related to Plastic Waste Management?

➤ **Indian:**
- ○ **Plastic Waste Management (Amendment) Rules, 2022**
- ○ **Extended Producer Responsibility (EPR)**
- ○ **National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management**
- ○ **India Plastics Pact**
- ○ **Project REPLAN**

➤ **Global:**
- ○ **European Union' Directive on Single-Use Plastics**
- ○ **Closing the loop.**
- ○ **The Global Tourism Plastics initiative**

Conclusion

The pervasive presence of plastic, from the highest mountain peaks to the deepest ocean trenches and even within the human body, underscores the urgent need for action. Improper disposal leads to the formation of microplastics, which are now found in the Himalayas, rivers, lakes, and streams of the Indian subcontinent. There is a pressing need for better data collection and resource allocation, particularly in the ecologically sensitive Himalayan region. Public education and community participation are crucial for successful waste segregation and management. Collaboration between local bodies and producers is essential, with the potential for higher value EPR certificates in mountainous regions.

■■■

Critical Minerals' Conundrum

This editorial is based on "*Why Minerals Are Critical*" which was published in Indian Express on 05/03/2024. The article discusses that having access to critical minerals is insufficient. Processing them and manufacturing the final product also requires access to technology. This process entails a gestation period of approximately 15 years or longer.

Tag: GS Paper-1, Mineral & Energy Resources, GS Paper-2, Government Policies & Interventions, GS Paper-3.

Two important steps have been taken by the government of India in the year 2023 on the subject of **critical minerals**. The first was to identify a list of 30 critical minerals (apart from **rare earths**, which are clearly identified in the periodic table) in July 2023 and the second was to amend the existing mining laws in November 2023 to allow private sector participation in the auction of 20 blocks of critical minerals/rare earths.

Note:

Mines and Minerals (Development and Regulation) Amendment Act, 2023:

➤ Under the original Act, auction of concessions is undertaken by the state governments, except in certain specified cases.

➤ The amended Act, 2023 adds that auction for composite licence and mining lease for specified critical and strategic minerals will be conducted by the central government.

➤ These minerals include lithium, cobalt, nickel, phosphate, potash, tin, phosphate, and potash. However, concessions will still be granted by the state government.

Rare Earth Elements (REEs):

➤ Rare earth elements (REEs) are a group of 17 chemical elements in the periodic table, specifically the 15 lanthanides along with scandium and yttrium. Despite their name, rare earth elements are relatively abundant in the Earth's crust, but they are rarely found in concentrations that can be economically exploited.

➤ REEs have unique properties that make them crucial components in a wide range of modern technologies, including smartphones, electric vehicles, wind turbines, and defence systems. They are used in magnets, catalysts, phosphors, and many other applications where their specific properties are essential.
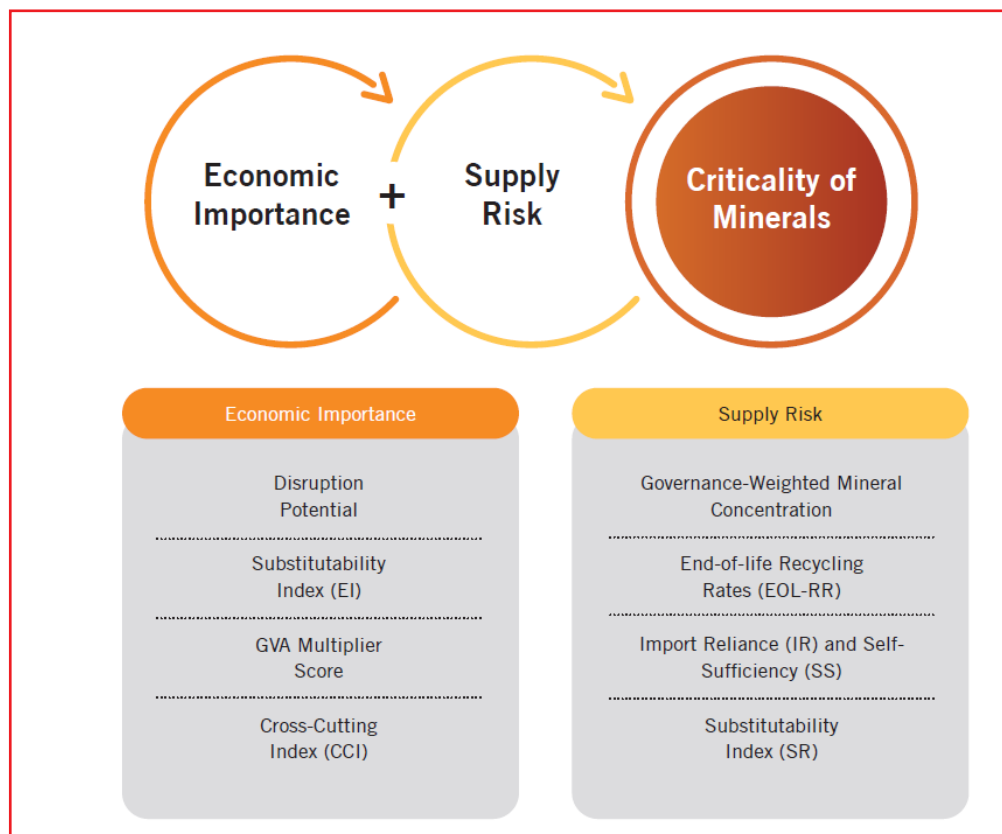
What are Critical Minerals?

➢ **About:**
- ❍ Critical minerals are those minerals that are essential for economic development and national security, the lack of availability of these minerals or concentration of extraction or processing in a few geographical locations may lead to supply chain vulnerabilities and even disruption of supplies.
  - ● Critical minerals have no particular definition and countries identify the minerals critical to them using their own criteria.

➢ **Declaration of Critical Minerals:**
- ❍ It is a dynamic process, and it can evolve over time as new technologies, market dynamics, and geopolitical considerations emerge.
- ❍ Different countries may have their own unique lists of critical minerals based on their specific circumstances and priorities.
  - ● The US has declared 50 minerals critical in light of their role in national security or economic development.
  - ● Japan has identified a set of 31 minerals as critical for their economy.
  - ● The UK considers 18 minerals critical, **EU** (34) and Canada (31).

➢ **Critical Minerals for India:**
- ❍ India has identified critical minerals depending upon their disruption potential, substitutability, cross-cutting usage across different sectors, import reliance, recycling rates etc.
- ❍ Expert Committee under Ministry of Mines has identified a set of **30 critical minerals for India:**
  - ● These are Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.
  - ● The **states/UTs which house these 30 identified critical minerals** are Bihar, Gujarat, Jharkhand, Odisha, Tamil Nadu, Uttar Pradesh, Chhattisgarh and Jammu and Kashmir.
    - ■ Creation of Centre of Excellence for Critical Minerals (CECM) under the Ministry of Mines is also recommended by the Committee. CECM will periodically update the list of critical minerals for India and notify the critical mineral strategy from time to time.

What is the Current Scenario for Critical Minerals Around the Globe?

➢ **Rapid Surge in Demand and Market Growth for Critical Minerals:**
 ○ From 2017 to 2022, the demand for lithium tripled, cobalt increased by 70%, and nickel rose by 40%, primarily driven by the **energy sector.**
 ○ The **International Energy Agency (IEA)** has estimated that in order to meet the **Paris Agreement** targets, the share of clean energy technologies in the total demand for critical minerals over the next two decades would be over 40% for copper and rare earths, 60-70% for nickel and cobalt and 90% for lithium.
 ● In general, mineral demand for clean energy technologies would rise by at least four times by 2040 to meet the climate goals.

➢ **Global Efforts through Policy Measures:**
 ○ The availability of critical mineral supplies will greatly impact the affordability and speed of energy transitions. To mitigate uncertain global supply chains, countries are implementing new policies to diversify their mineral supplies.
 ○ The US, Canada, the EU and Australia have enacted regulatory legislation, while resource-rich nations like Indonesia, Namibia, and Zimbabwe have imposed restrictions on the export of unprocessed mineral ores.

➢ **Concentration of Critical Minerals in Select Countries:**
 ○ These resources are concentrated in a few countries and, in the case of lithium, cobalt and rare earths, the world's top three producing nations control well over three-fourths of global output.
 ○ Specifically, Australia has 55% of lithium reserves, China has 60% of the rare earths, Democratic Republic of Congo (DRC) has 75% of cobalt, Indonesia has 35% of nickel, Chile has 30% of copper reserves.

➢ **Geopolitical Tensions and Resource Nationalism:**
 ○ It is important to address these challenges because global relations between nations have become more polarised, especially due to events like the **US-China trade war** and the **Russia-Ukraine war.** These conflicts have led to sanctions and disruptions in established trade patterns.

➢ **Supply-Demand Dynamics:**
 ○ As the prices of critical industrial metals, such as copper, are expected to increase in the coming years due to growing demand surpassing supply. This rise in material prices will likely disrupt the production costs of devices like solar panels and electric vehicles.

Total mineral demand for clean energy technologies by scenario, 2020 compared to 2040

Mt

- Solar PV
- Wind
- Other low-carbon power generation
- EVs and battery storage
- Electricity networks
- Hydrogen
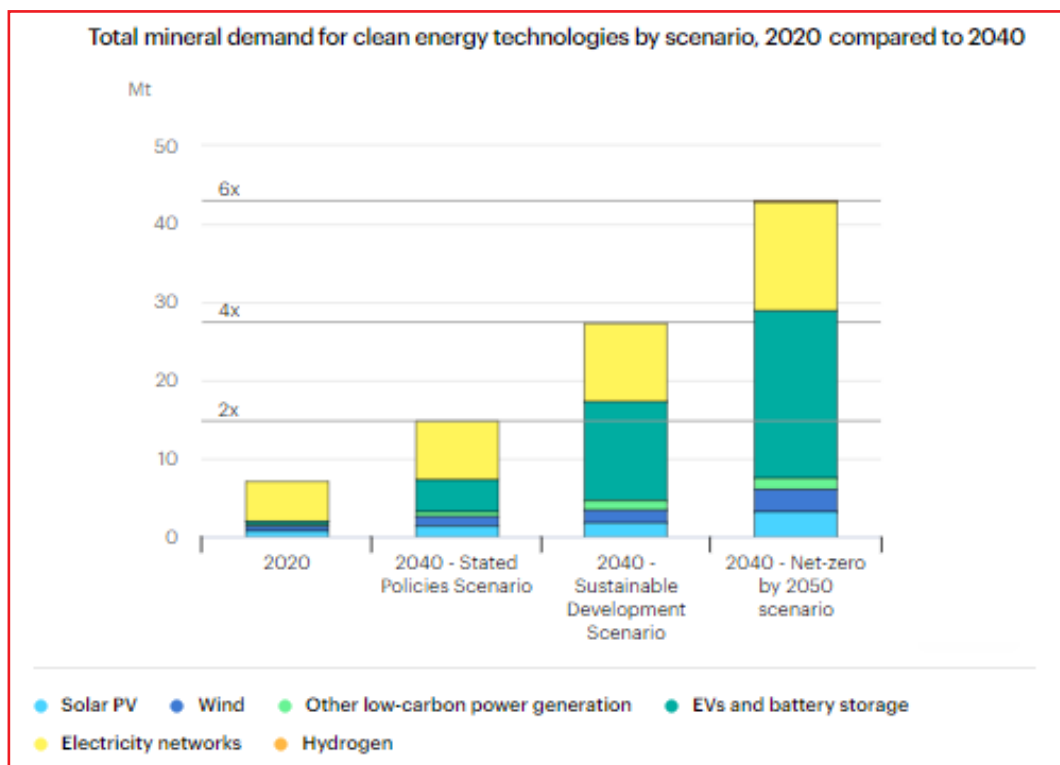
What is the Significance of Critical Minerals?

➢ **As Underlined by Erstwhile Planning Commission:**

❍ In India, some efforts were made in the past to identify the minerals that are critical for the country, including an initiative in 2011 by the Planning Commission of India that highlighted the need for the critical minerals.

● That report analysed 11 groups of minerals under categories such as metallic, nonmetallic, precious stones and metals, and strategic minerals. From 2017 to 2020, a big thrust was accorded to the study of exploration and development of rare earth elements in the country.

➢ **Economic Development:**

❍ Industries such as high-tech electronics, telecommunications, transport, and defence heavily rely on these minerals. Additionally, critical minerals are essential for green technologies like solar panels, wind turbines, batteries, and electric vehicles.

● Critical minerals play a significant role in decarbonisation, it is not limited to just that. They are also required for fertilisers, construction, magnets for industries, transport, consumer electronics, defence, etc.

● Given India's significant domestic demand and potential in these sectors, their growth can lead to job creation, income generation, and innovation.

➢ **National Security:**

❍ These minerals are vital for defence, aerospace, nuclear, and space applications, necessitating the use of high-quality and reliable materials capable of withstanding extreme conditions and performing complex functions.

❍ To ensure defence preparedness and self-reliance, India must secure a steady supply of critical minerals.

➢ **Environmental Sustainability:**

❍ As far as India is concerned, the availability of critical minerals (and rare earths) is crucial as it has massive plans to become **net-zero by 2070**. By 2030, India wants to set up 500 GW of non-fossil fuel power generating capacity.

● It also wants 30% of private cars, 70% of commercial vehicles and 80% of two/three wheelers to go electric. All this will not be possible without a steady source of lithium and other minerals required to manufacture batteries.

➢ **Promoting Industrial Activities through Vertical Integration:**

❍ The identification of these minerals — which form part of multiple strategic value chains, including clean technologies initiatives such as zero-emission vehicles, wind turbines, solar panels; information and communication technologies, including semiconductors; and advanced

manufacturing inputs and materials such as defence applications, permanent magnets, ceramics etc. — contribute significantly to industrial production and robust supply-chain networks.

➤ **International Cooperation:**

○ These collaborations enable India to diversify its import sources, reduce dependency on China, and enhance mineral security and resilience. It has led to the formation of the US-led Minerals Security Partnership (MSP).

● India, too, has joined the MSP. The aim of the MSP is to bolster the critical minerals supply chain. The MSP includes countries like Australia, Canada, Sweden and Norway, which have deposits of critical minerals, and also countries like Japan and South Korea which have access to processing technology.

What are the Different Concerns Related to Critical Minerals in India?

➤ **Limited Domestic Reserves:**

○ India has limited reserves of critical minerals such as lithium, cobalt, and other rare earth elements. Most of these minerals are imported, making India heavily dependent on other countries for its supply.

○ This reliance on imports can create vulnerability in terms of price fluctuations, geopolitical factors, and supply disruptions. India heavily relies on imports for critical minerals; 100% import reliance for lithium and nickel, and 93% for copper.

Sl. No.	Critical Mineral	Percentage (2020)	Major Import Sources (2020)
1.	Lithium	100%	Chile, Russia, China, Ireland, Belgium
2.	Cobalt	100%	China, Belgium, Netherlands, US, Japan
3.	Nickel	100%	Sweden, China, Indonesia, Japan, Philippines
4.	Vanadium	100%	Kuwait, Germany, South Africa, Brazil, Thailand
5.	Niobium	100%	Brazil, Australia, Canada, South Africa, Indonesia
6.	Germanium	100%	China, South Africa, Australia, France, US
7.	Rhenium	100%	Russia, UK, Netherlands, South Africa, China
8.	Beryllium	100%	Russia, UK, Netherlands, South Africa, China
9.	Tantalum	100%	Australia, Indonesia, South Africa, Malaysia, US
10.	Strontium	100%	China, US, Russia, Estonia, Slovenia
11.	Zirconium(zircon)	80%	Australia, Indonesia, South Africa, Malaysia, US
12.	Graphite(natural)	60%	China, Madagascar, Mozambique, Vietnam, Tanzania
13.	Manganese	50%	South Africa, Gabon, Australia, Brazil, China
14.	Chromium	2.5%	South Africa, Mozambique, Oman, Switzerland, Turkey
15.	Silicon	<1%	China, Malaysia, Norway, Bhutan, Netherlands

Table.1 The net import reliance for critical minerals of India (2020) (Source: A report on 'Unlocking Australia-India Critical Minerals Partnership Potential' by Australian Trade and Investment Commission, July 2021)

➤ **Increasing Demand for Minerals:**

○ The manufacturing of renewable energy technologies and the transition to electric vehicles necessitate larger quantities of minerals such as copper, manganese, zinc, lithium, cobalt, and rare earth elements.

○ It is worth noting that when it comes to building a solar PV plant or a wind farm or electric vehicles, they require more minerals than their fossil fuel counterparts.

● An electric car needs six times the mineral input when compared to a conventional car and an on-shore wind plant requires nine times more mineral resources than a gas-fired plant.

➤ **Limited Membership of the US led MSP:**

○ It is worth taking into account that the MSP does not include countries like Chile, DRC, Indonesia etc. (which are rich in certain critical minerals), raising concerns about its effectiveness. The basic premise of MSP is "friend shoring", meaning

moving manufacturing away from authoritarian and unfriendly states to allies.

➢ **Challenges Posed by China:**
  ○ **Major Share of Rare Earth Reserves:** Not only does China have a major share of rare earth reserves, it has also completely monopolised the processing capacity of these minerals. China processes 35% of the world's nickel, 50-70% of lithium and cobalt and nearly 90% of rare earths.
    ● Chinese companies have made investments in Australia, Chile, Indonesia and the DRC to source those minerals which it is not endowed with sufficiently.
  ○ **Monopolising Manufacturing of Finished products:** China has also monopolised the manufacture of finished products as it supplies 78% of cathodes, 85% of anodes, 70% of battery cells and 95% of permanent magnets made from rare earths.
  ○ **Settling Political Scores Against Countries:** China, incidentally, has been using its monopoly position on rare earths to settle political scores with countries like the US and Japan by restricting their exports and also the related technology.
    ● China's dominant position in the business of critical minerals and its willingness to arm-twist other countries has clearly rattled the world community.

➢ **Lack of Processing and Manufacturing the Final Products:**
  ○ India has signed an agreement with Australia to jointly explore for lithium and cobalt assets in Australia. The problem is that the availability of the minerals is not enough. One needs to process it and manufacture the final product which also means access to technology.
  ○ There is considered to be a gestation period of about 15 years or more. There is a big fear that lack of access to critical minerals may be the biggest roadblock to India's march towards decarbonisation.

What are the Steps Required to Boost Critical Minerals Availability?

➢ **Ensuring Resource Availability:**
  ○ Addressing the resource aspect is crucial. It is necessary to assess the availability and accessibility of critical materials required for clean energy technologies. This includes evaluating the domestic reserves of critical minerals and exploring opportunities for their sustainable extraction or sourcing from diverse international markets.

  ○ Additionally, there should be strategies to ensure a steady supply of these materials, mitigating risks associated with potential disruptions in global supply chains.

➢ **Financial Considerations:**
  ○ The transition to clean energy often necessitates significant investments in infrastructure development, research and development, and policy support. There is a need for financing mechanisms, incentives, and funding models that can attract both **public and private investments**.
  ○ Identifying avenues for international collaborations and exploring innovative financing options will also be vital in mobilising the required capital for a successful energy transition.

➢ **Technology as the Key Driver:**
  ○ Technology plays a critical role in achieving our energy goals. It is required for the world to focus on fostering domestic technological capabilities, promoting r&d, and fostering innovation in clean energy technologies.
    ● There is a need for technology transfer, collaborations with academia and industry, and the creation of an ecosystem that supports the development, adoption, and scaling up of innovative clean energy solutions.

➢ **Setting Up a Specialised Body:**
  ○ The Expert committee, under the Ministry of Mines, called for a need for establishing a National Institute or Centre of Excellence on critical minerals on the lines of Australia's CSIRO, which is the largest minerals research and development organisation in Australia and one of the largest in the world.
    ● A wing in the Ministry of Mines can be established as a Centre of Excellence for Critical Minerals adding that this proposed Centre will periodically update the list of critical minerals for India and notify the critical mineral strategy from time to time.

What are the Recent Steps Taken by India to Promote Production?

➢ **Adopting a Robust Three-Stage Process in Identification:**
  ○ In its three-stage assessment for identifying the minerals critical to India, the panel, in the first stage, looked at the strategies of various countries such as Australia, USA, Canada, UK, Japan and South Korea.
  ○ In the second stage of assessment, an inter ministerial consultation was carried out with different ministries to identify minerals critical to their sectors.

○ The third stage assessment was to derive an empirical formula for evaluating minerals criticality, taking cognizance of the EU methodology that considers two major factors - economic importance and supply risk.

➤ **Exploration Carried Out by GSI:**

○ The GSI, an attached office of the Ministry of Mines, has carried out a **G3 stage mineral exploration during Field Season 2020-21** and 2021-22 in Salal-Haimna areas of Reasi district, Jammu & Kashmir, and estimated an inferred resource of 5.9 million tonnes of lithium ore.

● Based on the mapping outcome, more exploration programmes on various mineral commodities including lithium will be taken up in future in different parts of the country, including Jammu & Kashmir.

➤ **Setting Up Khanij Bidesh India Ltd. (KABIL):**

○ It is mandated to identify and acquire overseas mineral assets of critical and strategic nature such as lithium, cobalt and others so as to ensure supply side assurance.

○ KABIL has initiated engagement with several state owned-organisations of the shortlisted source countries through the Ministry of External Affairs and the Indian Embassies in countries like **Argentina and Australia to acquire mineral assets,** including lithium, cobalt and rare earth elements.

Conclusion

The government's recent actions regarding critical minerals mark a significant step towards securing a steady supply of these essential resources. The identification of 30 critical minerals, along with amendments to mining laws to allow private sector participation, demonstrates a proactive approach to addressing potential shortages. However, challenges exist, such as the concentration of resources in a few countries and China's dominant position in processing and manufacturing. The path to decarbonisation and achieving net-zero goals by 2070 hinges significantly on overcoming these challenges and ensuring a sustainable supply of critical minerals.

■ ■ ■

Enact WUEGA: Women's Urban Employment Guarantee Act

This editorial is based on "A women's urban employment guarantee act" which was published in The Hindu on 04/03/2024. This article explores the possibility of a national Women's Urban Employment Guarantee Act (WUEGA).

Tag: GS Paper - 2, Government Policies & Interventions, Welfare Schemes, Gender, Issues Related to Women, Issues Relating to Development, GS Paper - 1, Role of Women, Social Empowerment, Poverty and Developmental Issues.

The **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** has been instrumental in providing financial autonomy to women in rural areas by guaranteeing at least 100 days of wage employment per year for unskilled manual work. However, urban realities are different.

The unemployment rate in urban areas is higher than in rural areas, indicating a high unmet demand for employment among urban women. Thus, there is a proposal for a national **Women's Urban Employment Guarantee Act (WUEGA)** to address the challenges of urban unemployment among women in India.

What is the Proposed Women's Urban Employment Guarantee Act (WUEGA)?

➤ **About:** The Women's Urban Employment Guarantee Act (WUEGA) is a proposed legislation aimed at addressing urban unemployment specifically for women. It purposely **guarantees employment opportunities** specifically for urban women.

➤ **Objective:** WUEGA will aim to bridge the gap in employment opportunities between men and women in cities. By providing a safety net and income security, WUEGA will seek to empower women and encourage their participation in the urban workforce.

➤ **Possible Features:**

○ **Guaranteed Employment:** WUEGA proposes **guaranteeing women a minimum number of workdays (e.g., 150 days)** per year.

○ **Local Work:** Creating work opportunities within a reasonable distance (e.g., 5 km) from a woman's residence.

○ **Accessible Infrastructure:** WUEGA might include provisions for essential facilities like childcare centres at worksites to address challenges faced by working mothers.

○ **Skill Development:** The proposal might incorporate training programs to bridge any skill gaps between available jobs and the qualifications of women in the applicant pool.

○ **Women-Led Management:** It proposes that women should form a significant percentage of the WUEGA management staff; **at least 50% (ideally 100%) of the program management staff** under WUEGA.

○ **Supportive Measures:** Incentives such as automatic inclusion in welfare boards can be created; these could act as agencies to provide maternity entitlements, pensions, and serve as resources for emergency funds.

More Rural Women Return to Workforce than Urban Females

INDIA TODAY GROUP

Female labour force participation in rural India recovered swiftly in the past five years; gradual increase for urban areas

🚶 **Rural**   🚶 **Urban**

Labour Force Participation Rate

- **49.4%** (2005, Rural)
- **41.5%** (2023, Rural)
- **24.4%** (2005, Urban)
- **24.6%** (Urban)
- **25.4%** (2023, Urban)
- **20.4%** (Rural)

Financial year (2005–2023)
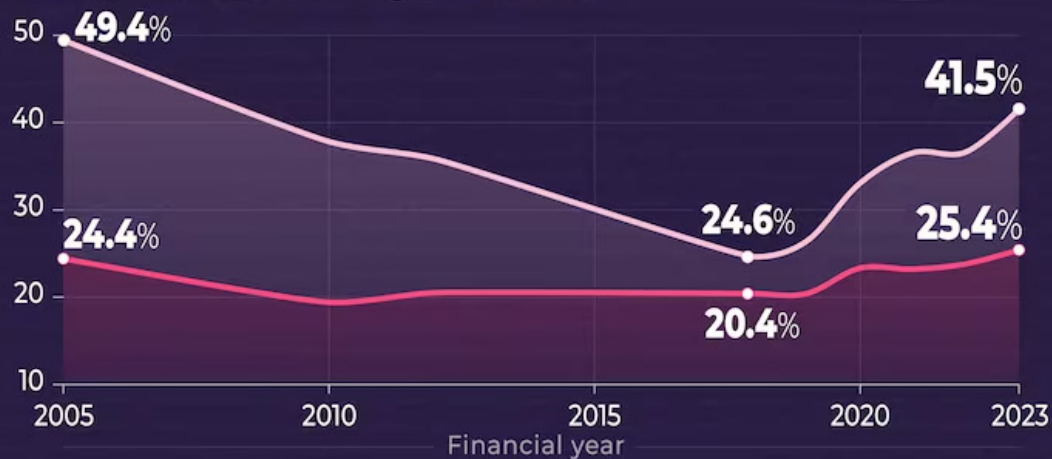
Steady fall in unemployment rate since FY 2018

- **10.8%** (Urban)
- **7.5%** (2023, Urban)
- **6.9%** (2005, Urban)
- **3.8%** (Rural)
- **1.8%** (2005, Rural)
- **1.8%** (2023, Rural)

Financial year (2005–2023)

DiU DATA INTELLIGENCE UNIT

Source: Periodic Labour Force Survey 2022-23, Govt. of India
Graphic: Samrat Sharma & Jaipal Sharma

What is the Necessity for the Women's Urban Employment Guarantee Act (WUEGA)?

➢ **Gender Disparities in Urban Employment:**
- ○ Urban areas often witness gender-based disparities in employment opportunities. According to the **Periodic Labour Force Survey (PLFS)**, only **22.9%** of urban women were employed in the last quarter of **2023**.
  - ● An estimate of the number of women in urban areas in the age group of **15-59** who are out of the workforce is **10.18 crore**.
- ○ The existing urban employment schemes do not adequately address these specific challenges faced by women.

➢ **Economic Empowerment and Sustainable Development Goals:**
- ○ WUEGA would empower urban women by providing them with guaranteed employment opportunities. By ensuring a minimum number of workdays, it enables women to contribute to their households and communities.
- ○ Promoting women's employment is crucial for achieving sustainable development goals, including gender equality and economic empowerment.

➢ **Childcare and Supportive Infrastructure:**
- ○ Despite higher education levels among urban women, their participation in the workforce remains low due to various factors such as social norms, safety concerns, and limited access to transportation.
- ○ WUEGA emphasises the need for childcare facilities at worksites. These provisions enable women to participate in employment without compromising their caregiving responsibilities.

➢ **Drawing lessons from Successful Rural Employment Schemes:**
- ○ Drawing lessons from successful rural employment schemes like the MGNREGA, the WUEGA can replicate similar models tailored for urban contexts.
- ○ By leveraging existing frameworks and experiences, the WUEGA can build upon proven strategies for enhancing women's participation in the workforce.

➢ **Potential for Economic Growth and Development:**
- ○ Increasing women's employment rates can serve as a catalyst for economic growth by expanding the labor force and stimulating productivity.
- ○ The WUEGA has the potential to contribute to broader economic development goals by harnessing the talents and capabilities of urban women.

What are the Potential Challenges in Enacting the Women's Urban Employment Guarantee Act (WUEGA)?

➢ **Financial Burden:**
- ○ Providing guaranteed employment translates to significant costs for wages, infrastructure development (e.g., childcare facilities at worksites), and program administration.
- ○ Assuming 150 days of work per year at ₹500 as daily wages, the wage component, to be funded by the Union government, would cost around 1.5% of the **GDP**.

➢ **Job Creation in Locality:**
- ○ Creating enough diverse work opportunities within a reasonable distance (e.g., 5 km) from a woman's residence, especially in densely populated cities, could be challenging.
- ○ The program will need to consider local needs and infrastructure to design suitable work options.

➢ **Safety Concerns:**
- ○ Safety remains a significant concern for women in urban settings, particularly during commutes to and from work.
- ○ Fear of harassment or violence in public spaces may discourage women from seeking employment opportunities, thus limiting their participation in the workforce.
- ○ The **rate of crimes against women per lakh population stood at 66.4** while the charge sheeting in such cases was logged at 75.8, according to the data in **"Crime in India 2022"**, the annual crime report of the NCRB.

➢ **Skill Gaps:**
- ○ Many urban women may lack the necessary skills and experience required for formal employment opportunities.
- ○ Access to quality education and vocational training programs may be limited, leading to disparities in skill levels and hindering women's employability.

➢ **Capacity Building:**
- ○ Ensuring at least 50% women in program management at all levels could be difficult initially.
- ○ Focused capacity-building initiatives might be required to create a robust female workforce for managing the program.

➢ **Legal and Bureaucratic Barriers:**
- ○ Efficient program implementation requires a streamlined bureaucracy to handle registration, job allocation, grievance redressal, and monitoring.

- There may be opposition from individuals or groups who are resistant to change and advocate for maintaining the status quo, which could impede the passage of legislation aimed at enhancing women's employment rights.

> **Social Norms and Gender Stereotypes:**
  - Deep-rooted societal expectations may hinder

acceptance of women's increased participation in the workforce, especially in urban areas where traditional gender roles are more pronounced.

- Prevailing stereotypes regarding women's roles as caregivers or homemakers could pose resistance to their engagement in formal employment.

Rate of Crimes against women (Per 1 Lakh)
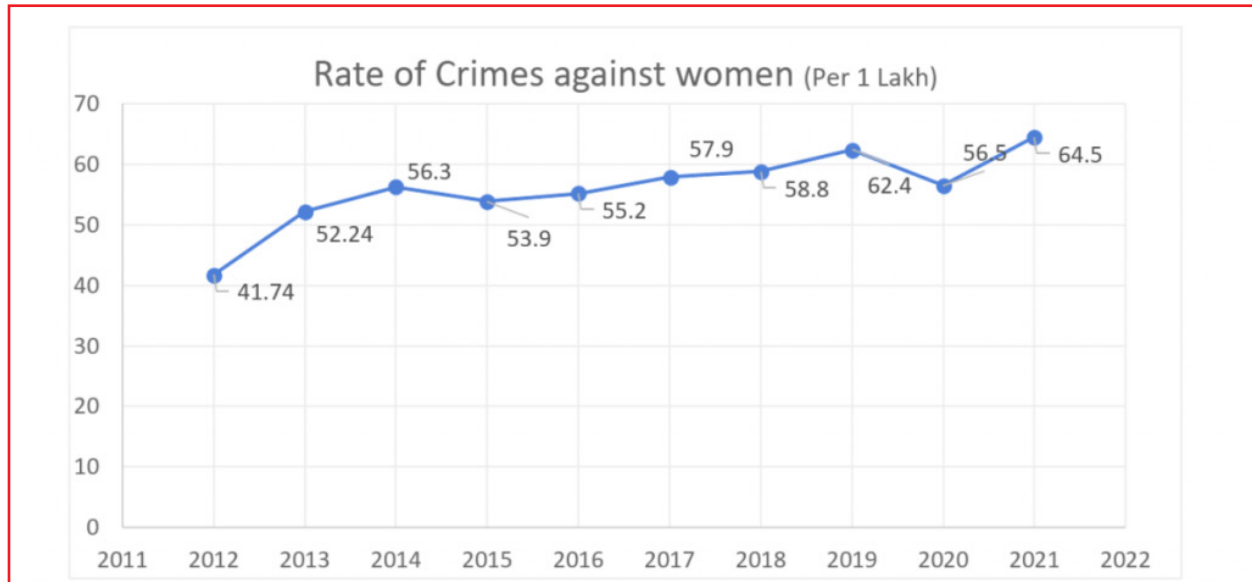
What are the Government Initiatives for Urban Employment in India?

> **Central Govt:**
  - Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM)
  - PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi)
> **State Govts:**
  - **Kerala** was among the first states to provide 100 person-days of guaranteed wage employment through the **Ayyankali Urban Employment Guarantee Scheme (AUEGS)**—which was launched in 2011. The scheme guidelines require ULBs in Kerala to prioritise women, such that they comprise at least 50% of the beneficiaries under the scheme.
  - **Himachal Pradesh's Mukhya Mantri Shahri Ajeevika Guarantee Yojna** was launched in 2020 to enhance livelihood security in urban areas by providing 120 days of guaranteed wage employment to every household in a financial year.
  - **Jharkhand: Mukhyamantri Shramik Yojana** was launched in 2020 to enhance livelihood security in Jharkhand State by providing guaranteed 100-day wage employment in a financial year.

What Should be the Way Forward For Effective Enactment of WUEGA?

> **Collecting Gender-Disaggregated Data:**
  - Gender-disaggregated data provides policymakers with valuable insights into the specific challenges faced by urban women in accessing and retaining employment.
  - The collected data should note trends regarding choice of jobs, usual times of the year when women access these jobs, education levels of women opting for the scheme, and so on.

> **Designing an Urban Employment Scheme with a Gender Lens:**
  - Draft the Women's Urban Employment Guarantee Act (WUEGA) as an all-encompassing legislation, delineating the rights, privileges, and responsibilities of both the government and recipients, grounded in gender-disaggregated data.
  - The legislation should mandate equal pay for equal work, ensuring that women receive the same wages as their male counterparts for similar job roles and responsibilities.

➢ **Allocate Resource and Build Capacity:**

  ❍ Allocate adequate financial resources for the implementation of WUEGA, ensuring sufficient funding for wages, administrative expenses, infrastructure development, and capacity-building initiatives.

  ❍ Provide training and capacity-building programs for government officials, program administrators, and beneficiaries to ensure effective implementation and management of the WUEGA.

➢ **A Phased Approach to Implementation:**

  ❍ Initiate pilot programs in select urban areas to test the feasibility of implementing WUEGA. Conduct feasibility studies to assess the readiness of different urban areas and identify potential challenges and opportunities.

  ❍ Begin implementation of WUEGA in a phased manner, starting with urban areas where infrastructure and support systems are relatively well-developed and expanding gradually to other areas.

➢ **Track the Implementation Progress:**

  ❍ Establish robust monitoring and evaluation mechanisms to track the implementation progress, assess program effectiveness, and identify areas for improvement, with a focus on outcomes such as employment generation, income enhancement, and skill development.

➢ **Address Safety Concerns:**

  ❍ Implement measures to enhance the safety and security of women in public spaces, including adequate lighting, surveillance systems, and increased police patrolling, to mitigate safety concerns and encourage greater workforce participation.

➢ **Support Women Entrepreneurs :**

  ❍ Provide support and incentives for women entrepreneurs to start and grow their businesses, including access to financial resources, mentorship programs, and networking opportunities, to create alternative avenues for employment and economic empowerment.

➢ **Partnerships and Collaboration:**

  ❍ Forge partnerships with civil society organisations, community groups, private sector stakeholders, and international agencies to leverage their expertise, resources, and networks for the successful implementation of WUEGA.

➢ **Raise Awareness and Change Attitudes:**

  ❍ Conduct awareness campaigns and sensitisation programs to challenge gender stereotypes, promote gender equality, and change societal attitudes toward women's roles and capabilities in the workforce.

Conclusion

The Constitution of India upholds principles of equality and social justice, requiring affirmative action to tackle gender disparities in employment. Implementing the WUEGA is in line with these constitutional mandates and ethical obligations to promote gender equality and empowerment.

■■■

Tepid Trade-Offs: On the WTO 13ᵗʰ Ministerial Conference

This editorial is based on "Tepid trade-offs: On the WTO 13th Ministerial Conference (MC13) in Abu Dhabi" which was published in The Hindu on 05/03/2024. The article assesses the significant outcomes and associated challenges emerging from the 13ᵗʰ Ministerial Conference (MC13) held recently in Abu Dhabi.

Tag: GS Paper-2, Bilateral Groupings & Agreements, Important International Institutions, Groupings & Agreements Involving India and/or Affecting India's Interests, Deglobalisation & Protectionism.

Recently, the 13ᵗʰ Ministerial Conference (MC13) of the **World Trade Organization** took place in Abu Dhabi, UAE. Ministers from diverse levels of development and varying geopolitical perspectives convened to address a wide array of crucial subjects, including but not limited to food security, e-commerce, fisheries subsidies, WTO reform, domestic regulations of services, and investment facilitation.

Despite efforts to tackle global trade challenges, the conference concluded with minimal progress despite prolonged discussions.

What is the WTO Ministerial Conference?

➢ **About:**

  ❍ The **WTO Ministerial Conference** is a gathering of representatives from member countries of the World Trade Organization (WTO).

  ❍ It serves as the highest decision-making body of the WTO and the conference typically convenes every two years.

➢ **Objectives:**

  ❍ The conference sets the agenda for the organisation's activities and negotiations.

○ Discussions and negotiations on various trade-related topics such as market access, subsidies, and dispute resolution.

○ Formulating policies to enhance global trade and economic cooperation.

○ Facilitating agreements among member countries on trade rules and regulations

○ The conference may result in agreements or declarations that guide member countries' trade policies.

○ Development of action plans to address specific challenges identified during the conference.

Structures of WTO
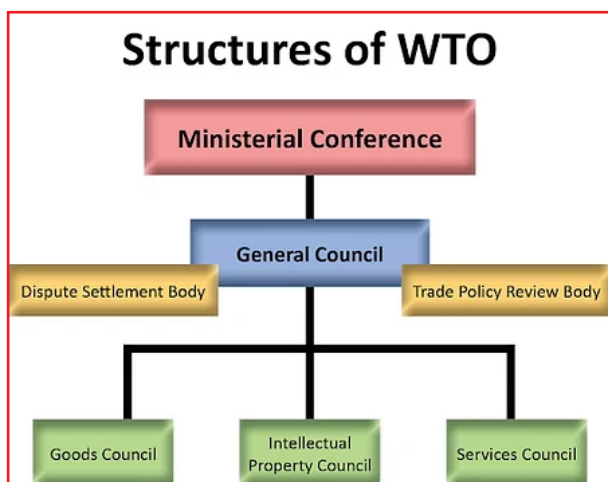
What are the Key Outcomes of WTO's 13th Ministerial Conference?

➤ **Accessions:**

○ Ministers endorsed **the accession to the WTO of two least-developed countries—Comoros and Timor-Leste**. This brings the organisation's Membership to 166, representing 98% of world trade.

➤ **Reform of the Deliberative and Negotiating Functions:**

○ At MC13, ministers welcomed the work already undertaken to:

● Improve the functioning of WTO Councils, Committees, and Negotiating Groups,

● Enhance the organisation's efficiency and effectiveness, and

● Facilitate Members' participation in WTO work.

○ They instructed officials to continue their **"reform by doing"** process and to report progress to the 14th Ministerial Conference (MC14).

○ At MC13, ministers renewed their commitment to achieve **a fully functional dispute settlement system** accessible to all Members by 2024.

➤ **E-Commerce:**

○ At MC13, ministers decided to renew the e-commerce moratorium until MC14 or 31 March 2026, whichever is earlier.

➤ **TRIPS Non-Violation and Situation Complaints:**

○ In a decision that has often been linked to the e-commerce moratorium, ministers also decided to extend a moratorium on so-called **"non-violation" and "situation" complaints** under the **TRIPS Agreement**.

○ Such complaints would otherwise allow Members to challenge, in WTO dispute settlement, IP-related measures that are not inconsistent with TRIPS obligations but that nonetheless undermine benefits expected from the agreement.

➤ **Covid COVID-19-related TRIPS Waiver:**

○ At MC12, ministers adopted special rules that broadened the availability of compulsory licences for the production of Covid-19 vaccines. They also mandated negotiations on whether to expand the product coverage of these special rules to Covid-19 diagnostics and therapeutics.

○ At MC13, ministers took note of the work undertaken and the **lack of a consensus on expanding the product scope.** Accordingly, these special rules are not going to apply to compulsory licences for the production of Covid-19 diagnostics and therapeutics.

➤ **Special and Differential Treatment:**

○ Ministers adopted a decision to improve the use of **special and differential treatment (S&DT) provisions**, in particular those in the Agreement on Technical Barriers to Trade and the Agreement on **Sanitary and Phytosanitary Measures**.

➤ **Plurilateral Agreements and Initiatives:**

○ **WTO Plurilateral initiatives** are discussions at the WTO in which only a subset of Members are participating. They can aim to create new rules, secure mutual liberalisation of tariffs, create a new process or launch a conversation.

○ At MC13, several such plurilateral initiates reached agreements or reported on the results of their work in important areas.

○ An important plurilateral initiative concerns **Investment Facilitation for Development (IFD).**

➤ **Domestic Regulation of Services:**

○ A commercially significant outcome of MC13 was the agreement reached on implementing new disciplines for domestic regulation of services, integrating them into the WTO framework.

❍ These disciplines are designed to facilitate trade in services by streamlining and simplifying regulatory procedures.

➤ **Sustainability-Related Initiatives:**

❍ Members have also come together in different groupings to work on a series of sustainability-related initiatives.

❍ **The Dialogue on Plastics Pollution and Environmentally Sustainable Plastics Trade**, an initiative comprising 78 Members, identified trade and trade-related measures and policies to reduce plastics pollution.

❍ Finally, 48 Members reported on progress toward **Fossil Fuel Subsidy Reform**.

➤ **Fisheries Subsidies:**

❍ At MC12, members concluded an **Agreement on Fisheries Subsidies (AFS)** which prohibits the granting or maintaining of subsidies to entities involved in **illegal, unreported, and unregulated (IUU) fishing** or the fishing of overfished stocks.

❍ At MC13, ministers welcomed the progress over the past 20 months towards the AFS's entry into force. As of 1 March 2024, 71 Members have ratified the agreement.

WORLD TRADE ORGANIZATION

Singapore MC
Ministerial and trade in information technology products Declarations adopted

Seattle MC
Failed to launch a new Round and to reach Ministerial Declarations

Cancún MC
The Ministerial Conference failed

1995 — 1996 — 1998 — 1999 — 2001 — 2003

Uruguay Round Deal
WTO formed

Geneva MC
Ministerial and global E-Commerce Declarations adopted

Doha MC
Doha Round launched

The July package
The July package fails and revised drafts issued in December

Negotiations suspended
DDA negotiations suspended

Frameworks established
Envisioned to focus Doha negotiations

2009 — 2008 — 2007 — 2006 — 2005 — 2004

Geneva MC
Not intended as a negotiating session

Negotiations resumed
DDA negotiations fully resumed

Hong Kong MC
Ministerial Declaration adopted

Negotiating Chairs report
Report on latest progress concerning the DDA

Nairobi MC
Nairobi Package adopted

Astana MC
WTO Members accepted Kazakhstan's invitation to host MC12

2011 — 2012 — 2013 — 2015 — 2017 — 2020

Geneva MC
Seven Ministerial Decisions adopted

Bali MC
Bali Package adopted

Buenos Aires MC
Five Ministerial Decisions established

What Challenges are Currently Undermining the WTO's Effectiveness?

➤ **Erosion of Multilateralism:**

❍ There has been a noticeable erosion of multilateralism in recent years, with **increasing trade disputes** and the **rise of unilateral trade actions.**

❍ This trend undermines the effectiveness of the WTO as a forum for resolving trade conflicts and negotiating trade agreements.

❍ The MC13 also failed to make progress on key issues like fisheries subsidies, reflecting serious divisions among 166 member countries.

➤ **Protectionism and Trade Wars:**

❍ The proliferation of tariffs, quotas, and other trade barriers undermines the principles of free trade and poses a threat to the rules-based trading system.

❍ For instance, the **trade dispute between the US and China** has strained the multilateral trading system and challenged the WTO's ability to mediate and resolve such conflicts.

➤ **Dispute Settlement Mechanism Crisis:**

❍ The WTO's dispute settlement mechanism, often regarded as the crown jewel of the organisation, has faced a crisis in recent years.

❍ The Appellate Body, responsible for adjudicating trade disputes, has been **rendered dysfunctional due to the US' blocking of new appointments** to the body.

○ The absence of a functioning dispute settlement mechanism erodes confidence in the multilateral trading system and encourages unilateralism.

➢ **Development Divide and Special and Differential Treatment:**

○ Despite the principle of **Special and Differential Treatment (S&D)** aimed at providing flexibility and support to developing nations, disparities persist in their capacity to participate effectively in trade negotiations and implement trade-related reforms.

○ **Least-developed countries (LDCs)** often lack the resources and technical assistance needed to capitalise on trade opportunities, perpetuating their marginalisation in the global economy.

➢ **Digital Trade and E-commerce:**

○ The rapid growth of digital trade and e-commerce presents both opportunities and challenges for the WTO. While digital technologies have the potential to enhance trade efficiency and facilitate economic growth, they also raise new **regulatory and policy issues that fall outside the scope of traditional trade agreements.**

○ The WTO faces the challenge of adapting its rules and agreements to accommodate the evolving nature of digital trade while ensuring a level playing field for all member countries.

➢ **Environmental and Sustainability Concerns:**

○ The WTO faces **growing pressure to incorporate environmental and sustainability considerations** into its trade rules and agreements. Climate change, biodiversity loss, and other environmental challenges have significant implications for global trade patterns and practices.

○ **Balancing environmental objectives with trade liberalisation** goals requires innovative approaches and cooperation among WTO members to develop rules that promote both economic growth and environmental sustainability.

➢ **Public Health and Access to Medicines:**

○ The Covid-19 pandemic has highlighted the importance of public health considerations in trade policy. **Access to affordable medicines and medical supplies has become a critical issue**, particularly for developing countries facing challenges in procuring essential healthcare products.

○ The WTO faces the **challenge of reconciling intellectual property rights** with the need to ensure access to medicines for all, particularly during public health emergencies.

➢ **Agriculture and Food Security;**

○ Although updating WTO disciplines on agriculture has been on the agenda of Members since 2000, little progress has been made. At MC13, members failed again to reach a consensus on the scope, balance, and timeline of agriculture negotiations.

○ This failure resulted, in particular, from broad disagreement over the issue of **"public stockholding for food security purposes"**.

What are India's Primary Concerns within the WTO?

➢ **Agricultural Subsidies and Food Security:**

○ India is deeply concerned about the impact of agricultural subsidies and domestic support measures adopted by developed countries on its farmers' livelihoods and food security.

○ India has been vocal about the need for a permanent solution on public stockholding for food security purposes, **allowing developing countries to subsidise agricultural production without facing trade sanctions.**

○ This issue gained prominence during the WTO's negotiations on the **Agreement on Agriculture**, where India sought to safeguard its food security programs from being challenged under WTO rules.

➢ **Market Access and Non-Tariff Barriers:**

○ India seeks **improved market access for its goods and services in developed countries,** coupled with measures to address non-tariff barriers that impede its exports.

● Non-tariff barriers such as technical regulations, **sanitary and phytosanitary measures**, and restrictive licensing procedures disproportionately affect India's export competitiveness.

○ India emphasised a cautious and calibrated approach to trade negotiations, ensuring adherence to WTO principles while addressing concerns about non-trade issues, such as the **EU's Carbon Border Adjustment Mechanism**.

➢ **Intellectual Property Rights (IPR) Regime:**

○ India advocates for a **balanced and development-oriented intellectual property rights regime** within the WTO framework. It seeks to safeguard its ability to promote access to affordable medicines, foster innovation, and protect traditional knowledge and biodiversity.

○ A notable example is India's stance on the **TRIPS agreement**, where it has advocated for flexibilities and safeguards to ensure access to essential medicines for its population.

- ➤ **USA Obstructing India's Initiatives:**
  - ❍ The disputes where India is a complaining party are:
    - Countervailing duty by the US on Indian steel products
    - Measures by the US concerning non-immigrant visas
    - Renewable energy programmes of the US
    - Import duties imposed on steel and aluminium products by US
  - ❍ WTO disputes where India is a responding party include:
    - Prohibition by India on the import of poultry and poultry products filed by the US
    - Import duties on certain information and communication technology goods filed by the EU, Japan, and Taiwan.

- ➤ **Special and Differential Treatment (S&D):**
  - ❍ India **insists on the effective implementation of S&D provisions** across all areas of WTO agreements to ensure that developing countries can fully benefit from the multilateral trading system.
  - ❍ For instance, India has advocated for differential treatment in the areas of tariff reduction commitments, trade facilitation measures, and dispute settlement procedures to address asymmetries in global trade relations.

WTO AGREEMENT ON AGRICULTURE (AoA)

A WTO treaty negotiated during the Uruguay Round of the General Agreement on Tariffs and Trade (GATT); formally ratified in 1994 at Marrakesh, Morocco; Came into effect in 1995

FEATURES

- Market access (Promote market access for agricultural products by reducing trade barriers)
- Domestic support (Subsidy Boxes are included in this)
- Export subsidies (Reduce the use of export subsidies, which can distort trade)

SUBSIDY BOXES

Amber Box Subsidies:
- ⇢ Can distort international trade by making a country's products cheaper in comparison to those of other countries
  - » Examples: Subsidies for inputs such as fertilisers, seeds, electricity, irrigation, and Minimum Support Price (MSP)
- ⇢ Amber box is used for all domestic support measures that are deemed to distort production and trade
  - » As a result, the signatories are required to commit to reducing domestic supports that fall into the amber box
- ⇢ Members who do not make these commitments must keep their amber box support within 5-10% of their value of production. *(Di Minimus Clause)*
  - » 10% for developing countries
  - » 5% for developed countries
- ⇢ India's MSP program remains under scrutiny, as it exceeds 10% ceiling

Blue box Subsidies:
- ⇢ "Amber box with conditions" — designed to reduce distortion
- ⇢ Any support that would normally be in the amber box is placed in the blue box if it requires farmers to limit production
  - » These subsidies aim to limit production by imposing production quotas or requiring farmers to set aside part of their land
- ⇢ At present there are no limits on spending on blue box subsidies

Green Box Subsidies:
- ⇢ Domestic support measures that don't cause trade distortion or at most cause minimal distortion
- ⇢ These subsidies are government funded without any price support to crops
  - » Also include environmental protection and regional development programmes
- ⇢ Allowed without limits (except in certain circumstances)

Drishti IAS

What Reforms are Necessary in the World Trade Organization (WTO)?

- ➤ **Revitalising Dispute Settlement Mechanism:**
  - ❍ Restoring the functionality of the Appellate Body is crucial to ensuring the timely and effective resolution of trade disputes.
  - ❍ Immediate action is needed to address the deadlock in appointing new members to the Appellate Body and to uphold the integrity of the WTO's dispute settlement mechanism.

- ➤ **Suitable Provision For Punishment:**
  - ❍ If a country has done something wrong, it should swiftly correct its faults. And if it continues to break an agreement, it should offer compensation or face a suitable response that has some remedy — although this is not actually a punishment: it's a "remedy", the ultimate goal being for the country to comply with the ruling.

○ Such countries can be mandated to submit mandatorily a particular amount to the **Green Climate Fund** if found on the wrong side.

➤ **Updating Trade Rules to Reflect Modern Realities:**

○ The WTO's rules and agreements need to be updated to address emerging issues such as digital trade, e-commerce, and environmental sustainability.

○ Immediate reforms should focus on modernising trade rules to accommodate new technologies, promote sustainable development, and facilitate inclusive economic growth.

➤ **Strengthening S&D Provisions:**

○ Enhancing the effectiveness of S&D provisions is essential to support the development objectives of developing and least developed countries (LDCs).

○ Immediate reforms should aim to make S&D provisions more operational and responsive to the specific needs and challenges faced by developing countries, particularly in areas such as agriculture, IPRs, and services trade.

➤ **Addressing Trade Distortions and Subsidies:**

○ Urgent action is needed to address trade-distorting practices, including subsidies that distort market competition and undermine fair trade.

○ Reforms should focus on strengthening disciplines on subsidies and other forms of government support to ensure a level playing field for all WTO members.

➤ **Promoting Inclusive Decision-Making:**

○ Ensuring inclusive decision-making processes within the WTO is essential to strengthen its legitimacy and effectiveness.

○ Immediate reforms should focus on promoting greater participation and representation of all member countries, including developing and LDCs, in WTO negotiations, committees, and decision-making bodies.

Conclusion

The World Trade Organization (WTO) must undertake visionary reforms to sustain its legitimacy and central role in the rapidly evolving global economy. This entails prioritising inclusivity to ensure the voices of all member countries are heard, adapting swiftly to emerging challenges and opportunities through modernisation and innovation, and upholding transparency and accountability to build trust among stakeholders.

■■■

Bengaluru's Water Crisis: A Wake-Up Call for India

This editorial is based on the article "Bengaluru's worst water crisis leaves country's IT capital high and dry" which was published in the Times of India on 07/03/2024. The article talks about the severe water crisis in Bengaluru and assesses the government's efforts to alleviate the situation.

Tag: GS Paper-3, Environmental Pollution & Degradation, GS Paper-1, Water Resources

Bengaluru is facing a worsening **water crisis**, leading to significant shortages in various areas. According to the reports, 223 of the 236 talukas in Karnataka are affected by drought, including Mandya and Mysuru districts, the sources of Bengaluru's water.

As summer intensifies, about 7,082 villages across Karnataka are at risk of witnessing a drinking water crisis in the coming months.

What are the Reasons Behind Bengaluru's Severe Water Scarcity?

➤ **Reduced Rainfall and Empty Water Reservoirs:**

○ The city has witnessed insufficient rainfall in the past couple of monsoons. This has significantly impacted the **Cauvery River**, a primary source of water for the city. Lower river levels mean less water for drinking and agriculture.

○ Karnataka received a 38% deficit in north-east Monsoon showers from October to December. The State received a 25% deficit in **southwest monsoon** rain from June to September.

○ As per information from the **Karnataka State Natural Disaster Management Centre (KSNDMC)**, the water levels in Cauvery Basin reservoirs like **Harangi**, **Hemavathi**, and **Kabini** are at 39% of their total capacity as of 2024.

➤ **Depletion of Groundwater Sources:**

○ Bengaluru's explosive growth has resulted in the concretisation of natural landscapes that used to absorb rainwater. This reduces groundwater recharge and increases surface runoff, leading to less water percolation.

○ Residents rely on borewells to supplement the water supply. However, with falling rain and excessive extraction, groundwater levels are rapidly declining, causing many borewells to dry up.

➤ **Inadequate Infrastructure:**

○ The city's infrastructure, including water supply

systems and sewage networks, has not kept pace with its rapid growth. This inadequacy exacerbates the challenges of distributing water efficiently to meet the demands of the expanding population.

○ The anticipated completion of **Phase-5 of the Cauvery project**, designed to provide 110 litres of drinking water daily to 12 lakh people, is expected by May 2024.

➢ **Climate Change:**

○ Changing weather patterns, including erratic rainfall and prolonged droughts, attributed to climate change, have reduced the availability of water in Bengaluru's reservoirs and natural water bodies.

○ The **Indian Meteorological Department** attributes the region's poor rainfall to the **El Niño phenomenon**.

➢ **Pollution of Water Bodies:**

○ Pollution from industrial discharge, untreated sewage, and solid waste dumping has contaminated water sources, rendering them unfit for consumption and further reducing the available water supply.

○ A study conducted by the **Environmental Management & Policy Research Institute (EMPRI)** states that about 85% of Bengaluru's water bodies are polluted by industrial effluents, sewage, and solid waste dumping.

➢ **Mismanagement and Inequitable Distribution:**

○ Inefficient water management practices, including wastage, leakage, and unequal distribution of water resources, contribute to the severity of the water scarcity crisis, with some areas receiving inadequate or irregular water supply.

➢ **Legal and Political Challenges:**

○ Disputes over water sharing between Karnataka and neighbouring states, particularly with regard to rivers like the Cauvery, further complicate efforts to manage and secure water resources for Bengaluru's residents.

○ There is an ongoing tussle between the central and state governments concerning the distribution and allocation of funds aimed at addressing the drought situation in Karnataka.
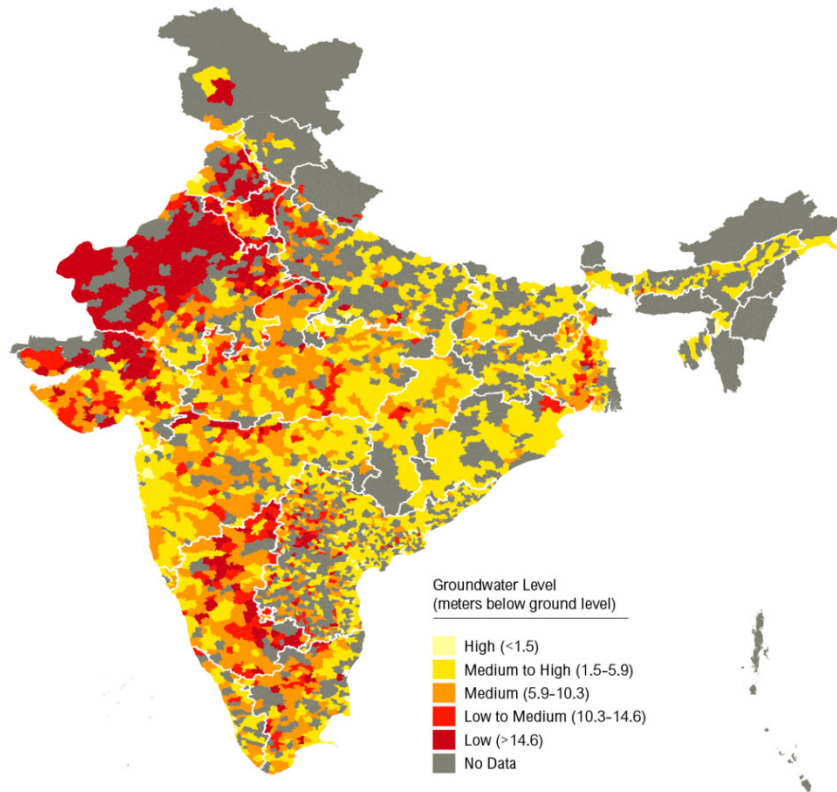

CAUVERY BASIN
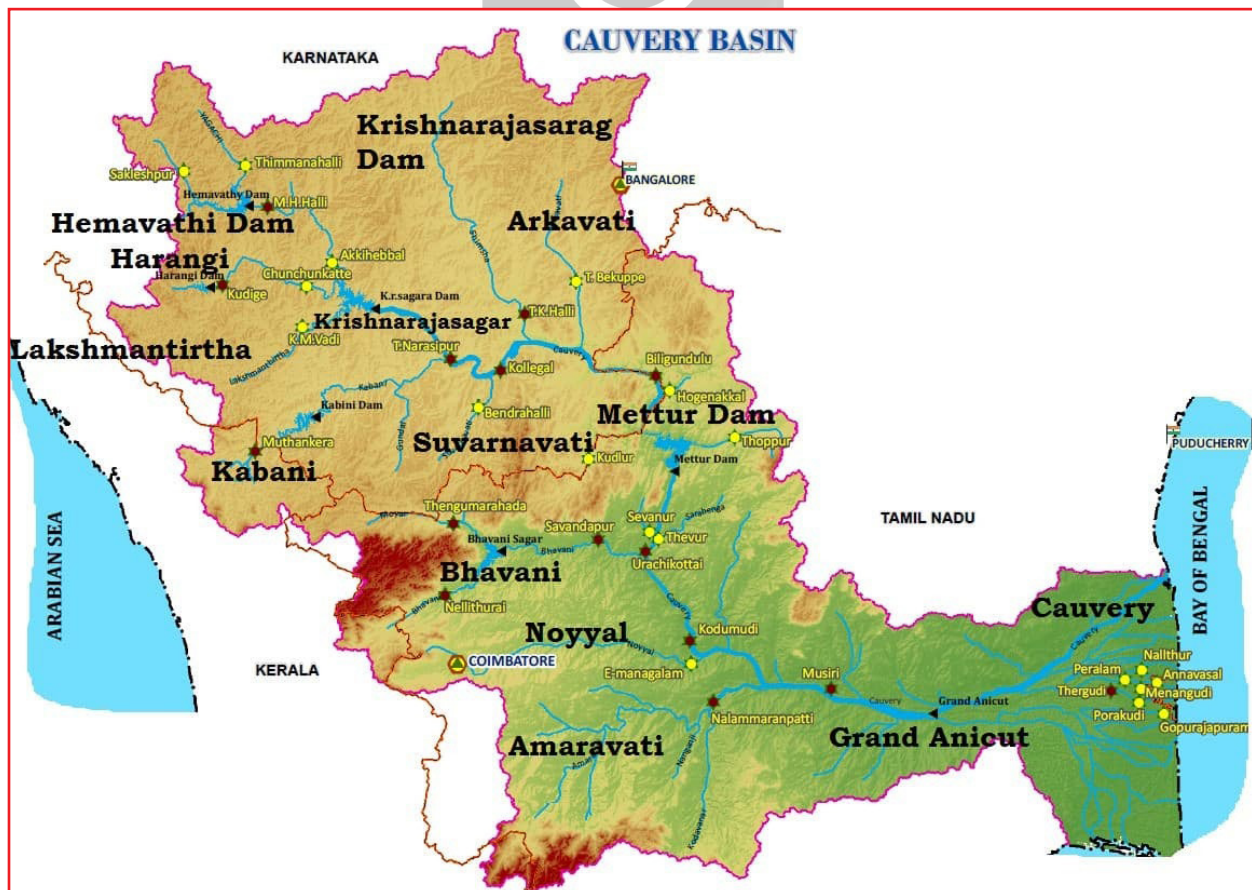
What is the Current State of the Groundwater Crisis in India?

➢ **Lack of Water Availability:**

○ Despite supporting **17% of the world's population, India possesses only 4% of the world's freshwater resources**, making it challenging to meet the water needs of its vast populace.

○ A report titled **"Composite Water Management Index (CWMI)"**, published by **NITI Aayog** in June 2018, mentioned that India was undergoing the worst water crisis in its history; **that nearly 600 million people were facing high to extreme water stress**; and about 200,000 people were dying every year due to inadequate access to safe water.

54% of India's Groundwater Wells Are Decreasing

Groundwater Level (meters below ground level)
High (<1.5)
Medium to High (1.5–5.9)
Medium (5.9–10.3)
Low to Medium (10.3–14.6)
Low (>14.6)
No Data

www.indiawatertool.in

WORLD RESOURCES INSTITUTE

➢ **Groundwater Overuse or Overexploitation:**

○ **India is the largest groundwater user in the world,** with an estimated usage of around 251 bcm per year, more than a quarter of the global total.

○ With more than 60% of irrigated agriculture and 85% of drinking water supplies dependent on it, and growing industrial/urban usage, groundwater is a vital resource.

○ It is projected that the per capita water availability will dip to around 1400 m^3 in 2025, and further down to 1250 m^3 by 2050.

➢ **Groundwater Contamination:**

○ Groundwater contamination is the presence of pollutants such as bacteria, phosphates, and heavy metals from human activities including domestic sewage.

○ The **NITI Aayog** report mentioned that India was placed at the rank of 120 amongst 122 countries in the water quality index, with **nearly 70% of water being contaminated.**

○ In parts of India, high levels of arsenic, fluoride, nitrate, and iron are also naturally occurring in groundwater, with concentrations likely to rise as water tables fall.

➢ **Lack of Access to Safe Drinking Water**:

○ Millions of Indians lack access to safe drinking water and improved sanitation, leading to a high incidence of waterborne diseases.

● The water crisis in India is compounded by a growing demand for clean water, particularly from a fast-growing middle class, and widespread practices of open defecation, leading to health-related concerns.

○ A few numbers from the **World Bank** highlight the plight the country is facing:

○ 163 Million Indians lack access to safe drinking water.

○ 210 Million Indians lack access to improved sanitation.

○ 21% of communicable diseases are linked to unsafe water.

○ 500 children under the age of five die from diarrhoea each day in India.

➢ **Future Projections**:

○ The **NITI Aayog** report projected the country's water demand to be twice the available supply by 2030, implying severe scarcity for hundreds of millions of people and an eventual loss in the country's **GDP**.

○ **The rate of depletion of groundwater in India during 2041-2080 will be thrice** the current rate with global warming, according to a new report.

○ Across climate change scenarios, the researchers found that their estimate of **Groundwater Level (GWL)** declines from 2041 to 2080 is 3.26 times current depletion rates on average (from 1.62-4.45 times) depending on the Climate model and **Representative Concentration Pathway (RCP)** scenario.

What are the Key Government Schemes To Tackle The Groundwater Crisis in India?

➢ **MGNREGA for water conservation**

➢ **Jal Kranti Abhiyan**

➢ **National Water Mission**

➢ **Atal Bhujal Yojana (ABHY)**

➢ **Jal Jeevan Mission (JJM)**

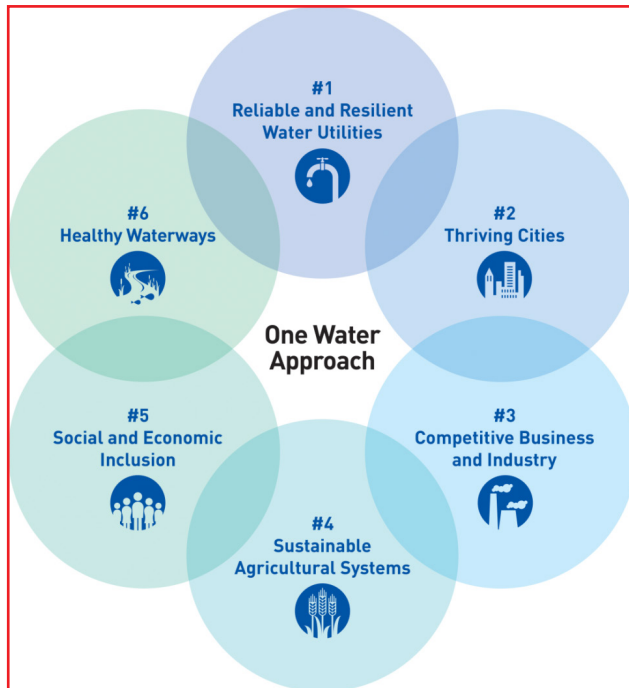➢ **National Mission for Clean Ganga (NMCG)**

What Steps Should Be Taken to Address the Water Crisis in India?

➢ **Interlinking of Rivers:**

○ The **national interlinking of rivers (ILR)** is the idea that rivers should be inter-connected, so that water from the surplus rivers and regions could be transferred to deficient regions and rivers to address the issue of **water scarcity**.

➢ **Promote Water Conservation:**

○ Implementing water conservation measures at individual, community, and national levels is crucial.

○ This includes promoting rainwater harvesting, efficient irrigation techniques, and minimising water wastage in domestic, industrial, and agricultural sectors.

➢ **Invest in Infrastructure:**

○ Allocate adequate financial resources for water infrastructure development, maintenance, and rehabilitation.

○ Explore innovative financing mechanisms such as public-private partnerships, water tariffs, and user fees to mobilise funding for water projects.

➢ **Promote Sustainable Agriculture:**

○ Encourage farmers to adopt water-efficient farming practices such as drip irrigation, precision agriculture, crop rotation, and agroforestry.

○ Providing incentives and subsidies for implementing water-saving technologies can facilitate this transition.

○ As per the **MS Swaminathan committee** report on **'More Crop and Income Per Drop of Water' (2006),** drip and sprinkler irrigation can save around 50% of water in crop cultivation and increase the yield of crops by 40-60%.

➢ **Address Pollution:**

○ Combat water pollution by enforcing strict regulations on industrial discharge, sewage treatment, and agricultural runoff.

○ Implementing wastewater treatment plants and adopting eco-friendly practices can help reduce pollution levels in rivers, lakes, and groundwater sources.

➢ **Legislation and Governance:**

○ Strengthen water governance frameworks by enacting and enforcing water-related legislation, policies, and regulatory mechanisms.

○ Establishing local, regional, and national water management authorities can facilitate coordinated decision-making and implementation of water management strategies.

○ Introducing **minimum support policies** for less water-intensive crops can reduce the pressure on agricultural water use.

➢ **Community Participation:**

○ Strengthening community participation and rights in groundwater governance can improve **groundwater management.**

○ **World Bank** projects for groundwater governance in peninsular India were successful on several fronts by implementing the **Participatory Groundwater Management approach (PGM).**

➢ **Adopt One Water Approach:**

○ **One Water Approach**, also referred to as **Integrated Water Resources Management (IWRM)**, is the recognition that all water has value, regardless of its source.

○ It includes managing that source in an integrated, inclusive and sustainable manner by including the community, business leaders, industries, farmers, conservationists, policymakers, academics and others for ecological and economic benefits.

One Water Approach
#1 Reliable and Resilient Water Utilities
#2 Thriving Cities
#3 Competitive Business and Industry
#4 Sustainable Agricultural Systems
#5 Social and Economic Inclusion
#6 Healthy Waterways

Conclusion

By fostering inclusive participation from all stakeholders, and implementing sound policies that prioritise long-term sustainability over short-term gains, India can pave the way towards a future where every Indian has access to safe and reliable groundwater.

Striving for a Future Without Cervical Cancer

This editorial is based on "A bold step towards a cervical cancer-free future" which was published in The Hindu on 08/03/2024. The article delves into the necessity and obstacles faced by the HPV vaccination program aimed at eliminating cervical cancer in the country.

Tag: GS Paper-2, Health Issues Related to Women, Government Policies & Interventions. GS Paper-1, Women's Issues.

Cervical Cancer continues to pose a substantial health threat in India, emphasizing the necessity of preventive measures. The Government of India intends to initiate a three-phase vaccination drive against **Human Papillomavirus (HPV)** for girls aged 9-14, aiming to mitigate the risk of **cervical cancer**.

However, understanding the risk factors, vaccination options, screening protocols, and management of precancerous conditions is crucial to effectively combat this preventable disease.

What is Cervical Cancer?

➢ **About:**
  ○ **Cervical Cancer** develops in a woman's cervix. It is the 4th most common type of cancer among women, globally.
  ○ Almost all cervical cancer cases (99%) are linked to infection with high-risk Human Papillomavirus (HPV), an extremely common virus transmitted through sexual contact.

➢ **Types of Strain:**
  ○ Persistent infections with certain high-risk **HPV strains** lead to nearly 85% of all cervical cancers.
  ○ At least 14 HPV types have been identified as oncogenic (potential to cause cancer).
    ● Among these, HPV types 16 and 18, considered to be the most oncogenic, have been found to be responsible for about 70% of all cervical cancer cases globally.

Why Fighting with Cervical Cancer is Crucial for India?

➢ **High Prevalence and Mortality Rates:** Cervical cancer ranks as the **second most common cancer** among women in India, with **approximately 1.27 lakh cases** reported annually and contributing to around 80,000 deaths each year.

➢ **Comorbidities and Risk Factors:** Human papillomavirus (HPV) infection, primarily transmitted through sexual contact, is a leading cause of cervical cancer in India.
  ○ The high prevalence of comorbidities like **HIV/AIDS** and risk factors such as early marriage, multiple sexual partners, and lack of contraception use further complicate efforts to eradicate cervical cancer.

➢ **Disproportionate Impact on Underserved Communities:** Cervical cancer disproportionately affects women in underserved and marginalized communities due to limited access to healthcare facilities, inadequate awareness, and socio-economic factors.

➢ **Economic Burden:** The economic burden of cervical cancer is significant, with costs associated with diagnosis, treatment, and care straining healthcare resources and exacerbating financial hardships for affected individuals and their families.

PREVENTING CERVICAL CANCER

FACTS ABOUT CERVICAL CANCER:

Human Papillomavirus (HPV) is the main cause of cervical cancer

99.8% of UK cervical cancer cases are preventable

WHAT ARE THE SYMPTOMS OF CERVICAL CANCER?

- Unscheduled bleeding (during or after sex, between periods)
- Post-menopausal bleeding
- Unusual discharge
- Pain or discomfort during sex
- Lower back or pelvic pain

MYTH	VS	FACT
Cervical screening checks for cervical cancer		Cervical screenings are used to check the health of your cervix and identify cell changes.
If your cervical screening comes back abnormal, you have cervical cancer.		An abnormal test result means changes to the cervical cells, which could potentially cause cancer in the future.
Older women do not need to undergo cervical screenings.		Women aged 50-64 should undergo a cervical screening every 5 years.
Smoking is not linked to cervical cancer.		Around 20% of cervical cancers in the UK are linked to smoking.

CONCLUSION:

If you are aged between 25-64, it is crucial to attend all your scheduled cervical screenings to detect any cervical cell changes early on and get the necessary treatment.

Visiting your GP or gynaecologist at the earliest sign of any symptoms is also vital in detecting cervical changes early and preventing cervical cancer.

London Women's Centre specialises in the treatment of abnormal cervical screening results (dyskaryosis). For more information, please visit

➢ **Impact on Women's Well-being:** Cervical cancer predominantly affects women during their prime years, leading to premature deaths that impact families' socio-economic stability and children's well-being.

➢ **Human Rights Issue:** Access to affordable and quality healthcare services, including HPV vaccination and cervical cancer screening, is essential for fulfilling women's right to health and well-being.

➢ **Long-term Benefits:** Investing in cervical cancer prevention and control efforts yields long-term benefits for public health and sustainable development, contributing to improvements in life expectancy, maternal and child health outcomes, and progress toward achieving the **Sustainable Development Goals(SDGs)**.

CLEAR AND PRESENT DANGER

In incidence and mortality, India in top five among 21 Asian countries in cervical cancer

Incidence per 100,000 (all age groups)

Rank	Country	Value
1	Indonesia	24.4
2	Myanmar	22.6
3	Brunei	20.8
4	Mongolia	19.7
5	India	18

Mortality per 1,00,000 (all age groups)

Rank	Country	Value
1	Indonesia	14.4
2	Myanmar	14.4
3	Mongolia	11.6
4	India	11.4
5	Nepal	11.1
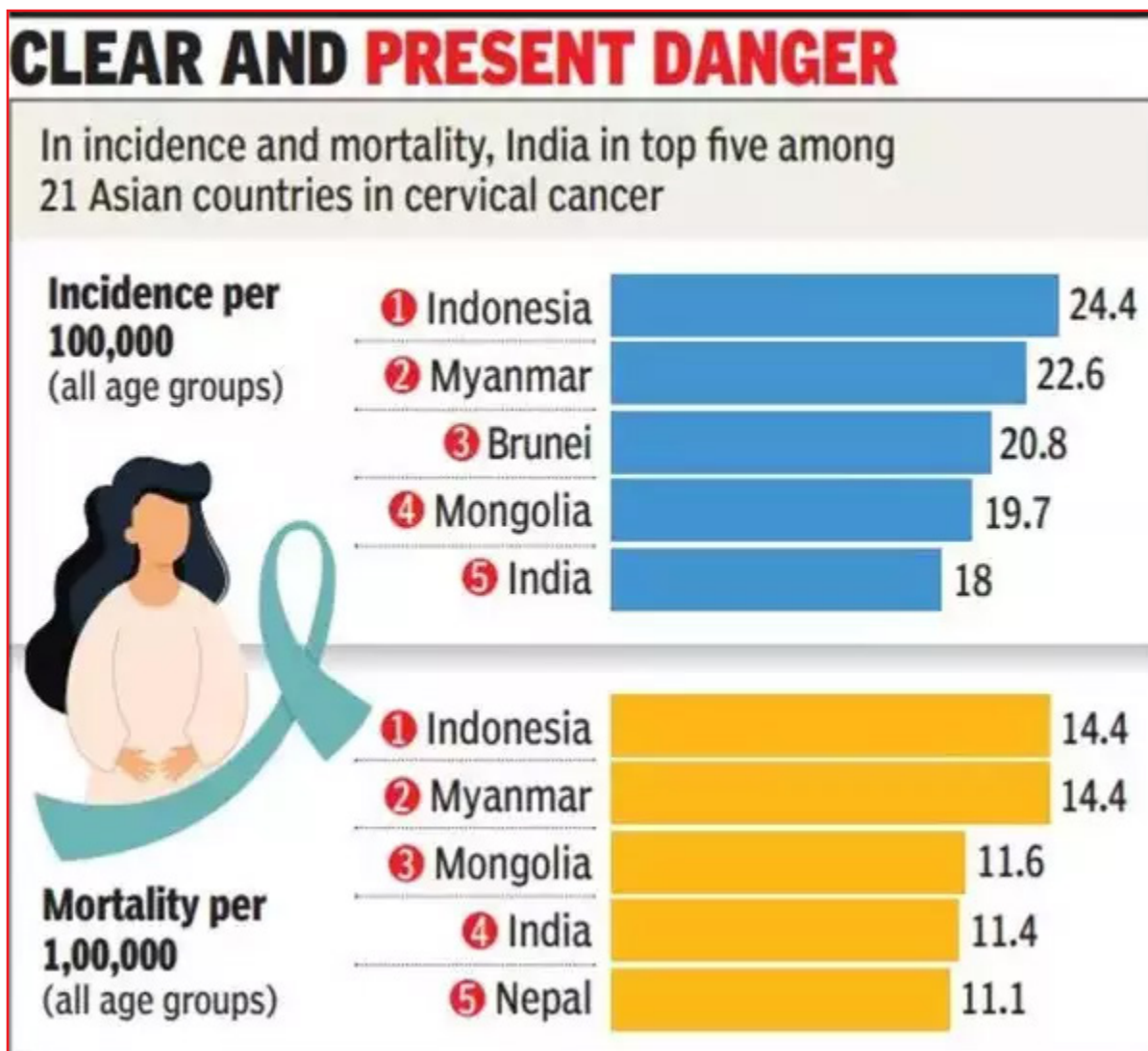
What Obstacles Hinder the Eradication of Cervical Cancer in India?

➢ **Limited Awareness:** Many individuals, particularly in rural and underserved areas, lack awareness about cervical cancer, its risk factors, and preventive measures like HPV vaccination and regular screening.

➢ **Inadequate Screening Programs:** There is a lack of widespread and accessible cervical cancer screening programs in India, leading to late-stage diagnoses and poor treatment outcomes.

➢ **Lack of Access to Formal Health Care:** Insufficient healthcare infrastructure, particularly in rural areas, hinders early detection, diagnosis, and treatment of cervical cancer.

○ A study in Andhra Pradesh revealed that 68% of patients first sought traditional healers, and only 3% had received HPV vaccination.

➢ **Shortage of Skilled Personnel:** There is a shortage of skilled healthcare professionals, including gynecologists and oncologists, trained in cervical cancer prevention, screening, and treatment.

- ➢ **Stigma and Cultural Barriers:** Sociocultural taboos surrounding women's health issues, including cervical cancer, may prevent women from seeking timely medical care or participating in screening programs.
- ➢ **Vaccine Hesitancy:** Misinformation and misconceptions about HPV vaccination contribute to vaccine hesitancy among parents and caregivers, affecting vaccination coverage rates.
- ➢ **Affordability and Accessibility:** The cost of HPV vaccines, screening tests, and treatment options may be prohibitive for many individuals, particularly those from low-income backgrounds.
- ➢ **Geographic Disparities:** Cervical cancer incidence and mortality rates vary significantly across different regions of India, with rural areas often experiencing higher disease burdens and fewer healthcare resources.
- ➢ **Limited Government Funding:** Insufficient funding for cervical cancer prevention and control programs hampers efforts to implement comprehensive strategies and interventions.
- ➢ **Limited Research and Innovation:** More research and innovation are needed to develop affordable and effective screening tools, diagnostic techniques, and treatment modalities tailored to the Indian context.

What are the Government Initiatives Related to Cancer Treatment?

- ➢ National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke
- ➢ National Cancer Grid
- ➢ National Cancer Awareness Day
- ➢ HPV Vaccine
  - ○ **Government Initiatives for Cancer Screening:** The Government of India implements cancer screening, including visual tests and HPV tests, in primary health centres.

How India Can Battle the Menace of Cervical Cancer?

- ➢ **HPV Vaccination:**
  - ○ Persistent high-risk HPV infection, along with factors like low socioeconomic conditions and smoking, leads to cervical cancer.
    - Through HPV vaccination, screening, and timely treatment can prevent and cure the disease.
- ➢ **Opportunity for Early Detection and Treatment:**
  - ○ Cervical cancer has a 10–15 year pre-invasive phase, offering a window for early detection and outpatient treatment.

- Early-stage management yields a cure rate exceeding 93%, highlighting the importance of timely interventions.
- ➢ **Indigenous Vaccine Development:**
  - ○ India's milestone in developing the indigenous quadrivalent vaccine, Cervavac, promises accessibility and affordability.
  - ○ **CERVAVAC** is India's first indigenously developed quadrivalent human papillomavirus (qHPV) vaccine that is said to be effective against four strains of the virus - Type 6, Type 11, Type 16 and Type 18.
  - ○ Priced at ₹2,000 a dose, Cervavac holds promise in the fight against HPV infections and cervical cancer.
- ➢ **Draw Lessons from the Global Success of HPV Vaccination:**
  - ○ **Over 100 countries globally have implemented successful HPV vaccination** programs, leading to a notable decline in cervical cancer cases.
  - ○ Studies from **Scotland** and **Australia** demonstrate the real-world impact of HPV vaccines, with significant reductions in cervical cancer incidence.
  - ○ **Rwanda's** successful HPV vaccination campaign underscores the importance of prioritizing vaccination for combating cervical cancer.
    - **'90-70-90' Targets by WHO:** The **World Health Organization** has set ambitious targets aiming for 90% of girls to be fully vaccinated with the HPV vaccine by age 15, 70% of women to undergo cervical cancer screening tests by the ages of 35 and 45, and for 90% of women with cervical cancer to receive treatment by 2030.
- ➢ **Role of Technological Advancements:**
  - ○ Innovations like single-dose HPV vaccination, self-sampling for HPV testing, and **Artificial Intelligence (AI)** technologies enhance cervical cancer prevention.
    - These developments, along with increased HPV vaccine uptake, hold promise for resource-limited settings.
- ➢ **Population-Level Awareness and Strategies:**
  - ○ Addressing cervical cancer requires increasing awareness, promoting HPV vaccine uptake, overcoming hesitancy, implementing age-appropriate screening, and strengthening pre-cancer treatment processes.
  - ○ Including HPV information in health education in schools can be a step to generate demand among adolescents.

Conclusion

The alarming statistics of new cases and deaths highlight the urgent need for preventive measures. Early detection through screening and HPV vaccination presents a crucial opportunity, with a high cure rate when managed at early stages. There is a need for consistent and coherent efforts for accurate diagnosis, strengthened cancer registries, reduced financial burden, and robust health systems for the successful elimination of cervical cancer.

■■■

Synchronising AYUSH and Modern Medicine

This editorial is based on "*A Dialogue Among Healers*" which was published in Indian Express on 11/03/2024. The article elucidates the necessity for modern medicine and AYUSH practitioners to collaborate and transition towards integrated medicine for the betterment of patient care.

Tag: GS Paper - 3, Indigenization of Technology, Achievements of Indians in Science & Technology, Scientific Innovations & Discoveries, Biotechnology, Intellectual Property Rights.

Modern medicine practitioners are being urged to be more open to working with traditional or alternative systems of medicine **(AYUSH),** and to move towards an integrated medicine for the larger good of the patients. While it is appealing in principle, it would be good to examine the practical issues involved. Depending on the level of integration, various scenarios of existence for these two systems of therapy can be explored.

Meanwhile, the production of AYUSH medicines and supplements has seen exponential growth. Revenue has surged from USD 3 Billion in 2014 to USD 18 Billion in 2020. Anticipated growth to USD 24 billion in 2023 showcased its financial impact. Apart from this, AYUSH-based health and wellness centres garner significant response as there are 7,000 operational centers and 8.42 crore patients availed services as of 2022. It is also witnessing increased integration in modern healthcare systems.

Note: The positive features of the traditional systems of medicine include, namely:
➢ Diversity and Flexibility;
➢ Accessibility;
➢ Affordability,
➢ A Broad Acceptance by a Large Section of the General Public;
➢ Growing Economic Value,
➢ Have great potential to fulfill the healthcare needs of our people.

What are the Different Possible Hybrid Models of Modern and AYUSH Medicines?

Acknowledging the potential hybrid scenarios, they will be referred to as **competitive, coexistent, and cooperative** for the sake of simplicity.

➢ **Competitive Model:**
  ○ In this model, the two systems of medicine exhibit rivalry. While individual practitioners can always do as they please, however, name-calling will also occur at the systems or professional association level.
  ○ Professional associations/councils will take a stand against each other and initiate litigation. Both systems will compete to get patients to their system by pointing out their strengths and other systems' weaknesses.
    ● These could be related to effectiveness, side-effects of their products and extraneous factors like commercialism. In short, "all is fair in a war".

➢ **Co-existence Model:**
  ○ In the "coexistence" model, **each recognises the legitimacy of the other systems and opts for clear boundaries** to ensure that they coexist without encroaching on others' domain or realm.
  ○ Most modern practitioners would let patients decide whether they want to take AYUSH treatment. They would advise the patients to continue the medicines or accept responsibility for their discontinuation. If AYUSH is effective, then the medicine dose will automatically be reduced.
    ● Ayurveda and homoeopathy practitioners usually ask that the patients stop their modern medicines if they want to initiate their therapy. In this model, these practitioners could be co-located at a facility, with each therapy having a separate system. However, there is no mutual referral.

AYUSH Systems of Medicine

AYUSH encompasses Ayurveda, Yoga & Naturopathy, Unani, Siddha, Sowa Rigpa, and Homeopathy, with Ayurveda having a documented history of 5000+ years.

Ayurveda

- **Samhita Period (1000 BC):** Emerged as mature medical system
  - **Charaka Samhita:** Oldest and most authoritative text
  - **Sushruta Samhita:** Gives fundamental principles and therapeutic methods in eight specialties
- **Main Schools:**
  - **Punarvasu Atreya -** School of physicians
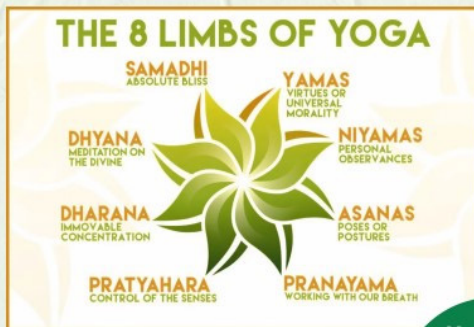 - **Divodasa Dhanvantari -** School of surgeons

Lord Brahma is believed to be the 1st proponent of Ayurveda

Branches of Ayurveda:

- Kayachikitsa (internal medicine)
- Shalya Tantra (surgery)
- Shalakya Tantra (disease of supra-clavicular origin)
- Kaumarabhritya (paediatrics)
- Agada Tantra (toxicology)
- Bhootavidya (psychiatry)
- Rasayana Tantra (rejuvenation and geriatrics)
- Vajikarana (eugenics & science of aphrodisiac)

Yoga & Naturopathy

THE 8 LIMBS OF YOGA

- SAMADHI – ABSOLUTE BLISS
- YAMAS – VIRTUES OR UNIVERSAL MORALITY
- DHYANA – MEDITATION ON THE DIVINE
- NIYAMAS – PERSONAL OBSERVANCES
- DHARANA – IMMOVABLE CONCENTRATION
- ASANAS – POSES OR POSTURES
- PRATYAHARA – CONTROL OF THE SENSES
- PRANAYAMA – WORKING WITH OUR BREATH

Yoga first propounded by Maharishi Patanjali in systematic form Yogsutra

- **Naturopathy:** Healing with help of 5 natural elements - Earth, Water, Air, Fire and Ether
  - Based on theories of self-healing capacity of body and principles of healthy living
  - Encourages a **person-centred approach** rather than disease-centred

Unani

Pioneered in Greece, developed by Arabs as 7 principles (Umoor-e-Tabbiya)

- Based on the framework of teachings of **Buqrat** (Hippocrates) and **Jalinoos** (Galen)
  - Hippocratic theory of **four humors** viz. blood, phlegm, yellow bile, and black bile
- **Recognised by WHO** and granted official status by India as an alternative health system

Siddha

Dates back to 10000 – 4000 BC; Siddhar Agasthiyar - Father of Siddha Medicine

- Preventive, promotive, curative, rejuvenative, and rehabilitative health care
- **4 Components:** Latro-chemistry, Medical practice, Yogic practice & Wisdom
- Diagnosis based on 3 humors (**Mukkuttram**) and 8 vital tests (**Ennvagai Thervu**)

Sowa Rigpa

Origin: Lord Buddha in India before 2500 years

- Traditional medicine in Himalayan regions of Ladakh, Himachal Pradesh, Arunachal Pradesh, etc.
- Recognised in India by Indian Medicine Central Council Act,1970 (As amended in 2010)

Homeopathy

German physician Dr. Christian F. S. Hahnemann codified its fundamental principles

- Medicines prepared mainly from natural substances (plant products, minerals, animal sources)
- Brought in India by European missionaries - 1810; official recognition - 1948
- **3 Key Principles:**
  - *Similia Similibus Curentur* (let likes be cured by likes)
 - Single Medicine
  - Minimum Dose

Drishti IAS

> **Cooperation Model:**
> - The "cooperation" mode is the ideal integrative medicine model where the two streams acknowledge what is good in the other system and work jointly as a team to deliver the best possible care to the patient. This has the potential to improve the preventive and promotive component in modern medicine which is much too medicine-focused.
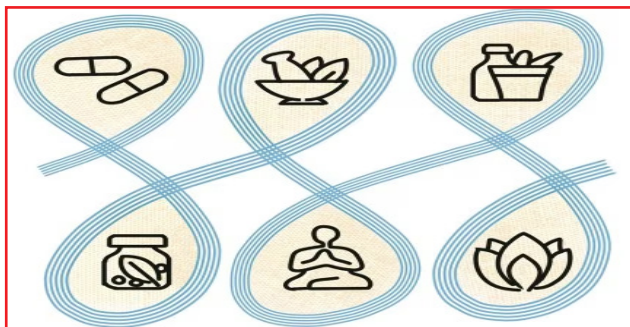
What are the Different Challenges in Adopting the Hybrid Models?

➢ **Trust Deficit Between the Two Groups:**
  ❍ There have been many instances of patients who were well or ill-controlled on one therapy, switched to the alternative treatment, and end up worsening or improving their disease.
    ● Most of these are anecdotal evidence and can be quoted to justify whatever point of view one holds. This is worsened by claims of an effective cure for **diabetes** or **cancer** by AYUSH proponents without adequate evidence to support it.

➢ **Existing Technical Challenges:**
  ❍ The technical challenge is that AYUSH is a heterogenous group and each of these therapeutic disciplines must be dealt with separately and would need a different decision. Increasing evidence available on the effectiveness of yoga for the management and prevention of different health conditions has resulted in its growing acceptance among modern medicine practitioners.
    ● It is the prescription of medicines (ayurveda/homoeopathy) which will remain a bone of contention. For instance, there are apprehensions that the dosha-based management, proposed by Ayurveda, will work effectively with the standard management protocols that are being pushed in modern medicine.

Note: Dosha-Based Management:
➢ Dosha-based management is a **holistic approach to healthcare rooted in Ayurveda, a traditional Indian system of medicine**. It involves identifying an individual's unique constitution, or prakriti, which is determined by the balance of three fundamental energies or doshas: Vata, Pitta, and Kapha.
➢ Based on this assessment, personalized recommendations are made regarding diet, lifestyle, and herbal remedies to maintain or restore the balance of these doshas, promoting health and preventing disease.

➢ **Operational Challenges:**
  ❍ In terms of operational challenges, for a team-based approach to work, the team members must know their own limitations and acknowledge others' strengths in that area. Modern medicine practitioners have no idea of the AYUSH streams and cannot make an informed decision in this regard.
    ● They will have to accept at face value what AYUSH practitioners are saying, which is difficult given the trust deficit. Patients themselves are not informed enough to take these decisions and leaving it to them to decide is not appropriate.

➢ **Challenges in Regulation:**
  ❍ The most challenging aspect of this integration would be its regulation. Many modern practitioners prescribe some ayurvedic pills without understanding their method of action. This is not acceptable, and in conformity, AYUSH practitioners also should not practise modern medicine.
    ● While this appears reasonable, its enforcement is currently very weak. These areas fall under the jurisdiction of respective professional councils. Unfortunately, councils have failed to inspire confidence in seeking professional accountability.

What are the Suggestions for Integration of Two Types of Medicines?

➢ **Ensuring Availability of Better Evidence:**
  ❍ The first step is to get better evidence for AYUSH treatments. Only this can bridge the trust deficit. Also, use this opportunity to weed out ineffective treatments in AYUSH. If evidence is available, it might be possible to build composite standard treatment guidelines that combine the best of the two streams.
    ● However, the evidence benchmark applicable to modern medicine must apply equally to AYUSH therapies. This has been one of the major fault lines in this debate. If looked at the evidence without being influenced by extraneous considerations, a consensus could be arrived for certain chronic conditions. These could be a good starting point for a larger discourse.

➢ **Teaching Streams of AYUSH to Modern Practitioners and Vice Versa:**
  ❍ Ayurveda courses teach some modern medicine concepts. Should MBBS students also be taught all AYUSH subjects? The MBBS curriculum as such is quite heavy with never-ending pressure to put greater emphasis on certain subjects.

● Adding AYUSH subjects to MBBS will worsen the situation. One way is to not have exams in these subjects or make them optional. However, there is a good possibility that they will not be read at all, and the objective would not be served.

➢ **Adopting a Good Regulatory Framework:**
○ A good regulatory framework that establishes rules/guidelines for collaboration, communication, and referral between practitioners of different modalities, ensuring coordinated and safe care for patients with clear articulation of accountability is much needed. It would need to define acceptable interventions and modality of its determination.
● Other regulatory issues would be related to insurance payouts, compensations, quality of medicinal products and medicines. This could be within the health technology assessment framework already available in India.

➢ **Need for Integrating Modern Medicine Practices in National Ayush Mission (NAM):**
○ Integrating the **National Ayush Mission** with modern medicine practices can enhance healthcare delivery in several ways:
● Ayush systems focus on holistic health, considering physical, mental, and spiritual aspects, which can complement the disease-centered approach of modern medicine.
● Ayush emphasizes preventive healthcare through lifestyle modifications, dietary changes, and natural therapies, reducing the burden on modern healthcare systems.
● Integration provides patients with a wider range of treatment options, allowing for personalized care based on individual preferences and conditions.

What is the National Ayush Mission?

➢ **Launch:**
○ Launched in September 2014 by the Department of AYUSH under the Ministry of Health and Family Welfare, during the 12 Plan for implementation through States/UTs.
○ Now, it is being implemented by the Ministry of Ayush.

➢ **About:**
○ The scheme involves expansion of the AYUSH sector to promote holistic health of Indians.
○ The Mission addresses the gaps in health services through supporting the efforts of State/UT Governments for providing AYUSH health services/education in the country, particularly in vulnerable and far-flung areas.

➢ **Components of the National AYUSH Mission:**
○ **Obligatory Components:**
● AYUSH Services.
● AYUSH Educational Institutions.
● Quality Control of ASU&H (Ayurveda, Siddha and Unani & Homoeopathy)
● Drugs.
● Medicinal Plants.
○ **Flexible Component:**
● AYUSH Wellness Centres comprising Yoga and Naturopathy,
● Tele-medicine,
● Innovations in AYUSH including Public Private Partnership,
● IEC (Information, Education and Communication) activities,
● Voluntary certification scheme: Project based, etc.

➢ **Expected Outcomes:**
○ Better access to AYUSH healthcare services through increased healthcare facilities and better availability of medicines and trained manpower.
○ Improvement in AYUSH education through a well-equipped enhanced number of AYUSH Educational institutions.
○ To focus on reducing communicable/non-communicable diseases through targeted public health programmes using AYUSH systems of Healthcare.

What are the Schemes Related to AYUSH?

➢ National Ayush Mission.
➢ New Portals on Ayush Sector.
➢ AYUSH Entrepreneurship Programme.
➢ Ayush Wellness Centers.
➢ ACCR Portal and Ayush Sanjivani App.

Conclusion

The integration of modern medicine with traditional AYUSH practices holds immense potential for enhancing healthcare delivery. While the competitive model may lead to rivalry and name-calling, the coexistence model allows for mutual recognition and clear boundaries. However, the cooperation model, where both systems work together, is the ideal approach, though it presents challenges such as trust deficit, technical compatibility, operational coordination, and regulatory issues. Moving forward, bridging the evidence gap for AYUSH treatments,

ensuring regulatory frameworks for collaboration, and promoting evidence-based practices can pave the way for a more integrated and effective healthcare system.

Recalibrating New Consumption Survey

This editorial is based on "*Moving to a Better Count*" which was published in Indian Express on 12/03/2024. The article discusses the All India Household Consumption Expenditure Survey (HCES) conducted by the Ministry of Statistics and Program Implementation (MoSPI) from August 2022 to July 2023, exploring its different facets.

Tag: GS Paper - 3, Growth & Development, NITI Aayog, Planning.

Recently, summary results of the **Household Consumption Expenditure Survey (HCES),** 2022-23, conducted by the **National Sample Survey Office (NSSO)** were released, which demand analysis of three issues related to identified trends in poverty- difference between private consumption expenditure of NSSO and the figure provided by the **National Accounts Statistics (NAS)**; and changes in consumption patterns and implications for **consumer price index (CPI)** and **monetary policy.**

What are the Highlights of the Recent HCES?

➢ **About:**

  ○ The HCES is usually conducted by the **National Statistical Office (NSO)** every 5 years.

  ○ It is designed to collect information on the consumption of goods and services by households.

  ○ The data collected in HCES is also utilized for deriving various other macroeconomic indicators such as **Gross Domestic Product (GDP),** poverty rates, and CPI.

  ○ **NITI Aayog** has stated that the latest consumer expenditure survey indicated that poverty has come down to 5% in the country.

  ○ The findings of the last HCES, conducted in 2017-18 were not released after the government cited "data quality" issues.

➢ **Information Generated:**

  ○ Provides information on the typical spending on both goods (including food and non-food items) and services.

  ○ Additionally, assists in calculating estimates for household **Monthly Per Capita Consumer Expenditure (MPCE)** and analyzing the distribution of households and individuals across different MPCE categories.

➢ **Highlights of the Recent Survey:** The estimates of average monthly per capita consumption expenditure were generated without imputing the value figures of the items received free by the households through various social welfare programmes such as **Pradhan Mantri Garib Kalyan Yojana.**

CONSUMPTION IN RURAL AREAS

Average monthly per capita expenditure (₹) in rural areas

- 🟩 Households 'self-employed in agriculture'
- 🟦 Overall rural households

Year	Households 'self-employed in agriculture'	Overall rural households
1999-00	520	486
2004-05	583	559
2011-12	1,436	1,430
2022-23	3,702	3,773
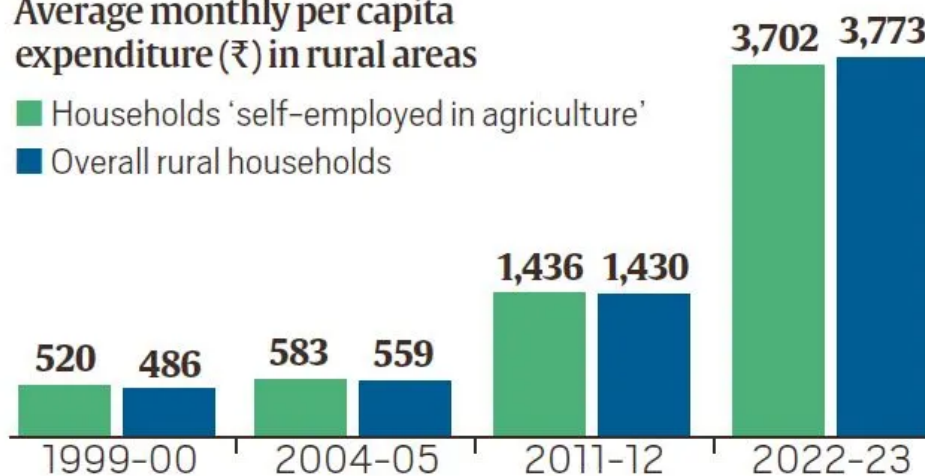
○ **Increase in MPCE:**

- It reveals a 33.5% increase in MPCE in urban households since 2011-12, reaching ₹3,510, while rural India's MPCE increased by 40.42% to ₹2,008.

- In 2022-23, 46% of rural household expenditure and 39% of urban household expenditure were on food items.

○ **Distribution of MPCE by Population Percentiles:**

- The bottom 5% of India's rural population, ranked by MPCE, has an average MPCE of Rs. 1,373 while it is Rs. 2,001 for the same category of population in the urban areas.

- The top 5% of India's rural and urban population, ranked by MPCE, has an average MPCE of Rs. 10,501 and Rs. 20,824, respectively.

○ **State-wise MPCE Variations:**

- Sikkim has the highest MPCE in both rural (₹7,731) and urban areas (₹12,105), while Chhattisgarh has the lowest with ₹2,466 for rural households and ₹4,483 for urban households.

- The rural-urban difference in average MPCE, among the states is the highest in Meghalaya (83%) followed by Chhattisgarh (82%).

○ **UT-wise MPCE Variations:**

- Among the UTs, MPCE is the highest in Chandigarh (Rural Rs. 7,467 and Urban Rs. 12,575), whereas, it is the lowest in Ladakh (Rs. 4,035) and Lakshadweep (Rs. 5,475) for rural and urban areas respectively.

○ **Food Spending Trends:**

- Since the 1999-2000 survey, the share of expenditure on food has gradually declined and the share of non-food items has increased for both urban and rural households.

- A decline in food spending is understood as an increase in incomes, which then means having more money for other expenditures like on medical, clothing, education, conveyance, durables, fuel, entertainment, among other things.

- The recent survey result showed that the share of cereals and pulses within overall food consumption expenditure has been reducing, both in rural and urban households.

- Among the non-food items, the share of spending on conveyance was the highest.

- Till 2022-23, fuel and light used to see the highest consumption spending among the non-food items.

○ **Changes in the Methodology Over The Previous Survey:**

- The HCES 2022-23 has undergone some changes as compared to the previous surveys in consumption expenditure. These are:
  - Item coverage;
  - Changes in the questionnaire;
  - Multiple visits for data collection and computed assisted personal interviews compared to pen and paper interviews.

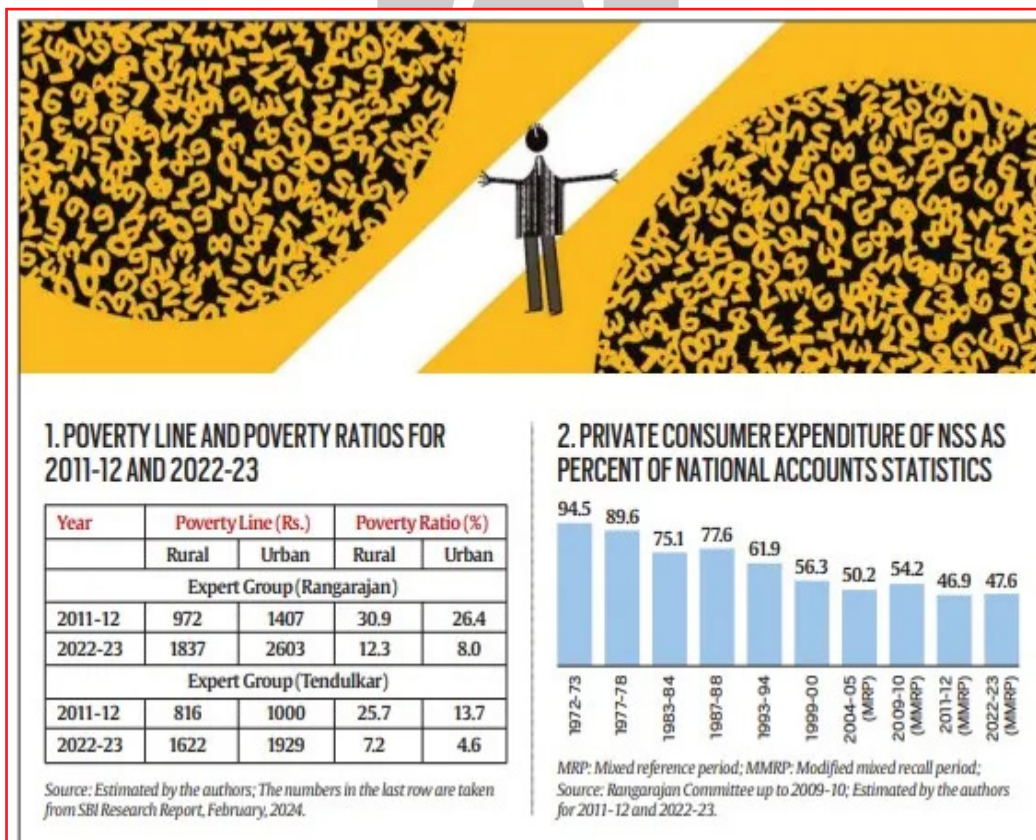### *What are the Three Different Issues Related to Identified Trends in Estimating Poverty?*

➤ **Changes in Consumption Patterns as Provided by NSSO and NAS:**

○ The first issue is to examine the changes in poverty using the new information on consumption expenditure:

- The poverty lines for 2011-12 based on **Expert Group (Tendulkar) Methodology** were Rs 816 and Rs 1,000 per capita per month respectively for rural and urban areas.

  - An SBI report has estimated poverty ratios in 2022-23 by updating poverty lines. The new updated poverty line is Rs 1,622 in rural areas and Rs 1,929 in urban areas.

  - According to this SBI report, poverty in rural areas declined from 25.7% in 2011-12 to 7.2% in 2022-23 while in urban areas it declined from 13.7% to 4.6%. Using the shares of the rural and urban populations, the total poverty ratio based on the Tendulkar committee methodology comes to 6.3%.

- The poverty line for 2011-12 based on **Expert Group (Rangarajan) Methodology** was Rs 972 and Rs 1,407 per capita per month respectively for rural and urban areas.

  - Using CPI, the poverty line was updated, which is Rs 1,837 for rural and Rs 2,603 for urban areas in 2022-23. The poverty ratio for rural areas declined from 30.9% in 2011-12 to 12.3% in 2022-23.

  - For urban areas, it declined from 26.4% in 2011-12 to 8% in 2022-23. It may be noted that the poverty ratio derived from the Expert Group (Rangarajan) method is 71% higher in rural areas and 74% higher in urban areas than that derived by using the Expert Group (Tendulkar) method.

- The overall poverty ratio under the Rangarajan methodology for 2022-23 will be 10.8%. While the poverty ratio is higher under this methodology, the order of decline in percentage points between the two periods is the same under both methodologies in rural areas. But in urban areas, the decline in this methodology is higher.
  - However, as mentioned above, the data on consumption expenditure in 2022-23 is not strictly comparable to earlier surveys. The comparable data would have probably given much higher poverty figures under the Rangarajan Committee methodology, particularly for urban areas.
- ➤ **Difference Between the Aggregate Private Consumption Expenditure given by the NSSO and NAS:**
  - The second issue is the alarming difference between the aggregate private consumption expenditure given by the NSSO and the figure provided by the NAS:

- What is disturbing is that despite substantial methodological changes to capture private expenditure, the NSSO share increased only marginally in 2022-23.
  - However, these two estimates of consumption (NSSO and NAS) do not match in any country; India is no exception.
- What is perplexing is that the difference in India between the NSS and the NAS consumption is widening over time. From a difference of less than 10% in the late 1970s, it has come to 53% in 2011-12.
  - This difference declined only marginally to 52% in 2022-23. However, with the continuation of differences of more than 50%, the time has come for a deeper analysis of the factors contributing to the difference. Such a large difference has implications for computing the poverty ratio.

1. POVERTY LINE AND POVERTY RATIOS FOR 2011-12 AND 2022-23

Year	Poverty Line (Rs.)		Poverty Ratio (%)	
	Rural	Urban	Rural	Urban
Expert Group (Rangarajan)				
2011-12	972	1407	30.9	26.4
2022-23	1837	2603	12.3	8.0
Expert Group (Tendulkar)				
2011-12	816	1000	25.7	13.7
2022-23	1622	1929	7.2	4.6

Source: Estimated by the authors; The numbers in the last row are taken from SBI Research Report, February, 2024.

2. PRIVATE CONSUMER EXPENDITURE OF NSS AS PERCENT OF NATIONAL ACCOUNTS STATISTICS

94.5 (1972-73), 89.6 (1977-78), 75.1 (1983-84), 77.6 (1987-88), 61.9 (1993-94), 56.3 (1999-00), 50.2 (2004-05 (MRP)), 54.2 (2009-10 (MMRP)), 46.9 (2011-12 (MMRP)), 47.6 (2022-23 (MMRP))

MRP: Mixed reference period; MMRP: Modified mixed recall period;
Source: Rangarajan Committee up to 2009-10; Estimated by the authors for 2011-12 and 2022-23.

- ➤ **Implications of the HCES 2022-23 for the Consumer Price Index (CPI):**
  - The third issue is the implications of the HCES 2022-23 for the CPI. The latest data reveal that there have been some changes in consumption

patterns between 2011-12 and 2022-23.
- **In rural areas,** the share of food in monthly per capita expenditure (MPCE) has declined from 52.9% in 2011-12 to 46.4% in 2022-23 — a decline of 6.5 percentage points in 11 years.

- **In urban areas,** the share of food in total consumption decreased from 42.6% to 39.2% during the same period — a decline of 3.5 percentage points in 11 years.
- The share of cereals in average MPCE has shown a significant decline in rural areas, from 10.8% in 2011-12 to 4.9% in 2022-23 and 6.7% to 3.6% in urban areas.
    - In food items, the share of fruits, beverages and processed food rose both in rural and urban areas. There is some reduction in the share of vegetables.
    - In non-food items, the shares of toiletries and household items, conveyance and durable goods increased significantly in both rural and urban areas.
- Implications for the Weights of Food and Non-Food Items in the CPI and Inflation:
    - This new data can help adjust weights in the CPI basket which is currently based on 2011-12 weights. The decline in the weights of food items is a good sign, as food prices are volatile and many times higher than those of non-food items.
        - ◆ However, the question is whether the present decline in food share is enough to have a significant impact on inflation levels.
    - The food share is still high at 46% and 39% respectively in rural and urban areas. The share of cereals, vegetables and edible oils declined but the share of fruits has increased, while the share of egg, fish and meat remains the same.
        - ◆ However, a decline in food share will have some impact on inflation. The monetary policy committee will have to work with a new price index.

What are the Suggestions Required to Make HCES Data More Robust and Indicative?

- ➢ **Ensuring Uniform Representation of All Groups:**
    - ○ In HCES 2022-23, the sampling methodology has undergone significant change, including stratum and second-stage stratum. The 'rural' stratum for HCES 2022-23 consists of just two strata, the first, comprising of the villages within a distance of 5 kilometres from the district headquarters and the rest are in the other strata. The 'urban' strata are classified based on 'population' as well as 'affluence' status.
    - Sampling should be done to ensure proper representation of households of different economic categories, as there seems to be a higher representation of the well-off groups in the HCES 2022-23 sampling approach, thereby resulting in higher consumption expenditure and doing away with the ground reality.
- ➢ **Synchronising Reality With Labour Market Conditions:**
    - ○ The claim of the **NITI Aayog** on growth being inclusive and broad-based with shrinking inequality — at the same time dismissing rural economic distress — must also be taken into perspective with the labour market outcomes. The number of working poor and the decline in real wages indicate the need for interrogating the labour market conditions in India before jumping to the conclusion that India has been able to end its poverty.
- ➢ **Segregating the Debts and Savings in the Survey:**
    - ○ Any durable or non-durable taken on bank loans, equal monthly installments (EMIs), or **Kisan Credit Cards** would eventually form part of consumption but will also add to the debt of the households.
    - ○ NAS clearly states that household consumption share has been dropping since 2016, and household debt is increasing; at the same time, savings as a share of GDP have fallen under the current government. Therefore, the debts extended should not be included in measuring the consumption data of families.
- ➢ **Avoiding Over-Reliance on Food Consumption Expenditure Data:**
    - ○ It is well understood concept in economics that with economic growth and progress, the share of food consumption expenditure in the total household expenditure is bound to come down. Food expenditure in total expenditure in rural households has come down from 52.90% in 2011-12 to 46.38% in 2022-23, and for urban households from 42.62% in 2011-12 to 39.17%. This must be taken cautiously when it comes to indicating ic preconomogress.
        - Food as share of total consumer expenditure is just 6.4% for USA (2018), 6.9% for Singapore (2018), 7.9% for United Kingdom (2019) and 8.9% for Switzerland (2019).
        - Our shares of food expenditure with respect to other developed countries remains high, and we have a long way till we reach the level of consumption expenditure of USA and Switzerland. The HCES 2022-23 is being read to mean what cannot be found in it, nor inferred from it either.

Conclusion

The release of the HCES, 2022-23, by the NSSO has brought attention to several crucial issues. Firstly, the survey highlights significant declines in poverty rates, especially in rural areas, when compared to earlier estimates using different methodologies. Secondly, the widening gap between private consumption expenditure estimates from NSSO and NAS raises concerns and calls for a deeper analysis to reconcile these figures. Finally, the changing consumption patterns, with a noticeable shift away from food items, have implications for the CPI and inflation calculations, necessitating adjustments in the CPI basket. Overall, these findings underscore the importance of accurately capturing consumption data and its implications for policy-making and economic analysis.

Intra-Group Caste Reservation in India

This editorial is based on "*Intra-group caste variances, equality and the Court's gaze*" *which was published in The Hindu on 13/03/2024. The article explores the question of whether State governments can create a sub-classification within the prescribed proportion for Scheduled Castes and Scheduled Tribes in public employment recruitment. This would involve granting a special allowance to certain groups considered more backward than others.*

Tag: GS Paper - 2, Judgements & Cases, Judicial Review, Issues Related to SCs & STs, Indian Constitution, Government Policies & Interventions, Welfare Schemes.

A seven-judge Bench of the **Supreme Court (SC) of India** will deliver its judgement in **State of Punjab vs Davinder Singh**, on a question of law that carries with it enormous significance for the future of affirmative action and reservations under the **Constitution**. Research and data indicate that while **Scheduled Castes (SCs) and Scheduled Tribes (STs)** are often treated as uniform categories, there exist significant disparities within these groups, with certain castes facing more discrimination than others.

Shouldn't state governments be empowered to address these intra-group differences? The forthcoming judgement in the Davinder Singh case aims to address this issue, potentially bringing much-needed clarity to a legal area that has long needed a reform. The Union government has formed a high-level committee of secretaries, chaired by the Cabinet Secretary, to evaluate and work out a method for the equitable distribution of benefits, schemes and initiatives to the most backward communities.

Note: State of Punjab vs Davinder Singh, 2020:
- The present case before the Supreme Court of India was an appeal against the Punjab and Haryana High Court which had struck down a state law empowering the government to sub-classify SC/STs for grant of quotas.
- The **High Court** judgement had struck down a circular of the Punjab government, which provided that out of the seats reserved for SCs, 50% would be offered to Balmikis and Mazhabi Sikhs.
- The High Court in this judgement had relied on the Chinnaiah judgement for concluding so.

What is the Sub-Categorisation within Castes?

- **About:**
  - Sub-categorisation within castes refers to the process of creating sub-groups within the existing categories of Scheduled Castes (SCs), Scheduled Tribes (STs), and **Other Backward Classes (OBCs)** for reservation and affirmative action.
  - Sub-categorisation aims to address the intra-category inequalities and ensure a more equitable distribution of benefits and opportunities among the most deprived and marginalised sections of society.

- **Legality of Sub-Categorisation:**
  - **Past Attempts:** States like Punjab, Bihar, and Tamil Nadu have attempted sub-categorization, facing legal challenges that have reached the Supreme Court.
  - **Constitutional Dilemma:** The Supreme Court in the case of **E.V.Chinnaiah vs State Of Andhra Pradesh and Ors, 2004,** asserted that only **Parliament** has the authority to create and notify SC and ST lists.
    - However, in **State of Punjab and Others vs Davinder Singh and Others, 2020 judgement**, a five-judge Bench ruled that States could decide on the quantum of benefits in the lists of SCs/STs already notified without "tinkering" with them.
    - The contradiction between the 2004 and 2020 judgments has led to the 2020 judgement being referred to a larger Bench.

What is the Competence of the States for Creating Sub-Classification?

- **Arguments in Favour:**
  - States have the competence to grant reservation benefits to SCs and STs in terms of **Articles 15(4)** and **16(4),** and **Articles 341(1) and 342(1).**

○ Article 15(4) empowers the state to create special arrangements for promoting the interests and welfare of socially and educationally backward classes of the society such as SC and STs.

○ There is a constitutional mandate and a judicial endorsement for sub-categorisation within castes, as Article 16 (4) of the Constitution empowers that the State can make any provision for reservation in matters of promotion in favour of the SCs and STs if they are not adequately represented in the services under the State.

○ As per the Articles 341(1) and 342(1), the President of India, after consultation with the Governor, may specify the castes, races, tribes or parts of groups within castes or races, which shall be deemed to be SCs and STs.

➢ **Arguments Against:**

○ In Chinnaiah judgement, a five-judge Bench quashed the Andhra Pradesh Scheduled Castes (Rationalisation of Reservations) Act, 2000, on the ground that it **offended Article 341 of the Constitution.**

○ The Andhra Pradesh law sought to carve four distinct categories out of the President's list and granted to each category a separate quota based on its inter se backwardness.

  ● The Court found that the State government had no power to tinker with the list because it was clear on a bare reading of Article 341 that such authority vested only with Parliament.

  ● The judgement also pointed to **B.R. Ambedkar's** speech in defence of the presidential list, **in which he had warned that if State governments were allowed to amend the list, we ran the risk of the exercise partaking purely political considerations.**

Note: Mandate of High-Powered Committee Under Cabinet Secretary:

➢ The committee's primary objective is to explore alternative methods for addressing grievances faced by various SC communities across the country.

➢ While initiated in response to the **Madiga community's (Telangana) concerns**, the committee's scope extends beyond one community or state.

  ○ **Madiga Community's Struggle:** The Madiga community, constituting 50% of SCs in Telangana, has faced challenges in accessing government benefits intended for SCs due to dominance by the Mala community.

○ Despite their substantial population, the Madiga community argued that it has been excluded from SC-related initiatives.

○ They have been struggling since 1994 for the sub-categorisation of SCs and it was this demand that first led to the formation of the **Justice P. Ramachandra Raju Commission in 1996** and later a National Commission in 2007.

➢ It aims to evaluate and work out a method for the equitable distribution of benefits, schemes and initiatives to the most backward communities amongst the over 1,200 SCs across the country, that have been crowded out by relatively forward and dominant ones.

What are the Major Aspects Related to Sub Categorisation of SCs in India?

➢ **Identification of SC/ST:**

○ The Constitution, while providing for special treatment of SCs and STs to achieve equality, does not specify the castes and tribes that are to be called SCs and STs.

○ This power is left to the central executive, the **President**, under **Article 341**:

  ● As per Article 341, those castes notified by the President are called SCs and STs. A caste notified as SC in one state may not be a SC in another state.

➢ **Arguments For Sub-categorisation:**

○ As India is a welfare state, its obligation is to undertake the emancipation of the deprived section of the community and eradicate inequalities.

  ● When the reservation creates inequalities within the reserved castes itself, it is required to be taken care of by the State making sub-classification and adopting a **distributive justice** method so that State resources do not concentrate in few hands and equal justice to all is provided.

○ If sub-classification is denied, it would defeat the right to equality by treating unequal as equal.

○ There are unequals within the list of Scheduled Castes, Scheduled Tribes, and socially and educationally backward classes.

○ Various reports indicate that Scheduled Castes and Scheduled Tribes do not constitute a homogenous group. The inequality within the Scheduled Castes is underlined in several reports, and special quotas have been framed to address it:

- **Justice Ramachandra Raju Commission, 1997** recommended sub-dividing the SCs into four groups and apportioning reservations separately for each.
- It also recommended that the Creamy layer of Scheduled Castes be excluded from receiving any reservation benefits in public appointments and admission to educational institutions.

➢ **Arguments Against Sub-categorisation:**
  ○ The argument is that the test or requirement of social and educational backwardness cannot be applied to Scheduled Castes and Scheduled Tribes.
  ○ The special treatment is given to the SCs due to **untouchability** with which they have suffered since ages.
  ○ In the **N M Thomas vs State Of Kerala case in 1976**, the Supreme Court itself has admitted that Scheduled Castes are not castes but they are a class and hence should be treated as a class.
  ○ Sub categorisation will be used to appease one vote-bank or the other among the SC/ST and thus a cause of social justice would end being politicised.

What are the Different Timelines of Legal Tussle over the Sub Categorisation of SCs in Punjab?

➢ **1975:**
  ○ The Punjab government issues a notification dividing its 25% SC reservation into two categories. It was one of the first instances of existing reservations being 'sub-classified' by a state.
  ○ While the notification remained in force for nearly 30 years, it ran into legal hurdles in 2004.

➢ **2004:**
  ○ Supreme Court strikes down Andhra Pradesh Scheduled Castes (Rationalisation of Reservations) Act, 2000, citing violation of the right to equality in the E.V. Chinnaiah v State of Andhra Pradesh case and emphasised that the SC list should be treated as a single, homogeneous group.
  ○ Later, the Punjab & Haryana High Court, in Dr. Kishan Pal v. State of Punjab, struck down the 1975 notification, supporting the E.V. Chinnaiah decision.

➢ **2006:**
  ○ The Punjab government attempted to reintroduce sub-categorisation through the Punjab Scheduled Caste and Backward Classes (Reservation in Services) Act, 2006, but it was struck down in 2010.

➢ **2014:**
  ○ The Supreme Court referred the matter to a five-judge constitution bench, questioning the correctness of the 2004 E.V. Chinnaiah decision.

➢ **2020:**
  ○ The Constitution bench holds that the 2004 decision needs reconsideration, rejecting the idea of SCs being a homogeneous group and acknowledging the existence of "unequal" within the list.
  ○ The concept of the "**creamy layer**" was also recommended by the Supreme Court for SCs and STs.

➢ **Present:**
  ○ A larger seven-judge bench is hearing the issue as only its judgement can prevail over the decision of a smaller bench.
  ○ Sub-classification will impact various communities across states, including Balmikis and Mazhabi Sikhs in Punjab, Madiga in Andhra Pradesh, Paswans in Bihar, Jatavs in UP, and Arundhatiyars in TamilNadu.

What are the Different Developments in the Davinder Singh Case Until Now?

➢ **Taking Cue from Indra Sawhney Judgement:** In questioning the extant view, the Supreme Court cited its judgement in Indra Sawhney vs Union of India,1992 which arose out of the **Mandal Commission's** report.
  ○ There, a nine-judge Bench had held that sub-classifications within socially and educationally backward classes (OBCs) for services under the government was permissible.

➢ **Endorsing Judgement in K.C. Vasanth Kumar Case (1985):** The majority endorsed Justice Chinnappa Reddy's judgement in K.C. Vasanth Kumar & Another vs State Of Karnataka (1985). In it, Justice had ruled that while the propriety of making sub-classifications might depend on the facts of each case but:
  ○ Courts do not see why on principle there cannot be a classification into backward classes and more backward classes, if both classes are not merely a little behind, but far far behind the most advanced classes.
  ○ In fact such a classification would be necessary to help the more backward classes; otherwise those of the backward classes who might be a little more advanced than the more backward classes might walk away with all the seats.

○ If reservation was concerned to the more backward classes and no reservation was made to the slightly more advanced backward classes, the most advanced classes would walk away with all the seats available for the general category leaving none for the backward classes.

What are the Different Suggestions for Sub-Classifying Various Caste Groups?

➢ **Ensuring Promise of Substantive Equality:**

○ At the root of the matter is the Constitution's collective commitment to equality. Contained in Articles 14 to 16, which can be read together as a code, is a promise of substantive equality.

● This guarantee recognises that individuals, throughout India's history, have been discriminated against based on their caste.

○ Therefore, our constitutional vision demands that we be mindful of group interests in striving to ensure equal treatment.

● Under this model, reservations must be seen not as a measure in conflict with — and in exception to — the basic notion of equality, but, instead, as a means to furthering and entrenching that goal.

➢ **Acknowledging the Role of State Governments:**

○ In State Of Kerala & Anr vs N.M. Thomas & Ors (1975), the Supreme Court has, at least in theory, appeared to acknowledge that governments not only possess the power to make reservations and correct historical wrongs but also have a positive duty to ensure non-discrimination.

○ Viewed thus, if the Government of Punjab were to find on the basis of its studies that its existing measures of reservation have not adequately reached Balmikis and Mazhabi Sikhs, then it is constitutionally obligated to ensure that these measures are corrected.

➢ **Need for Wider Reading of Article 341:**

○ If Article 341 is seen as constituting a bar against sub-classification, then that prohibition would run against the Constitution's equality code. In any case, even on a plain reading, Article 341 does not impose such a prohibition.

● It merely proscribes State governments from including or excluding castes from the President's list of SCs.

○ Where States provide special measures to certain castes that are within this list, they do not act to include or exclude other castes from the list.

● Those castes will continue to be entitled to the State's general provisions of reservation.

➢ **Following the Reasonable Classification:**

○ In the case of the Punjab law, it decidedly does not modify the President's list. It merely accounts for inter se backwardness within that list by providing for a greater degree of preference to Balmikis and Mazhabi Sikhs.

○ This sub-classification is also in keeping with the Constitution's time-honoured theory that reasonable classifications are permissible to ensure that equality is achieved.

➢ **Judging Sub-Classification on Its Own Merits:**

○ If the lists of SCs and STs are not seen as homogenous categories, but as comprising different castes with differing levels of development, a sub-classification will have to be judged on its own merits.

○ That is, the Court will only have to examine whether Balmikis and Mazhabi Sikhs are intelligibly differentiable from other castes within the President's list, and whether the grant of preferential treatment to them and the extent of such grant bears a rational nexus with the law's larger objective of ensuring fair treatment.

Conclusion

The forthcoming ruling by a seven-judge bench of the Supreme Court, along with the insights from a committee, will guide the path for the sub categorisation of Scheduled Castes. It is time the Supreme Court takes seriously what it recognised in N.M. Thomas - that governments have both a power to make reservations and a duty to ensure that the constitutional dream of equality is achieved.

To that end, any authority vested in the States to provide for special measures to those castes within SCs and STs who are most discriminated against must be seen as a way of making real the idea of equal opportunity.

■■■

Reviving India's R&D Funding

This editorial is based on "*India's R&D funding, breaking down the numbers*" which was published in The Hindu on 14/03/2024. The article explores the notable growth in India's research and development (R&D) sector, highlighted by a significant increase in Gross Expenditure on Research and Development (GERD). Despite this growth, India lags behind major developed and emerging economies due to its low investment in R&D as a percentage of GDP.

The announcement in the interim Budget for 2024-25, of a corpus of Rs 1 lakh crore to bolster the research and innovation ecosystem within the country, has sparked enthusiasm within the scientific and research communities. The decision to rebrand the slogan, 'Jai Jawan Jai Kisan' to 'Jai Jawan, Jai Kisan, Jai Vigyan' to now 'Jai Jawan, Jai Kisan, Jai Vigyan, Jai Anusandhan' (by the present **Prime Minister**) is intended to reinforce the foundation of research and innovation for development.

What Are the Different Positive Aspects of R&D Funding in India?

➢ **Powerhouse in Producing Academic Talent:**

○ Despite the comparatively lower share of GDP dedicated to R&D, India has emerged as a powerhouse in producing academic talent. Annually, India generates an impressive 40,813 PhDs and is in third place after the United States and China. This achievement reflects India's commitment to fostering intellectual capital and contributing significantly to global research endeavours.

● Additionally, India's research output remains substantial, ranking third globally, with over 3,00,000 publications in 2022, highlighting the nation's robust research ecosystem and its commitment to advancing knowledge across diverse fields.

➢ **Commendable Performance in Patent Grants:**

○ India also demonstrates commendable performance in patent grants, securing the sixth position globally with 30,490 patents granted in 2022. While this figure is lower compared to the U.S. and China, it underscores India's evolving innovation landscape and its potential for further growth in intellectual property creation.

➢ **Emphasis on Autonomous R&D Laboratories and Institutions:**

○ A significant portion of R&D funding originates from the government, with considerable allocation directed towards autonomous R&D laboratories operated by the government. These laboratories serve a pivotal role in driving research and technology development with strategic implications.

● According to the R&D statistics (2022-23) of the Department of Science and Technology, India's total investment in R&D reached USD17.2 billion in 2020-21. Within this sum, 54% (USD 9.4 billion) is allocated to the government sector and predominantly utilised by four key scientific agencies:

● The **Defence Research and Development Organisation (DRDO)** (30.7%), the Department of Space (18.4%), the **Indian Council of Agricultural Research (ICAR)** (12.4%), and the Department of Atomic Energy (11.4%).

➢ **Provisions in Interim Budget 2024-25:**

○ A corpus of Rs.1 lakh crore to be established with fifty-year interest free loan to provide long-term financing or refinancing with long tenors and low or nil interest rates. A new scheme to be launched for strengthening deep-tech technologies for defence purposes and expediting 'atmanirbharta' is also mooted.

What Are the Different Concerns in R&D Funding in India?

R&D spending peaked in 2019
India R&D spending
$ billion
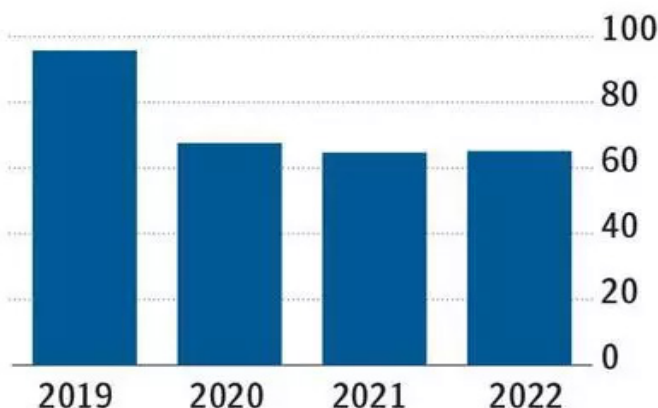
➢ **Low R&D Investment as Percentage of GDP:**

○ India's R&D is witnessing significant growth, with a notable increase in Gross Expenditure on Research and Development (GERD) from Rs 6,01,968 million in 2010-11 to Rs 12,73,810 million in 2020-21.

○ However, with R&D investment as a percentage of **Gross Domestic Product (GDP)** standing at 0.64%, India falls behind major developed and emerging economies such as China (2.4%), Germany (3.1%), South Korea (4.8%) and the United States (3.5%).

➢ **Less Contribution by Private Sector:**

○ In India, GERD is primarily driven by the government sector, including the central government (43.7%), State governments (6.7%), Higher Education Institutions (HEIs) (8.8%), and the public sector industry (4.4%), **with the private sector industry contributing only 36.4%** during 2020–21.

● The reasons for the reduction in R&D spending despite the government being cognizant of the need to increase it are not clear, but may stem from a lack of coordination between government agencies and a need for stronger political will to prioritise R&D expenses.

○ **Private Sector Contribution in Developed Economies:**

● The contribution of private industries lags behind that of many other economies. At approximately USD 6.2 billion, Indian businesses represent 37% of the country's GERD, in contrast to the global trend, where business enterprises typically contribute over 65% of R&D.

● In leading innovative economies such as China, Japan, South Korea, and the U.S., a significant portion (>70%) of R&D funding is from private industries, driven by market forces and profit motives, and the actual R&D activities are conducted in the **Higher Educational Institutions (HEIs).**
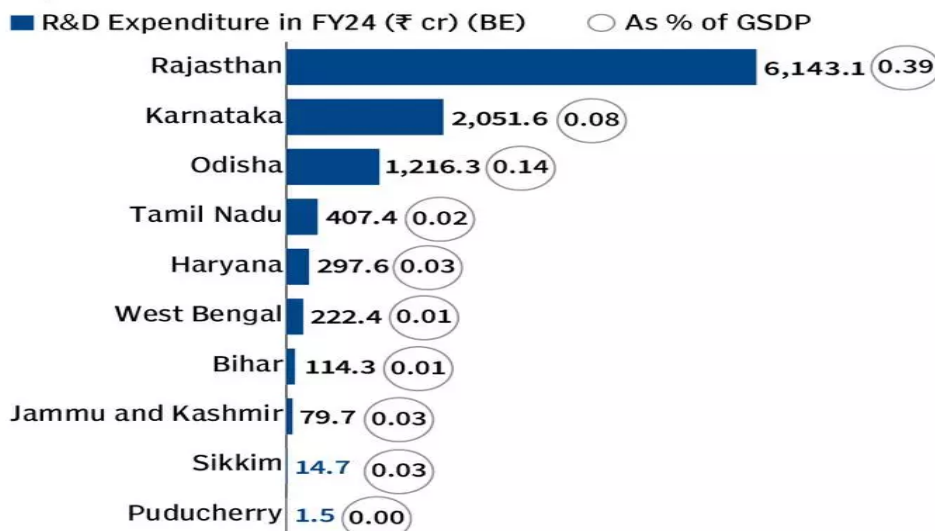
➢ **Under-Utilisation of Allocated Funds:**

○ In 2022-2023, the Department of Biotechnology (DBT), used only 72% of its estimated budget allocation on **Centrally Sponsored Schemes (CSSs)**/Projects while the DST used only 61%. The Department of Scientific and Industrial Research (DSIR), which receives the lowest allocation for CSSs, spent 69% of its allocation.

● The reasons for under-utilisation, as with the under-allocation, are unclear and may indicate tedious bureaucratic processes for approving disbursements, lack of capacity to evaluate projects or clear utilisation certificates, lack of prioritisation for science funding by the Ministry of Finance or inadequate planning or implementation strategy for the requested funds by the Ministry of Science and Technology.

➢ **State Governments not Allocating Adequate Funds:**

○ The RBI's report, **State Finances: A Study of Budgets of 2023-24**, had a section devoted to the r&d spending of the State governments. The study covered only 10 out of 36 States and Union Territories implying that research is not a priority for most States. The annual spending on research was also quite small in most States (0.09% of the GSDP on average), though Rajasthan emerged an outlier.

Enough allotment for research and development?

Rajasthan allocated the most towards R&D in FY24

■ R&D Expenditure in FY24 (₹ cr) (BE)   ○ As % of GSDP

State	R&D Expenditure in FY24 (₹ cr) (BE)	As % of GSDP
Rajasthan	6,143.1	0.39
Karnataka	2,051.6	0.08
Odisha	1,216.3	0.14
Tamil Nadu	407.4	0.02
Haryana	297.6	0.03
West Bengal	222.4	0.01
Bihar	114.3	0.01
Jammu and Kashmir	79.7	0.03
Sikkim	14.7	0.03
Puducherry	1.5	0.00

What are the Various Steps Needed to Enhance R&D Funding in India?

➢ **Encouraging Private Sector Collaboration:**
  ○ India's R&D ecosystem has its advantages in terms of efficiency, but could benefit more from strong private enterprises involvement and stronger industry-academia collaboration, facilitating knowledge transfer and fostering innovation.
    ● The 2013 Science, Technology, and Innovation Policy noted that "Increasing Gross Expenditure on R&D (GERD) to 2% GDP has been a national goal for some time". The 2017-2018 Economic Survey reiterated this in its chapter on science and technology transformation.
    ● Incentives for private investment, including relaxation of **foreign direct investments (FDIs)**, tax rebates, and clear regulatory roadmaps for products will help build investor confidence.

➢ **Increasing R&D Expenditure as Percentage of GDP:**
  ○ The significance of research and innovation cannot be overstated in fuelling economic growth, technological advancement, and global competitiveness. However, to fully realise the impact, it is crucial to assess the current R&D funding landscape in India and its resulting output.
  ○ In 2021, member-countries of the **Organisation for Economic Co-operation and Development (OECD)** on average spent 2.7% of GDP on R&D. The U.S. and the U.K. have consistently spent more than 2% of their GDPs on R&D for the past decade.
    ● So, many experts have called for India to spend at least 1%, but ideally 3%, of its GDP every year until 2047 on R&D for science to have a meaningful impact on development.

Comparison of research productivity and innovation metrics in selected countries (2021-22)

Country	Researchers per million inhabitants (2021) (FTE)	PhDs produced annually (2021) (Rank)	Publication output (2022) (Rank)	Top 1% most cited articles (% share)	Patents granted (2022) (Rank)
India	262	40,813 (3)	3,06,800 (3)	0.7	30,490 (6)
The U.S.	4,452	69,525 (1)	15,06,000 (1)	1.88	3,23,410 (2)
The U.K.	4,491	27,366 (5)	2,87,200 (4)	2.35	10,578 (15)
China	1,687	53,778 (2)	9,78,100 (2)	1.12	7,98,347 (1)
S. Korea	9,082	13,882 (11)	1,09,200 (16)	1.02	1,35,180 (4)
Japan	5,638	15,804 (10)	1,71,000 (9)	0.88	2,01,420 (3)

Source: Publications data has been extracted from OpenAlex on February 7, 2024.

➢ **Ensuring the Increased Role for HEIs in India:**
  ○ HEIs in India play a comparatively minor role in the overall R&D investment, contributing 8.8% (USD 1.5 billion). It is important to recognise that increasing industry contribution to R&D is a complex issue with no single solution. A multi-pronged approach involving diverse stakeholders is necessary to address the challenges and unlock the potential of R&D for India's economic growth and competitiveness through HEIs.

➢ **Bridging the Gaps Between India's Manufacturing Reality and Aspirations:**
  ○ India's technological and manufacturing aspirations hinge on a transformative shift in its R&D landscape. Closing the existing gap demands a **dual strategy:** encouraging private sector involvement and fortifying academia's research infrastructure.
    ● Initiatives such as the **National Deep Tech Startup Policy (NDTSP)** signal a strong commitment to technological progress and innovation. This policy holds the potential to incentivise private sector engagement in India's R&D ecosystem.
      ■ Despite the substantial time and technical uncertainties involved in Deep Tech's creation, **allocating resources to safeguard intellectual property and tackle technical obstacles can unlock untapped markets.**
    ● The recent enactment of the **Anusandhan National Research Foundation (ANRF) Act, 2023** underscores the government's dedication to catalyzing research and innovation as the cornerstone of development.
    ● This legislative move will bolster scientific research nationwide. The Act aims to bridge

India's persistent R&D investment gap while nurturing a robust research culture within HEIs.

- Although promising, this initiative must surmount challenges such as ensuring equitable fund distribution, fostering interdisciplinary collaborations, and upholding global standards.

➢ **Mandating Proper Utilization of Allocated Funds:**

○ The Union Ministry of Science and Technology has consistently under-utilised its budget, so while the calls for increased funding – through both government and private sources – are legitimate, a strengthened budget utilisation is also required to affect science outcomes.

- Mitigating the under-spending and under-utilisation of funds earmarked for R&D stand out as obvious first steps. This, in turn, requires the political prioritisation of R&D spending and recognition of it as a core, irreplaceable element of India's growth journey.

- Finally, India also needs the bureaucratic capacity to evaluate science projects and, after allocations, monitor utilisation. Building such capacity is a prerequisite for India becoming a science power by 2047.

➢ **Prioritizing Expenditure Through State Governments:**

○ Public sector R&D expenses need to increase especially at the State level, if only to improve the quality of research facilities at State universities that are in turn tied to the freedom researchers have to work on more locally relevant problems.

○ Expenditure also needs to increase to the extent that, with suitable policies, it relieves the persistent bottleneck of research graduating from the lab bench to the factory floor. Innovation is of little value without this flow, and will be restricted to low-quality advancements.

Conclusion

Governmental efforts are poised to elevate R&D spending in India, providing strategic guidance for research, innovation, and entrepreneurship while encouraging greater private sector involvement. While India's R&D sector shows significant growth, its low investment in R&D as a percentage of GDP compared to major economies remains a concern. The interim Budget, 2024-25 combined with the NDTSP and ANRF Act,2023 sends positive signals regarding India's commitment to incentivising private sector-led research and innovation, particularly in burgeoning industries.

■■■

India-EFTA Deal: A New Chapter in Trade Agreements

This editorial is based on "A fresh stance: On India and the European Free Trade Association deal" which was published in The Hindu on 14/03/2024. It talks about the significance and challenges of the recently signed Trade and Economic Partnership Agreement (TEPA) between India and the European Free Trade Association (EFTA).

Tag: GS Paper - 2, Bilateral Groupings & Agreements, Groupings & Agreements Involving India and/or Affecting India's Interests, Effect of Policies and Politics of Countries on India's Interest, International Treaties & Agreements.

After 15 years of negotiations, India recently signed a **Trade and Economic Partnership Agreement (TEPA)** with the **European Free Trade Association (EFTA)**. The EFTA today includes four non-EU countries — **Iceland**, **Liechtenstein**, **Norway**, and **Switzerland**.

The agreement stands as a potential game-changer for both parties, promising economic growth, job opportunities, and strengthening bilateral relations. However, it also presents challenges that must be addressed to move towards a more integrated and prosperous global economy.

What is the European Free Trade Association (EFTA)?

➢ **About:**

○ It is an intergovernmental organization set up for the promotion of free trade and economic integration to the benefit of its four Member States – **Iceland, Liechtenstein, Norway and Switzerland** – and the benefit of their trading partners around the globe.

➢ **History:**

○ It was established by a **Convention signed in Stockholm** on **4th January 1960**.

○ It aimed to serve as an alternative trade bloc for those European states that were unable or unwilling to join the then **European Economic Community (EEC)**, the main predecessor of the **European Union (EU)**.

➢ **Main Tasks of the Association:**

○ Maintaining and developing the **EFTA Convention**, which regulates economic relations between the four EFTA States.

○ Managing the **Agreement on the European Economic Area (EEA Agreement)**, which brings together the Member States of the European

Union and three of the EFTA States – **Iceland, Liechtenstein and Norway** – in a single market, also referred to as the **"Internal Market".**

- Developing EFTA's worldwide network of free trade agreements.

➢ **India and EFTA**:

○ India's **exports to EFTA countries** during 2022-23 stood at **USD 1.92 billion**, while **imports were at USD 16.74 billion**.

○ The bilateral trade between India and EFTA stood at **USD 18.65 billion** in 2022-23.

○ **Switzerland** is the largest trading partner of India followed by Norway.

- In fact, India has a **trade deficit with Switzerland**, largely due to gold imports.

○ India-European Free Trade Association signed a **Trade and Economic Partnership Agreement (TEPA)** in March 2024.

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European Free Trade Association

What is the Trade and Economic Partnership Agreement (TEPA)?

➢ **Objectives:**

○ The **TEPA** aims to create opportunities for trade and investment between India and EFTA by eliminating/reducing tariffs and non-tariff barriers on a wide range of products.

○ It aims to ensure fair and transparent market access conditions for service providers and investors and will enhance cooperation on **intellectual property rights** protection and enforcement.

○ TEPA aims to facilitate trade procedures and customs cooperation along with effective mechanisms for dispute resolution.

➢ **Coverage:**

○ The agreement has **14 chapters**, including trade in goods, rules of origin, **intellectual property rights (IPRs)**, trade in services, investment promotion and cooperation, government procurement, technical barriers to trade and trade facilitation.

- ➤ **Key Highlights of the Agreement:**
  - ❍ **EFTA** has committed to promoting investments to increase the stock of foreign direct investments by **USD 100 billion** in India in **the next 15 years**, and to **facilitate the generation of 1 million direct employment in India**, through such investments.
  - ❍ For the first ever time in the history of FTAs, **a legal commitment** is being made to promoting target-oriented investment and the creation of jobs.
  - ❍ **EFTA is offering 92.2% of its tariff lines** which covers 99.6% of India's exports.
  - ❍ **India is offering 82.7% of its tariff lines** which covers 95.3% of EFTA exports of which more than 80% of import is Gold. The effective duty on Gold remains untouched.
  - ❍ The EFTA's market access offer covers **100% of non-agri products** and tariff concession on **Processed Agricultural Products (PAP)**.
  - ❍ India has offered **105 sub-sectors** to the EFTA and secured commitments in **128 sub-sectors from Switzerland**, **114 from Norway**, **107 from Liechtenstein**, and **110 from Iceland**.
  - ❍ TEPA has provisions for **Mutual Recognition Agreements** in professional services like nursing, chartered accountants, architects, etc.

MAJOR TRADE AGREEMENTS OF INDIA

Free Trade Agreement (FTA) With Neighbouring Countries
- India-Sri Lanka FTA
- India-Nepal Treaty of Trade
- India-Bhutan Agreement on Trade, Commerce, and Transit

A free trade agreement is a comprehensive deal between countries, offering preferential trade terms and tariff concessions, with a negative list excluding specific products and services.

Regional FTA's of India
- **India ASEAN Trade in Goods Agreement (11):** 10 ASEAN countries + India
- **South Asia Free Trade Agreement (7):** India, Pakistan, Nepal, Sri Lanka, Bangladesh, Bhutan, and the Maldives
- **Global System of Trade Preferences** (41 countries + India)

India's CECAs and CEPAs

CECA/CEPA is broader than FTAs, addressing regulatory, trade, and economic aspects comprehensively, with CEPA having the widest scope including services, investment, etc while CECA mainly focuses on tariff and TQR rates negotiation.

- CEPA with **UAE, South Korea, Japan**
- CECA with **Singapore, Malaysia**

Others:
- India-Australia Economic Cooperation and Trade Agreement (ECTA)
- India-Thailand Early Harvest Scheme (EHS)
- India-Mauritius Comprehensive Economic Cooperation and Partnership Agreement (CECPA)

An EHS precedes an FTA/CECA/CEPA, where negotiating countries select products for tariff liberalisation, paving way for broader trade agreements and fostering confidence.

Preferential Trade Agreements (PTAs)

Partners in a PTA grant preferential access to specific products by lowering duties on agreed tariff lines, maintaining a positive list of products eligible for reduced or zero tariffs.

- **Asia Pacific Trade Agreement (APTA):** Bangladesh, China, India, S. Korea, Lao PDR, Sri Lanka, and Mongolia
- **SAARC Preferential Trading Agreement (SAPTA):** Same as SAFTA
- **India-MERCOSUR PTA:** Brazil, Argentina, Uruguay, Paraguay and India
- India's PTA with **Chile, Afghanistan**

Drishti IAS

Why Does the India-EFTA Deal Hold Significance?

Economic Growth and Job Creation:

- ➤ **Investment Boost:**
  - ❍ The anticipated **USD 100 billion in FDI from EFTA** countries over **15 years** is crucial for India's infrastructure development, technological advancement, and job creation.

- ❍ TEPA will give impetus to "**Make in India**" and **Atmanirbhar Bharat** by encouraging domestic manufacturing in sectors such as Infrastructure and Connectivity, Manufacturing, Machinery, Pharmaceuticals, Chemicals, Food Processing, Transport and Logistics, Banking and Financial Services and Insurance.
- ➤ **Trade Expansion** :
  - ❍ TEPA would stimulate our services exports in

sectors such as IT services, business services, personal, cultural, sporting and recreational services, other education services, audio-visual services etc.

➤ **Market Access** :

○ Under the India-EFTA free-trade agreement, Indian customers will get access to high-quality Swiss products such as watches, chocolates, biscuits, and clocks at lower prices as India will phase out customs duties under the trade pact on these goods over 10 years.

Strategic and Technological Benefits:

➤ **Geopolitical Significance:**

○ The deal strengthens India's economic ties with Europe, fostering a more multipolar global trade landscape. This reduces dependence on any single trading partner and provides strategic benefits for India.

➤ **Knowledge Sharing and Innovation:**

○ The deal can foster knowledge sharing and joint research ventures, accelerating India's technological development.

○ It facilitates technology collaboration and access to world-leading technologies in precision engineering, health sciences, renewable energy, Innovation and **R&D**.

Setting a Precedent:

➤ **Template for Future Deals:**

○ The successful implementation of the India-EFTA TEPA can serve as a template for future trade agreements with other European nations like the UK and potentially even the EU.

○ TEPA provides an opportunity to integrate into EU markets. Over 40% of Switzerland's global services exports are to the EU. Indian companies can look to Switzerland as a base for extending its market reach to EU.

➤ **Free Trade Champion**:

○ India's successful negotiation and signing of the TEPA reinforces its image as a champion of free trade. This can attract further foreign investment and position India as a key player in the global trade arena.

**Long-Term Benefits Beyond Just Trade:**

➤ **Streamlined Processes**:

○ The agreement goes beyond just tariffs, addressing areas like intellectual property rights, services trade, and government procurement. This

comprehensive approach fosters a stronger economic partnership with long-term benefits.

○ Commitments related to Intellectual Property Rights in TEPA are at the **TRIPS** level.

➤ **Sustainable Development**:

○ The TEPA incorporates provisions for promoting sustainable development practices in trade and investment. This ensures environmentally conscious growth and aligns with global sustainability goals.

India's Exports to EFTA Bloc (2023)

Country wise exports from India in 2023
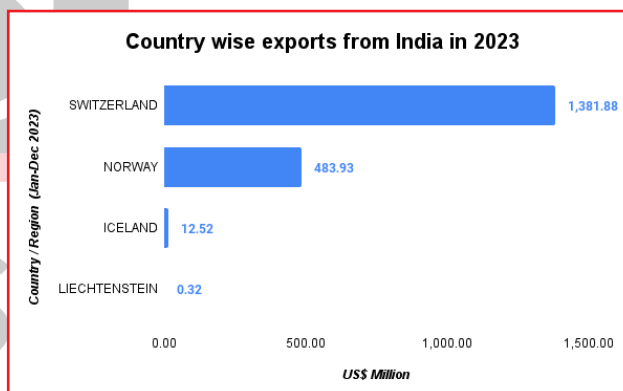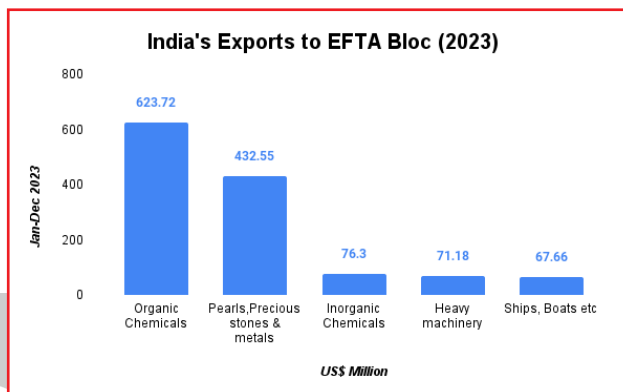
What are the Key Issues in the India- EFTA Agreement?

➤ **Exclusion From FTA:**

○ India has **excluded sensitive sectors like agriculture and dairy** from significant tariff reductions. Sectors such as dairy, soya, coal and sensitive agricultural products are kept on the exclusion list and there will not be any duty concessions on these goods.

○ FTA's biggest export to India by far is gold, mostly from Switzerland. The effective duty on **Gold** remains untouched.

○ This might limit the benefits for some EFTA exporters.

➤ **The USD 100-Million Legal Commitment:**

○ If the USD 100-million commitment is not fulfilled, then there is a provision in the agreement that if

the proposed investments do not come because of some reasons, India can "**re-balance or suspend**" the duty concessions to the four countries.

➢ **Data Exclusivity:**

○ One of the key concerns is the proposal to introduce an additional IP barrier—**data exclusivity (DE)—which could potentially delay the manufacturing of generic versions of new medicines**, biologics, and preventive **HIV** therapy for a defined period, even when there is no patent on the medicine.

○ The proposed data exclusivity provisions, insisted upon by EFTA nations, would prevent domestic generic drug manufacturers from utilizing data from preclinical tests and clinical trials conducted by the original patent holders.

➢ **The Difference in Income Level:**

○ There is a huge difference in **per capita incomes** between **India (USD 2,500)** and the **EFTA countries (USD 60,000-70,000)**.

○ So an **FTA** must consider ways and means to provide equal opportunity for the latter to catch up.

➢ **Non-Tariff Barriers (NTBs):**

○ Streamlining non-tariff barriers like differing product standards and technical regulations is crucial. Inconsistencies can create hurdles for businesses trying to export goods, as they may need to modify products to comply with regulations in each market.

➢ **Domestic Resistance:**

○ Some Indian sectors, particularly those facing competition from EFTA imports, might express concerns about job losses or unfair competition.

Indian Imports from EFTA bloc (2023)

Country wise Imports to India in 2023
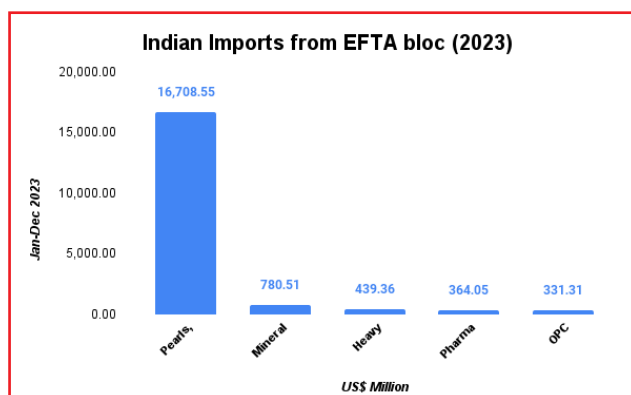
What Should be The Way Forward to Ensure the Success of The India-EFTA Deal?

➢ **Addressing Asymmetries by Finding Common Ground :**

○ **Investment Protection:** The deal should include provisions for the protection of investments, ensuring a conducive environment for businesses to invest and operate in each other's markets.

○ **Phased Reductions:** For sensitive sectors like agriculture, India could consider phased tariff reductions, allowing domestic producers time to adjust and become more competitive.

○ **Compensation Packages:** Tailored compensation packages for affected industries can ease concerns and provide support for necessary restructuring.

○ **Dispute Resolution Mechanism:** Establishing an effective dispute resolution mechanism is crucial to address any trade-related disputes that may arise and prevent escalation into trade conflicts.

➢ **Bridging the Regulatory Gap Through Streamlining for Efficiency :**

○ **Reduce Non-Tariff Barriers:** Efforts should be made to reduce non-tariff barriers such as technical regulations, standards, and customs procedures that can hinder trade flows

○ **Mutual Recognition Agreements (MRAs):** Establishing MRAs for specific product categories can ensure products that meet one country's standards are automatically accepted by the other.

○ **Joint Technical Committees:** Forming joint committees dedicated to harmonizing technical regulations can expedite the process and promote consistency.

➢ **Building Capacity By Providing Tools for Growth:**

○ **Training and Skill Development:** Investing in training programs for customs officials and businesses on the new trade regime will ensure smooth implementation.

○ **Infrastructure Upgrade:** Upgrading customs infrastructure and logistics networks can handle the anticipated increase in trade volume efficiently.

➢ **Fostering Collaboration With A Shared Vision:**

○ **Regular Stakeholder Dialogues:** Maintaining regular dialogues between governments, businesses, and civil society can address concerns and ensure transparency.

○ **Knowledge Sharing Programs:** Encouraging knowledge exchange in areas like best practices and technological advancements can benefit both regions.

Conclusion

The deal presents a unique opportunity to forge a stronger, more integrated partnership that benefits both sides and sets a positive precedent for future trade agreements. As India and EFTA countries embark on this exciting journey, the focus should remain on collaborative efforts, open communication, and a shared vision for a thriving economic partnership.

■■■

Bhutan's Gelephu Gambit

This editorial is based on "*Bhutan's opening move, its Gelephu gambit*" which was published in The Hindu on 15/03/2024. The article examines Bhutan's proposal to establish a regional economic hub in Gelephu, a town bordering Assam in India. It delves into the project's significance as a gamble for Bhutan but potentially *transformative for the region, particularly with India's support.*

Tag: GS Paper-2, India and its Neighbourhood, Bilateral Groupings & Agreements, Groupings & Agreements Involving India and/or Affecting India's Interests.

In an era dominated by connectivity initiatives, large-scale infrastructure projects, and the development of smart cities worldwide, Bhutan's Prime Minister is prioritising the establishment of a **regional economic hub in Gelephu**, a town located along the border with Assam, India, during his visit to India.

The plan, launched by Bhutan's King in December 2023, is to build a **"Gelephu Mindfulness City" (GMC)** with a unique Bhutanese architectural blueprint across 1,000 square kilometres, as a special administrative zone with separate, investor-friendly laws.

Note: Key Facts Related to Bhutan:

➢ Bhutan is **nestled between India and Tibet,** an autonomous region of China and is a landlocked country.

➢ Bhutan became a democratic country in 2008 after the first democratic elections were held in the country. The King of Bhutan is the Head of State.

➢ The main rivers from west to east are the Torsa (Amo), Wong (Raidak), Sankosh (Mo), and Manas. All the rivers flow southward from the Great Himalayas and join the Brahmaputra River in India.

○ The longest river in Bhutan is the **Manas River**- a transboundary river in the Himalayan foothills between southern Bhutan and India.

Dividing line

A brief overview of the boundary dispute between China and Bhutan

■ Bhutan and China have no formal diplomatic relations but have held 24 rounds of boundary talks between 1984 and 2016

■ Talks concentrated on north and west Bhutan regions

■ Eastern Bhutan not part of the talks

so far, say officials

■ Sakteng sanctuary is situated close to the border with Arunachal Pradesh

■ In June 2020, China attempted to stop UNDP-GEF funding for Sakteng by claiming it was disputed, but was overruled

CHINA
Arunachal pradesh
Sikkim
BHUTAN
NEPAL
Sakteng wildlife sanctuary
Assam
INDIA
Meghalaya
BANGLADESH

Bhutan and India formally demarcated their 699 km boundary in 2006

Map not to scale

What are the Different Arguments Regarding Development of GMC?

➢ **Arguments in Support:**
  ○ **A Carbon-Neutral City:**
    ● As a carbon-neutral city, Gelephu would include only non-polluting industries (mainly IT, education, hotel and hospital sectors), and would be **promoted as an investment destination and health and wellness hub** in the middle of the region.
      ■ In that sense, the city is more like newer global peers - planned cities such as Saudi Arabia's Neom and Indonesia's Nusantara than financial hubs with glass-cased skyscrapers such as Dubai, Hong Kong and Singapore.
  ○ **Giving a Filip to India's Connectivity Plans:**
    ● It would also lie at the crossroads of India's "**Act East**" plans for connectivity to Myanmar, and on to **Association of Southeast Asian Nations (ASEAN)** and the Indo-Pacific region as well as the new India-Japan connectivity plans between India's north-eastern States through Bangladesh to the Bay of Bengal and Indian Ocean.
  ○ **Fulfilling the Need For Lateral Land-Based Connectivity:**
    ● At the 7th Indian Ocean Conference 2024 in Perth, Ministry of External Affairs highlighted the "need for lateral land-based connectivity across the Indian Ocean region which is essential to supplement and complement the maritime flows" through "initiatives like the **India-Middle East-Europe Economic Corridor (IMEC)** to India's West and the Trilateral Highway to India's East".
      ■ GMC will benefit Bhutan and supplement its various infrastructural projects. It will also provide opportunities for Bhutan to join IMEC in the future.

➢ **Arguments Against:**
  ○ **Challenges Posed by Mountainous Terrain:** The geography of Gelephu, a rare broad plain in an otherwise mountainous country, poses challenges. With warmer temperatures than in the mountains, Gelephu gets high amounts of rainfall during a monsoon season that lasts several months, leading to **considerable flooding each year.**
  ○ **Issues due to Locational Factors:** The surrounding forests and wildlife populations place Gelephu right in the middle of elephant corridors. As

Gelephu is landlocked, it is **dependent on other countries**, primarily India, to provide the infrastructure for trade and transport out of the special administrative region.
  ○ **Concerns due to Insurgencies in North-Eastern States:** Insurgencies in Assam and the northeastern States and just across the Indian border in Myanmar have been an area of great concern in the past, leading to a **major military operation (Operation All Clear)** by Bhutan's former king in 2003, working with the Indian Army to **drive out militant groups** sheltering in the area.

What is the Significance of the Gelephu Project?

➢ **For Bhutan:**
  ○ **Promoting Tourism:** If Bhutan wants to increase these revenues, it must scale up its capacity to take in more tourists and visitors and land bigger planes, which need a much larger airport than the present one in the narrow Paro valley.
    ● The first part of the Gelephu project involves scaling up the Gelephu airport and tarmac to international standards, which will need financing and expertise from India.
  ○ **Boosting Employment:** The growing "outmigration" of Bhutanese youth in search of jobs abroad is another challenge, and the government hopes a mega project such as Gelephu will stem that.
  ○ **Addressing Bhutan's Geopolitical Concerns:** Bhutan's most pressing geopolitical concern - pressure from its northern neighbour China to conclude a boundary resolution deal and to establish diplomatic ties.
    ● Far away to the south, Gelephu offers Bhutan a way to open itself up in a controlled manner to the rest of the world, while also continuing negotiations with Beijing for a stable border.

➢ **For India:**
  ○ **Bringing Bhutan Closer to India:** India and Bhutan have thus far built an idyllic relationship, based on a strong understanding between every Bhutan's king and Indian **Prime Ministers** over the past 75 years. It is India's only direct neighbour not currently in Beijing's orbit.
    ● India is the leading source of investments in Bhutan, comprising 50% of its total **foreign direct investment (FDI)**.
    ● India would also be wary of "missing an opportunity" of the kind seen in Sri Lanka's

Hambantota a decade ago, which sent the close neighbour to China and caused unsustainable debt.

○ **Complementing India's Regional Needs:** When it comes to investment in infrastructure, Gelephu's needs will align with India's own plans for the region:

● Railway lines right up to the border with Bhutan;

● Better roads to feed into the trilateral highway to Myanmar and Southeast Asia;

● Cooperation with Japan to coordinate roads and bridges construction in Bangladesh in order to access Chattogram and Mongla ports;

● And upgrading border posts with all three land neighbours to allow efficient trade.

○ **Facilitating Demand for Power Supply:** In addition to climate-friendly solar and wind power generation projects, India's plans for a South Asian power grid that would draw electricity from Nepal and Bhutan, with supply to Bangladesh and Sri Lanka would lend itself to more consistent power supplies needed for Gelephu.

What are the Suggestions for India to Bolster Ties with Neighbours in the Future?

➢ **Finding Common Ground With Neighbours:**

○ Obviously, the conditions for a mega-smart city with no immediate returns from the investment envisioned for the GMC, are not optimal at present.

○ However, as the global setting grows more polarised and countries increasingly opt for "tribal" foreign policies that draw more from traditional allies in their respective neighbourhoods, **India too must find its tribe in South Asia:** a region that shares language, faith, culture, geography and climate.

➢ **Taking a Cue from Sri Lanka and Bangladesh:**

○ The goodwill generated by India's generous support to Sri Lanka during its economic crisis and steadfast relationship with Bangladesh can be multiplied by similar forays in other directions, such as helping Nepal defray the costs of its new airports by allowing overflight rights, continuing the projects committed to the Maldives despite recent setbacks in ties, and even considering a new chapter with Pakistan, amidst all its other political and economic turmoil.

➢ **Promoting Digital Infrastructure Across South Asia:**

○ Cooperation in newer areas beyond the traditional realms of cooperation such as new **STEM-based initiatives**, establishment of digital infrastructure such as the Third International Internet Gateway, integration of Bhutan's DrukRen with India's National Knowledge Network – a key cooperation in the domain of e-Learning, E-library project complementing Bhutan's efforts at digital transformation, e-learning, are laudable.

○ However, similar efforts need to be undertaken across the entire range of South Asian countries to promote further economic and infrastructural integration and generate good-will.

➢ **Promoting Environmental Sustainability Through Cooperation:**

○ The importance of environmental sustainability cannot be overstated in the context of Indo-Bhutan relations. Both India and Bhutan are blessed with abundant natural resources, and it is imperative that they work together to preserve and protect these resources for future generations.

○ Therefore, it is crucial that India and Bhutan continue to prioritise environmental sustainability in their bilateral relations, and work towards achieving their shared goals of promoting **sustainable development** and protecting natural resources.

Conclusion

Bhutan's ambitious plan for the Gelephu Mindfulness City (GMC) at the heart of the region presents a bold vision for sustainable development. Despite significant challenges, such as environmental factors and geopolitical pressures, the project symbolises Bhutan's aspirations for economic growth and enhanced connectivity. India's pivotal role in supporting this endeavour underscores the deep-rooted ties between the two nations and the potential for regional cooperation. As both countries navigate complex regional dynamics, the Gelephu project stands as a testament to their shared commitment to progress and prosperity in the region.

■■■

AI: A Double Edged Sword

This editorial is based on "*Many elections, AI's dark dimension*" which was published in The Hindu on 18/03/2024. The article discusses the potential impact of AI on democracies as several countries gear up for elections in 2024. It suggests that AI has the capacity to disrupt democratic processes and highlights the implications this may have.

Tag: GS Paper - 3, Artificial Intelligence, Scientific Innovations & Discoveries, IT & Computers, GS Paper - 2, Government Policies & Interventions.

With the seven-phase general election in India having been announced, and to be held from April 19th to June 1st, 2024, political parties and the electorate cannot, however, afford to ignore the **Artificial Intelligence (AI)** dimension. This year, elections are also scheduled to be held in as many as 50 other countries across the globe, apart from, and including, India, Mexico, the UK and the US.

The potential of AI is already clear. Many such as Sam Altman of OpenAI in the US, believe that it is the most important technology in history. AI protagonists further believe that AI is set to turbocharge, and dramatically improve, the standard of living of millions of human beings. It is, however, unclear as of now, whether, as many suggest, AI would undermine human values and that **advanced AI could pose 'existential risks'.**

What are the Implications of AI for Elections Across the Globe?

The shadow of large language models looms over elections around the world, and stakeholders are aware that even one relatively successful deployment of an AI - generated disinformation tool could impact both campaign narratives and election results very significantly.

➢ **Emergence of AGI:**
  ❍ Rapid technological breakthroughs in AI (especially its latest manifestation, such as **Generative AI**) carry their own burdens. It may be too early to fully contemplate the possible impact of **Artificial General Intelligence (AGI)** - AI systems that simulate the capability of human beings - but all this is indicative of yet another dimension to electoral dynamics that cannot be ignored.
    ● The rapid development of AI models suggests that the world is at an inflection point in the history of human progress. The speed with which the development of newer skills is taking place suggests that the day is not far off when **Generative AI** will transform into AGI, which can mimic the capabilities of human beings.

Note: AGI vs. AI: What's the Difference?
➢ AGI is a subcategory of AI, and the former can be seen as an upgraded version of the latter:
  ❍ Artificial intelligence is often trained on data to perform specific tasks or a range of tasks limited to a single context. Many forms of AI rely on algorithms or pre-programmed rules to guide their actions and learn how to operate in a certain environment.
  ❍ Artificial general intelligence, on the other hand, is able to reason and adapt to new environments and different types of data. So instead of depending on predetermined rules to function, AGI embraces a problem-solving and learning approach — similar to humans. Because of its flexibility, AGI is capable of handling more tasks in different industries and sectors.

➢ **AIs, Gamechangers in Manipulating Electoral Behaviour:**
  ❍ The global community is increasingly familiar with the use of AI models like ChatGPT, Gemini, and Copilot across various industries. However, 2024 is poised to demonstrate how newer AI models could significantly influence electoral behaviors and outcomes.
    ● Underestimating the potential impact of AI on the electoral landscape would be a mistake. What may not materialise in 2024 could very well occur in the subsequent round of elections, both in India and around the world.

➢ **Promoting 'Deep Fake Elections':**
  ❍ Employability of AI could well have a substantial impact to further confuse the electorate. As it is, many people are already referring to the elections in 2024 worldwide as the 'Deep Fake Elections', created by AI software.
    ● Whether this is wholly true or not, the Deep Fake syndrome appears inevitable, given that each new election lends itself to newer and newer techniques of propaganda, all with the aim of confusing and confounding the democratic processes.

➢ **Spreading Disinformation:**
  ❍ The **World Economic Forum's (WEF's)** Global Risks Perception Survey, ranks misinformation and disinformation among the top 10 risks, with easy-to-use interfaces of large-scale AI models enabling a boom in false information and "synthetic" content - from sophisticated voice cloning to fake websites.
    ● AI can be used to inundate voters with highly personalised propaganda on a scale that could make the Cambridge Analytica scandal appear microscopic, as the persuasive ability of AI models would be far superior to the bots and automated social media accounts that are now baseline tools for spreading disinformation.
      ■ The risks are compounded by social media companies such as Facebook and Twitter significantly cutting their fact-checking and election integrity teams.

Fakes Around the World

ARGENTINA
Before the November 19, 2023 Argentina presidential election runoff, candidate Javier Milei posted a doctored image *(above)* of his rival Sergio Massa in Chinese communist military overalls. The allegedly AI-generated image got 3 mn views on X, a large number in a country of 46 mn. Milei is now Argentina's President.

INDIA
On January 21, 2024, the late M Karunanidhi 'told' a DMK youth wing meeting in Salem about the Centre's suppression of states' rights in an AI-generated video. Two days later, Karunanidhi, who died in 2018, appeared in another fake video *(screen-grab above)* and praised Chief Minister M K Stalin and DMK leader T R Baalu.

SLOVAKIA
In September 2023, before a key election, an audio surfaced online in which a top candidate was heard saying that he had bought the votes of a minority group, and that he would tax beer if voted to power. *AFP* fact checkers concluded that the audio was AI-generated. The candidate was eventually defeated.

➤ **Inherent Inaccuracies in Such Models:**
  ○ The wide publicity given to a spate of recent inaccuracies associated with Google is a timely reminder that AI and AGI cannot be trusted in each and every circumstance. There has been public wrath worldwide over Google AI models, including in India, for their portrayal of persons and personalities in a malefic manner, mistakenly or otherwise. These reflect well the dangers of 'runaway' AI.
    ● Inconsistencies and undependability stalk many AI models and pose inherent dangers to society. As its potential and usage increases in geometric proportion, threat levels are bound to go up.

➤ **Over Reliance on AIs:**
  ○ As nations increasingly rely on AI solutions for addressing their challenges, it becomes crucial to acknowledge what many AI experts refer to as AI's "hallucinations."

  ○ Specifically, concerning AGI, experts imply that it sometimes fabricates information to address novel issues. Such fabrications are often probabilistic and cannot be automatically deemed accurate. The implication of these factors is that excessive dependence on AI systems at this developmental stage could pose challenges.

➤ **Inherent Adversarial Capabilities:**
  ○ Various existential threats associated with AI can not be ignored. The dangers on this account pose an even greater threat than harm arising from bias in design and development.
    ● There are real concerns that AI systems, oftentimes, tend to develop certain inherent adversarial capabilities. Suitable concepts and ideas have not yet been developed to mitigate them, as of now.
  ○ The main types of adversarial capabilities, overshadowing other inbuilt weaknesses are:
    ■ 'Poisoning' that typically degrades an AI model's ability to make relevant predictions;

- ■ 'Back Dooring' that causes the model to produce inaccurate or harmful results; and

- ■ 'Evasion' that entails resulting in a model misclassifying malicious or harmful inputs thus detracting from an AI model's ability to perform its appointed role.

➢ Lack of Effective Regulation:

○ India faces a dilemma in AI regulation. The Indian government itself has oscillated between a non-regulatory approach and a more cautious one, with an emphasis on mitigating user harm, which provides a fertile ground for misuse.

- ● The argument against AI regulation is rooted in the pro-innovation stance, emphasising the need to promote and adapt to the rapid advancement of AI technologies rather than restrain their development and integration into society through regulatory measures.

➢ **Lack of Effective Checks by the Largest AI Platforms:**

○ Generative AI companies with the most popular visual tools prohibit users from creating "misleading" images. However, researchers with the British nonprofit Centre for Countering Digital Hate (CCDH), who tested four of the largest AI platforms - Midjourney, OpenAI's ChatGPT Plus, Stability.ai's DreamStudio, and Microsoft's Image Creator - succeeded in making deceptive election-related images more than 40% of the time.

- ● According to a public database, users of Midjourney have created fake photos of Joe Biden handing wads of cash to Israeli Prime Minister Benjamin Netanyahu, and Trump playing golf with Russian President Vladimir Putin.

What are the Steps Required to Tackle the AI's Impact on Elections?

➢ **A Tech Accord to Combat Deceptive Use of AI in 2024 Elections:**

○ In February, at the Munich Security Conference, 22 of the companies, including tech giants Amazon, Google, Microsoft and Meta as well as AI developers and social platforms signed on to this Tech Accord, 2024 which pledged to address risks to democracy during this year of elections. **This was signed as a voluntary framework of principles and actions to advance seven principal goals:**

- ● **Prevention:** Researching, investing in, and/or deploying reasonable precautions to limit risks of deliberately Deceptive AI Election Content being generated.

- ● **Provenance:** Attaching provenance signals to identify the origin of content where appropriate and technically feasible.

- ● **Detection:** Attempting to detect Deceptive AI Election Content or authenticated content, including with methods such as reading provenance signals across platforms.

- ● **Responsive Protection:** Providing swift and proportionate responses to incidents involving the creation and dissemination of Deceptive AI Election Content.

- ● **Evaluation:** Undertaking collective efforts to evaluate and learn from the experiences and outcomes of dealing with Deceptive AI Election Content.

- ● **Public Awareness:** Engaging in shared efforts to educate the public about media literacy best practices, in particular regarding Deceptive AI Election Content, and ways citizens can protect themselves from being manipulated or deceived by this content.

- ● **Resilience:** Supporting efforts to develop and make available defensive tools and resources, such as AI literacy and other public programs, AI-based solutions (including open-source tools where appropriate), or contextual features, to help protect public debate, defend the integrity of the democratic process, and build whole-of-society resilience against the use of Deceptive AI Election Content.

➢ **Developing and Implementing Technology to Mitigate Risks:**

○ Supporting the development of technological innovations to mitigate risks arising from Deceptive AI Election Content by identifying realistic AI-generated images and/or certifying the authenticity of content and its origin, with the understanding that all such solutions have limitations.

○ Continuing to invest in advancing new provenance technology innovations for audio video, and images.

○ Working toward attaching machine-readable information, as appropriate, to realistic AI-generated audio, video, and image content that is generated by users with models in scope of this accord.

➢ **Appropriately Address Deceptive AI Election Content:**

○ Seeking to Appropriately Address Deceptive AI Election Content detected that is hosted on online

distribution platforms and intended for public distribution, in a manner consistent with principles of free expression and safety.

○ This may include—but is not limited to—adopting and publishing policies and working to provide contextual information on realistic AI-generated audio, video, or image content .

➢ **Engaging with Global Civil Society:**

○ Continuing to engage with a diverse set of global civil society organisations, academics, and other relevant subject matter experts through established channels or events, in order to inform the companies' understanding of the global risk landscape as part of the independent development of their technologies, tools, and initiatives described.

➢ **Foster Public Awareness:**

○ Supporting efforts to foster public awareness and all-of-society resilience regarding Deceptive AI Election Content - for instance by means of education campaigns regarding the risks created for the public and ways citizens can learn about these risks to better protect themselves from being manipulated or deceived by this content.

● Manipulations can happen via tools, interfaces, or procedures that can provide users with more useful context about the content than seen online; by developing and releasing open source tools to support others who try to mitigate these risks; or by otherwise supporting the work of organisations and communities engaging in responding to these risks.

What are India's Initiatives Related to Artificial Intelligence?
➢ **INDIAai.**
➢ **Global Partnership on Artificial Intelligence (GPAI).**
➢ **US India Artificial Intelligence Initiative.**
➢ **Responsible Artificial Intelligence (AI) for Youth.**
➢ **Artificial Intelligence Research, Analytics and Knowledge Assimilation Platform.**
➢ **Artificial Intelligence Mission.**

Conclusion

The rapid advancement of AI marks a significant milestone in human progress, potentially leading to the transformation of Generative AI into Artificial AGI, capable of emulating human capabilities. As the world prepares for a series of elections in 2024, including in India and numerous other countries, the implications of AI on electoral dynamics cannot be overlooked.

The use of AI, particularly its latest forms such as Generative AI, poses both opportunities and challenges for shaping electoral behaviours and outcomes. As AI's influence grows, it becomes imperative to address its disruptive potential, especially in the realm of elections, to safeguard democratic processes and uphold the integrity of electoral systems.

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Incorporating MIRV Technology

This editorial is based on "*The MIRV leap that fires up India's nuclear deterrence***" which was published in The Hindu on 19/03/2024. The article explores how the integration of Multiple Independently Targetable Re-entry Vehicles (MIRVs) with the Agni-5 variant enhances the effectiveness of India's nuclear deterrent.**

Tag: GS Paper-3, Achievements of Indians in Science & Technology, Space Technology, Indigenization of Technology, Robotics

The recent test of the **Agni-5** ballistic missile, under "**Mission Divyastra**", by the **Defence Research and Development Organisation (DRDO),** holds significant strategic importance. Boasting a range exceeding 5,000 kilometres, the Agni-5 stands as India's longest-range missile tested to date. However, its significance extends beyond its range; the missile's potency marks a pivotal moment for India's nuclear deterrence capability. This potency is further augmented by its integration with **Multiple Independently Targetable Re-entry Vehicles (MIRVs).**

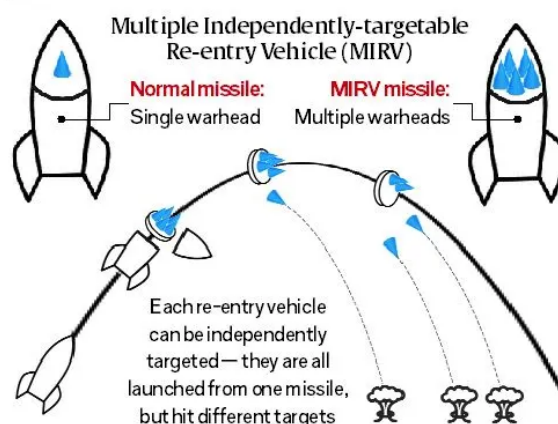| **Note: Mission Divyastra:** |
| --- |
| ➢ The DRDO's successful launch of Mission Divyastra marks a significant achievement for India's nuclear capabilities. |
| ➢ It represents the inaugural flight test of the domestically developed Agni-5 nuclear missile with a 5,000-km range, featuring MIRV technology. |
| ○ The flight test, named Mission Divyastra, was carried out from Dr APJ Abdul Kalam Island off the Odisha coast. |
| ➢ This technology enables the missile to deliver multiple warheads to various or the same locations in a single launch, potentially including decoys to mislead enemy ballistic missile defences. |

FORMIDABLE ARSENAL

SURFACE-TO-SURFACE MISSILES

Short Range Ballistic Missiles

Prithvi-I	150 km	1,000 kg
Prithvi-II	250 km	500 kg
Prithvi-III	350 km	1,000 kg
Dhanush	350 km	1,000 kg
Agni-I	700 km	1,000 kg
Shaurya	700 km	1,000 kg
Prahaar	150 km	200 kg

Intermediate Range Ballistic Missiles (IRBMs)

Agni-II	2,000 km	1,000 kg
Agni-III	3,000 km	2,000-2,500 kg
Agni-IV	4,000 km	1,000 kg

Intercontinental Range Ballistic Missiles (ICBMs)

Agni –V	5,000 km	1,500 kg ((3-10 MIRV))
Agni-VI (Under Development)	6,000	1,000 kg (10 MIRV)
Surya (Under Development)	10,000 km	1,000 kg (10 MIRV)

SUBMARINE LAUNCHED BALLISTIC MISSILES

K-15 Sagarika (B-05)	750 km	500 kg
K-4	3,000 km	1,000 kg

CRUISE MISSILES

Subsonic Cruise Missiles

Nirbhay	750-1,000 km	500 kg

Supersonic Cruise Missiles

BrahMos	290 km	300 kg

Hypersonic Cruise Missiles

BrahMos-II	290 km	300 kg

AIR-TO-AIR MISSILE

Astra 80-110 km 15kg

SHORT RANGE SURFACE-TO-AIR MISSILES

Trishul	9 km	5 kg
Akash	30 km	50 kg
Maitri	15 km	10 kg
Barak-8	70 km	60 kg

ANTI-TANK GUIDED MISSILES

Nag Anti-tank guided missile — 7 km — 8 kg
Helina (Helicopter launched Nag missile) — 7 km — 8 kg

ANTI-BALLISTIC MISSILES

Prithvi Air Defence Missile (Exo-atmospheric at 50-80 km altitude) 2,000 km DM (Proximity)

Advanced Air Defence Missile (Endo-atmospheric at 15-30 km altitude) 150-200 km DM (Hit-to-kill)

Prithvi Defence Vehicle (Exo-atmospheric at more than 120 km altitude) 2,000-3,000 km DM (Proximity)

What is MIRV Technology?

➢ **About:**
- MIRV technology originated in the United States, with the deployment of a MIRVed Intercontinental Ballistic Missile (ICBM) in 1970.
- MIRV allows a single missile to carry multiple warheads (4-6), each capable of targeting different locations independently.
- MIRV technology enhances the missile's effectiveness by increasing the number of potential targets it can engage.
- MIRVs can be launched from both land-based platforms and sea-based platforms, such as submarines, expanding their operational flexibility and range.

➢ **Global Adoption and Proliferation:**
- Nations possessing MIRV technology include major nuclear powers such as the United States, the United Kingdom, France, Russia, China, and India, while Pakistan tested the technology (Ababeel Missile) in 2017.
- The test flight of Agni-5 marked the first time that the MIRV technology was tested in India, which aims to deploy multiple warheads at different locations in a single launch.
- The Agni-5 weapon system is equipped with indigenous avionics systems and high-accuracy sensor packages, which ensured that the re-entry vehicles reached the target points within the desired accuracy.

ONE MISSILE, MANY WARHEADS

Multiple Independently-targetable Re-entry Vehicle (MIRV)

Normal missile: Single warhead　　MIRV missile: Multiple warheads

Each re-entry vehicle can be independently targeted—they are all launched from one missile, but hit different targets

What is the Significance of MIRV Technology?

➢ **Launching Satellites Into Orbits:**
- MIRV technology is being perfected and tested on workhorse rockets of the **Indian Space Research Organisation (ISRO)** in their commercial launches which were geared towards launching a single rocket that placed several satellites in orbit.

➢ **Many Target Options to the Attacker:**
- Launching a MIRV-tipped missile – say an Agni-IV or Agni-V – offers several tactical and strategic advantages. It provides more target options to the attacker.
- Meanwhile, the defender is forced to defend all of them simultaneously, with its anti-missile defences possibly being overwhelmed. Warheads on MIRVed missiles can be released from the missile at different speeds and in different directions.

➢ **Greater Operational Range:**

❍ The Agni-V missile, equipped with MIRV technology, features a redesigned nose cone to accommodate multiple warheads. To maintain its 5000-5500 KM target range, the missile's weight was reduced by replacing older, heavier subsystems with lighter, more reliable ones, including components made from lightweight composite materials.

● Switching from hydraulic to electro-mechanical actuators not only reduces weight by using lighter components but also addresses issues such as oil storage, leakage, and the need for an accumulator. Moreover, electro-mechanical actuators are more dependable and simpler to upkeep.

➢ **Evading Ballistic Missiles:**

❍ MIRV-equipped missiles are deemed necessary due to their ability to target multiple objectives simultaneously and their effectiveness in circumventing ballistic missile defences.

❍ This necessity is further underscored by China's development of ballistic missile defences like the HQ-19 ground-based interceptors, which have undergone testing.

● The HQ-19s are expected to possess the capability to intercept earlier versions of the Agni Intermediate-Range Ballistic Missile (IRBM), particularly if they are configured to carry a single warhead.

● Now that India has integrated the Agni-5 with multiple warheads, greater balance has been restored in the Sino-Indian nuclear deterrent relationship.

What are the Different Challenges in Adoption of MIRV Technology?

➢ **Pushing Rivals To Adopt More Aggressive Postures:**

❍ In strategic terms, the gains are not so obvious. There is good evidence and considerable discussion in strategic circles that possession of MIRV missiles is a double-edged sword.

● On the one hand, MIRVs seemingly bestow greater deterrence. On the other hand, they push rivals to adopt more aggressive nuclear postures so as to counter this advantage. MIRVs may, therefore, also drive up the risks of nuclear conflict and increase security threats.

➢ **Requirement of Additional Fissile Material:**

❍ A more problematic issue is the additional fissile material, chiefly plutonium, which would be required for the new MIRV missiles. India is already constrained by a shortage of plutonium from its BARC Dhruva reactor and a small quantity of waste plutonium from its power plants.

➢ **Highly Demanding Technical Criteria:**

❍ Developing MIRV-capable ballistic missiles poses significant challenges due to stringent technical requirements. These include miniaturising nuclear warheads, ensuring lightweight receptacles for warheads, and precise configuration and separation of re-entry vehicles from the Post Boost Vehicle (PBV), which must be manoeuvrable.

➢ **Confusion Regarding Carrying Number of Warheads:**

❍ The opacity surrounding this MIRV missile is about the number of warheads it can carry, which in all likelihood would remain classified. Going by speculation, it is improbable that it can carry more than three warheads.

● Further, the yield of the nuclear warheads is likely to be limited due to the small number of atomic tests India has conducted. In addition, it is unclear whether the Agni-5 can carry decoys and chaff, especially during the boost and intermediate phase of the missile's flight.

What are Steps Required to be Taken for Improving MIVR Technology?

➢ **Adding More Weight to India's Nuclear Arsenal:**

❍ The Atomic Energy Commission of India (AEC), especially the Bhabha Atomic Research Centre (BARC), which is directly responsible for core research and development (R&D) with respect to nuclear devices, have done a good job in designing sufficiently compact nuclear warheads for MIRV capability.

● However, there is need of more to come from the DRDO and AEC with India adding more punch to its nuclear arsenal when it tests a long-range Submarine Launched Ballistic Missile (SLBM), which India's nuclear ballistic missile submarines integrated with MIRVs can launch.

➢ **Maintaining Guidance and Accuracy of MIRV Missiles:**

❍ Guidance and accuracy are a necessity as re-entry vehicles have to be spin stabilised during atmospheric re-entry. A MIRV-based missile can only strike multiple targets that are within its ambit or geographic footprint. With the subsequent tests, India must meet these demanding technical requirements precisely.

- In India's situation, the development of MIRVs is particularly significant due to the substantial challenges faced by the country's missile and nuclear engineers. The guidance and accuracy of MIRV missiles will provide a significant boost, in addition to extending the strike range to 10,000 kilometres.

➢ **Ensuring Adequate Nuclear Testing:**
  ○ Inadequate nuclear testing by India compromised the extent to which it could miniaturise warheads and MIRV them to strike multiple targets.
  ○ The lack of sufficient testing also undermined the extent to which the re-entry vehicles could be designed to carry the warheads. Therefore, adequate testing becomes imperative to develop a full fledged technology.

➢ **International Agreements:**
  ○ Address global apprehensions by establishing agreements and treaties to oversee the advancement and deployment of MIRV technology.
  ○ This includes exploring alternatives beyond the **Missile Technology Control Regime (MTCR)** and **Wassenaar Arrangement** to acquire fissile materials from allied nations, citing emerging concerns and threats posed by China.

Conclusion

The successful testing of the Agni-5 ballistic missile, equipped with MIRVs, marks a significant milestone for India's nuclear deterrence capabilities. This development enhances India's strategic posture, particularly in response to the evolving challenges posed by China's nuclear and missile programs. The achievement also underscores India's technological prowess and resilience in overcoming previous challenges. Moving forward, India's continued advancements in missile technology, including the potential development of a long-range Submarine Launched Ballistic Missile (SLBM), will further strengthen its position as a credible nuclear power.

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Relooking India's Neighbourhood First Policy

This editorial is based on "*Ties that epitomise India's neighbourhood first policy*" which was published in The Hindu on 20/03/2024. The article discusses the importance of India's Neighbourhood First Policy in present times along with inherent challenges, providing an example of Bhutan-India relations where both have generated goodwill and trust successfully over the years.

Tag: GS Paper - 2, International Treaties & Agreements, Important International Institutions, Effect of Policies & Politics of Countries on India's Interests, Groupings & Agreements Involving India and/or Affecting India's Interests.

Neighbouring Countries of India

Prioritising its neighbours has been a central tenet of India's foreign policy. Effectively managing its immediate region in the subcontinent is crucial for India to expand its influence in Asia and globally. Frequent political or economic challenges in neighbouring countries often divert India's focus back to the subcontinent, limiting its capacity to address broader regional and global issues.

With recent shifts in global and internal political and economic landscapes among neighbouring countries, India has a renewed opportunity to invigorate its **Neighbourhood First Policy (NFP)**, which it should seize wholeheartedly. If India aims to counter China's manoeuvrability in the region, the warmth and closeness observed in its relations with Bhutan should be extended to the entire immediate and extended neighbourhood.

What is India's Neighbourhood First Policy?

Since 1947, the Neighbourhood First policy has been a crucial part of India's foreign policy, focusing on building stronger relationships, promoting regional cooperation, and addressing shared issues with its immediate neighbours.

➢ **About:**
  ○ The concept of the Neighbourhood First Policy came into being in 2008. Under its 'Neighbourhood First' policy, India is committed to developing friendly and mutually beneficial relations with all its neighbours. India is an active development partner and is involved in several projects in these countries.

  ○ India's approach to engaging with its neighbouring countries is characterised by consultation, non-reciprocity, and a focus on achieving tangible outcomes. This approach prioritises enhancing connectivity, infrastructure, development cooperation, security, and fostering greater people-to-people contacts.

➢ **India's Neighbourhood:**
  ○ **Immediate:**
    ● India shares its geographical land and maritime boundaries with its immediate neighbours in the South Asian region. These countries include Afghanistan, Bangladesh, Bhutan, China, Maldives, Myanmar, Nepal, Pakistan, and Sri Lanka.
    ● India shares civilizational relations with these countries, marked by a shared history, culture, and extensive people-to-people contacts.
  ○ **Extended:**
    ● Extended neighbours are countries that are geographically distant from India, such as those in the Indian Ocean Region, Southeast Asia, or West Asia, but maintain significant political, economic, cultural, and strategic ties with India.
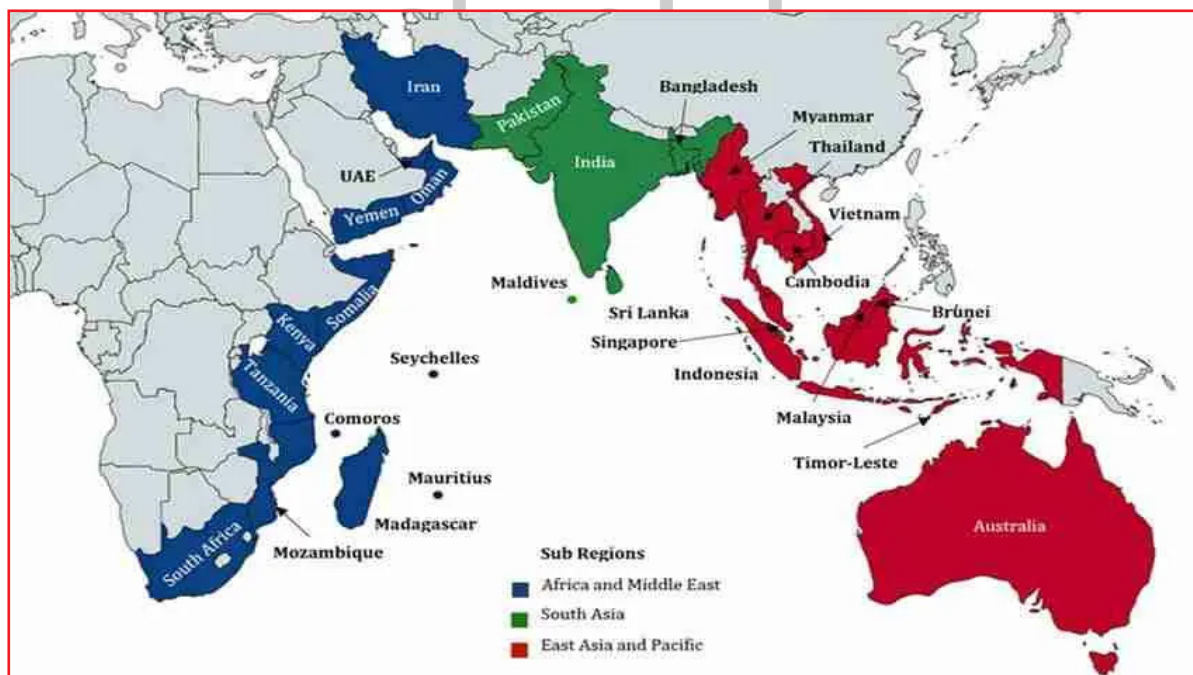
➢ **Purpose:**
  ○ **Connectivity:**
    ● India has entered into MoU with members of the **South Asian Association for Regional Cooperation (SAARC)**. These agreements ensure a free flow of resources, energy, goods, labour, and information across borders.

- **Improving Relations with Neighbours:**
  - Priority is to improve the relations with immediate neighbours as peace and tranquillity in South Asia is essential for realising development agenda.
  - It focuses on vigorous regional diplomacy by engaging with neighbouring nations and building political connectivity through dialogue.
- **Economic Cooperation:**
  - It focuses on enhancing trade ties with neighbours. India has participated and invested in SAARC as a vehicle for development in the region.
  - One such example is the **Bangladesh-Bhutan-India-Nepal (BBIN)** grouping for energy development i.e. motor vehicles, waterpower management and inter-grid connectivity.

What is the Significance of Neighbourhood First Policy for India?

- **Countering Chinese Influence:**
  - Collaboration with neighbouring countries serves India's strategic interests in countering Chinese influence in the **Indian Ocean Region (IOR).** This cooperation aligns with India's aspiration to become a 'net security provider' in the region, thereby enhancing regional stability and security.
- **Support in Multilateral Fora:**
  - Cooperation with neighbouring partners is essential for India's leadership role as a representative of the Global South in various multilateral forums such as the **UNSC**, **WTO**, and **IMF.**
  - Through engagement in multilateral fora, India introduces a regional/sub-regional dimension to bilateral relations, fostering a deeper understanding of the region.
- **Ensuring Territorial Integrity:**
  - Neighbouring countries' cooperation is crucial for India's efforts to maintain its territorial integrity and combat separatist threats.
  - For example, collaboration with Myanmar is vital in addressing insurgency in India's North-Eastern states, highlighting the significance of mutual respect for sovereignty and territorial integrity.
- **Enhancing Maritime Security:**
  - Effective cooperation with neighbouring countries like Maldives, Sri Lanka, Bangladesh, and Myanmar is essential for bolstering maritime security.
  - Given the maritime domain's susceptibility to threats, such collaboration enables India to effectively police its waters and counter transnational security challenges like terrorism.

- **Addressing Energy Security:**
  - Cooperation with northern neighbours like Nepal and Bhutan, as well as countries in the Indian Ocean, is critical for ensuring India's energy security.
  - With a significant portion of India's oil and gas imports travelling via sea routes, collaboration with neighbouring countries is indispensable to prevent disruptions in energy supplies.
- **Bridging Development Deficits:**
  - Active engagement with neighbouring countries also facilitates the development of India's North-Eastern states.
  - For instance, Bangladesh's approval for the use of its ports for transit and trans-shipment of cargo to the North-East highlights the potential for regional cooperation to bridge development gaps.
- **Leveraging Soft Power Diplomacy:**
  - India's rich cultural and historical ties with its neighbours serve as a cornerstone of its soft power diplomacy. By promoting cultural exchanges and emphasising shared heritage, India strengthens people-to-people ties and enhances its influence in the region, exemplifying the potential of soft power diplomacy to bolster diplomatic relations.

What are the Takeaways from India-Bhutan Relationship for India's NFP?

- **Mutual Respect & Coordination:**
  - Both nations look to each other as equals, treat each other with the utmost respect and have long realised that size (in terms of area, population) does not really make a difference in relations between two sovereign nation states.
  - Thus, India has constantly respected Bhutanese identity, Bhutan's unique religious practices and its desire to be economically prosperous while retaining its own way of life.
    - On its part, Bhutan has long known that there is no real threat to its sovereignty or identity from its southern flank. It has looked to India to help it grow, develop and prosper.
- **Cooperation in the Sustainable Project- Gelephu:**
  - Gelephu is to be like a **Special Economic Zone (SEZ)** to attract foreign investment and advance prosperity for that nation. Naturally, India, including its business entities, is expected to play a significant role in this effort.
  - Simultaneously, the Gelephu Mindfulness City is to keep sustainability, well-being and

environmental concerns at the forefront. Such a project is expected to lead the people of Bhutan to higher income levels while allaying any concerns about its impact on Bhutan as a carbon negative country.

➢ **Constant and Regular Dialogues:**

❍ It is common understanding that any relationship, whether it is between two individuals or between two nations, needs constant tending, regular dialogue and a lot of care and cooperation.

● The back-to-back visits of the Prime Ministers of Bhutan and India to each other's nations is a manifestation of this attention placed on the relationship by both governments.

● This is a good augury for the continued growth and development of India-Bhutan ties. It epitomises India's Neighbourhood First policy approach.

➢ **Hydropower and Renewable Energy Collaboration:**

❍ Hydropower cooperation is the bedrock of India's relations with Bhutan. Several cooperative hydro projects have been completed such as 1,020 MW Tala Hydroelectric Project and commissioned by the two governments which supply clean electricity to India and provide Thimphu with a stream of revenue due to which it has graduated out of the Least Developed Country status.

● The delayed Punatsangchhu-II hydropower project is expected to be completed in 2024 - yet another successful example of the government-to-government model of cooperation in hydropower.

➢ **India's Development Assistance:**

❍ India has also been a major development assistance partner to Bhutan and contributed Rs 5,000 crore to its 12th Five Year Plan which just concluded.

❍ Critical in this process of development assistance is the fact that India does not merely undertake projects which are of benefit to it but pays a lot of attention to the priorities of the Bhutanese people so that projects of direct benefit to them are constructed.

What are the Challenges in India's Neighbourhood First Policy (NFP)?

➢ **Immediate vs Extended Neighbourhood:**

❍ Experts argue that India's approach to its neighbours has been more about managing existing relationships than shaping them. This lack of a clear policy framework has hindered the effective implementation of regional policies.

❍ The dual focus on both immediate and extended neighbours of India has hindered the clear and singular emphasis on South Asian neighbours, leading to unmet goals and uncertain outcomes.

➢ **Challenges in Bilateral Relations:**

❍ Strained bilateral relations among some nations in the region have posed significant challenges to implementing regional policies. For example, at the last **SAARC** summit, only one out of three proposed agreements was signed due to Pakistan's refusal to sign the other two.

➢ **Security Concerns:**

❍ The existence of permeable borders, support from neighbouring countries like Pakistan, and the rise of extremism in the region contribute to the emergence of terrorist activities within India. Additionally, India's proximity to the Golden Triangle and Golden Crescent exacerbates its drug trafficking problems.

➢ **Influence of China's OBOR Initiative:**

❍ China's trade volume with SAARC countries has grown rapidly due to its **One Belt One Road (OBOR)** initiative. India's neighbours, such as Sri Lanka, Maldives, and Nepal, have at times used the "Chinese card" against India, seeking alternative partnerships.

➢ **Perceptions of Unequal Treatment:**

❍ India's neighbours have often felt that India does not treat them equally. India's military involvement in countries like Bangladesh, Sri Lanka, and Maldives is still seen as evidence of regional apprehensions.

➢ **Impact of Poor Infrastructure:**

❍ Poor infrastructure in border regions limits the impact of free trade and investment deals. For example, there were more railway connections between India and East Pakistan in the 1960s than there are today with Bangladesh.

➢ **Domestic-Political Considerations:**

❍ India's neighbourhood policy is often influenced by domestic-political factors and ethnic considerations. For instance, the **Teesta Waters agreement with Bangladesh** was delayed due to opposition from West Bengal, and support for the Sri Lankan Tamil struggle was driven by ethnic ties.

➢ **Implementation Challenges of India's Line of Credit:**

❍ While India's **Line of Credit (LOC)** projects to its neighbours have increased significantly, there are delays in their implementation. This can lead to frustration, mistrust, and a reduction in India's influence in the region.

○ Additionally, the region's vulnerability to natural disasters and climate change poses further challenges to development efforts.

What are the Suggestions for Making India's NFP More Effective?

The Standing Committee on External Affairs submitted its report on 'India's Neighbourhood First Policy', in July, 2023. Key observations and recommendations for making it more effective include:

➢ **Terrorism and Illegal Migration:**

○ Over the past thirty years, India has faced threats, tensions, and potential terrorist attacks from its neighbouring countries. Challenges such as illegal migration, weapon smuggling, and drug trafficking highlight the need for enhanced border security infrastructure.

○ The committee suggests **monitoring demographic shifts resulting from illegal migration** and **advocates for close cooperation** between the Ministry of External Affairs, Ministry of Home Affairs, and state governments to tackle this issue.

➢ **Relations with China and Pakistan:**

○ India's bilateral relations with China and Pakistan have been plagued by contentious issues; terrorism emanating from Pakistan is a core concern. The Committee recommended **engaging with regional and multilateral organisations to sensitise them** of the role of Pakistan in fostering terrorism.

○ Efforts should be made to **establish a common platform for countering terrorism** under the Neighbourhood First Policy. The Committee also recommended that the government should **establish economic ties with Pakistan.**

➢ **Investment in Border infrastructure:**

○ The Committee noted the deficiency in India's border infrastructure and the **need to stabilise and develop border regions.** For engagement with India's neighbours, connectivity infrastructure such as cross-border roads, railways, and inland waterways and ports need an improvement.

○ It recommended exploring the feasibility of setting up a regional development fund for connectivity infrastructure under regional frameworks.

➢ **Monitoring India's Line of Credit (LOC) Projects:**

○ India's LOC to its neighbours increased from USD 3.3 billion in 2014 to USD 14.7 billion in 2020. The Committee observed that 50% of India's global soft lending goes to its neighbours.

○ It recommended the Ministry of External Affairs to take **effective steps for timely completion of such LOC projects** through regular monitoring. Development projects in neighbouring countries should be completed in a timeframe by **strengthening the Joint Project Monitoring Committees** and oversight mechanism.

➢ **Defence and Maritime Security:**

○ Defence cooperation is key to India's bilateral relationship with its neighbouring countries. Joint military exercises are conducted with various countries such as Maldives, Myanmar, and Nepal.

○ The Committee recommended that the Ministry should take initiatives for **enhancing maritime domain awareness** in India's extended neighbourhood.

➢ **Development in the North-Eastern Region:**

○ The Act East policy focuses on the extended neighbourhood in the Asia-pacific region. India's north eastern region shares land borders with many neighbouring countries.

● The economic development of north eastern states is integral to the success of the Neighbourhood First Policy and the **Act East Policy.**

○ The Committee recommended the Ministry to maintain a synergy between these two policies. This can help **improve connectivity, economic development, and security** of the North-Eastern Region.

➢ **Tourism Promotion:**

○ Since 2020, India has been the largest source of tourist arrivals to most south Asian countries, i.e, Maldives. Large number of visitors also come to India from Bangladesh for medical treatment.

○ Many Indians also visit Nepal for religious tourism. The Committee recommended promoting investment in tourism, **including medical tourism** under the Neighbourhood First Policy.

➢ **Multilateral Organisations:**

○ India's engagement with its neighbours is driven by multilateral and regional mechanisms. This includes the SAARC and the **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC).**

○ The Committee observed that the impact of the Neighbourhood First Policy should be felt on the ground in an extensive manner. This requires strengthening of institutional and multilateral/regional mechanisms. The Committee recommended **conducting periodic review of bilateral and multilateral relationship frameworks.**

Conclusion

Undoubtedly, the challenges facing India in its neighbourhood have evolved and become more complex and potentially threatening over the past two decades. However, India's "Neighborhood First Policy" should be based on consistent engagement at all levels, both political and people-to-people. Regional connectivity must be pursued with greater vigour while security concerns are addressed through cost-effective, efficient and reliable technological measures which are in use in other parts of the world.

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Recalibrating Non Personal Data

This editorial is based on "*Data marketplaces: the next frontier*" which was published in The Hindu on 21/03/2024. The article examines various facets of non-personal data (NPD) in today's context, emphasising the need to leverage its benefits by creating scalable solutions and incorporating NPD into the provision of public services.

> **Tag**: GS Paper-2, Government Policies & Interventions, Fundamental Rights, GS Paper-3, Industrial Policy, Industrial Growth, Artificial Intelligence.

The importance of digitisation in achieving India's goal of becoming a USD 5 trillion economy cannot be emphasised enough. According to a NASSCOM report, data and **Artificial Intelligence (AI)** could contribute around USD 450-500 billion to India's **GDP** by 2025.

However, the rapid digitisation of government operations is leading to a significant increase in the amount of citizen data being generated. This data typically falls into two categories - **Personal Data** which includes information that can identify individuals, and **Non-Personal Data (NPD)** which excludes personal information.

Application of high value advanced analytics and AI to NPD across key sectors of the economy can help predict socially and economically sound outcomes. Junctures where such data-driven insights can better inform governance and public functions are meteorological and disaster forecasts, infrastructure capacity and citizen use-patterns, mobility and housing patterns, and employment trends, to name a few.

What is Non Personal Data?

> **About:**
> ○ Any data which is not personal data is categorised as non-personal data. In terms of origin, non-personal data can be data which is never related to natural persons (such as data on weather or supply chains), or data which was initially personal data, but has been anonymised (through use of certain techniques to ensure that individuals to whom the data relates to cannot be identified).
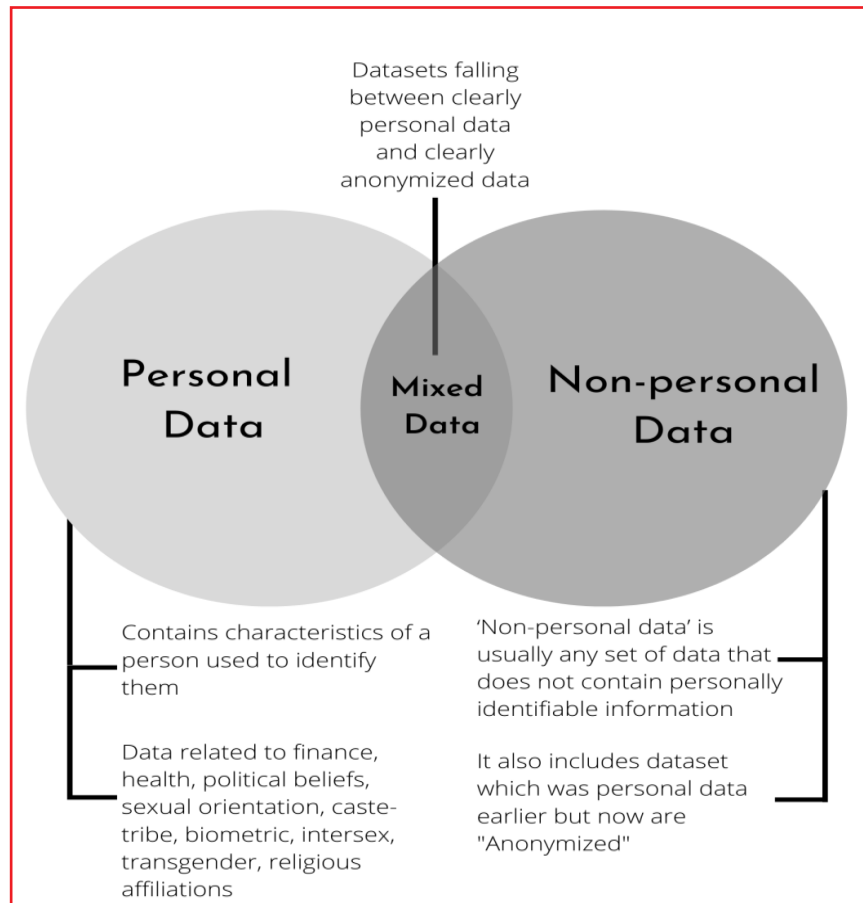
> **Types:**
> ○ **Public Non-Personal Data:** Data collected or generated by the government in the course of publicly funded works. For example, anonymised data of land records or vehicle registration can be considered as public non-personal data.
> ○ **Community Non-Personal Data:** Raw or factual data (without any processing) which is sourced from a community of natural persons. For example, datasets collected by municipal corporations or public electric utilities.
> ○ **Private Non-Personal Data:** Data which is collected or generated by private entities through privately owned processes (derived insights, algorithms or proprietary knowledge).

> **Scope:**
> ○ NPD constitutes the primary kind of citizen data obtained by the government, which possesses the potential of serving as a 'public good'. To create synergies and devise scalable solutions, integration of NPD in the dispensation of public services is generally being advocated for.

> **Indian Context:**
> ○ The **National Strategy for Artificial Intelligence**, for instance, contemplates making some types of government data available for the 'public good' and mandating corporations to share aggregated data, as a means of overcoming the hurdle of limited data access within India's AI ecosystem.
>   ● Elsewhere, the **2018-2019 Economic Survey** of India likened data to a natural resource and stated that personal data, once anonymised, becomes a 'public good' that should be utilised for public benefit.
>   ● Subsequently, the Ministry of Electronics and Information Technology (MeiTY) released the **National Data Governance Framework Policy (NPD Framework)** which was touted as the first building block of the digital architecture being conceived to maximise data-driven governance.
>   ● It also proposes setting up of an **'India Data Management Office (IDMO)'**, under the Digital India Corporation, which shall be responsible for framing, managing and periodically reviewing and revising the policy.

Datasets falling
between clearly
personal data
and clearly
anonymized data

Personal Data   **Mixed Data**   **Non-personal Data**

Contains characteristics of a person used to identify them

Data related to finance, health, political beliefs, sexual orientation, caste-tribe, biometric, intersex, transgender, religious affiliations

'Non-personal data' is usually any set of data that does not contain personally identifiable information

It also includes dataset which was personal data earlier but now are "Anonymized"

What are the Different Concerns Associated with Non Personal Data?

➢ **Sensitivity Issues Involved:**

❍ Unlike personal data, which contains explicit information about a person's name, age, gender, sexual orientation, biometrics and other genetic details, non-personal data is more likely to be in an anonymised form.

● However, in certain categories such as data related to national security or strategic interests such as locations of government laboratories or research facilities, even if provided in anonymised form can be dangerous.

● Similarly, even if the data is about the health of a community or a group of communities, though it may be in anonymised form, it can still be dangerous.

➢ **Lack of Effective Regulation:**

❍ Unfortunately, unlike Personal Data, there is a stark absence of regulation for NPD. As of date, less efforts have been made at the executive level to construct governance policies for the same.

❍ 'Report by the Committee of Experts on Non-Personal Data Governance Framework' highlighted the lack of effective regulation and stressed upon

the urgency of effectively regulating the non-personal data in India along the lines of personal data.

● Experts also believe that the final draft of the non-personal data governance framework must clearly define the roles for all participants, such as the data principal, the data custodian, and data trustees.

➢ **Undue Advantage to Big Techs:**

❍ A government committee headed by Infosys co-founder Kris Gopalakrishnan in 2020 has suggested that non-personal data generated in the country be allowed to be harnessed by various domestic companies and entities, which raises significant concerns:

● The data sets will heavily favour big tech companies. Only big tech companies possess the capital and infrastructure to create such large volumes of data. Others will find it difficult to match the capabilities of these technology giants.

➢ **Issues of Mixed Datasets – Containing Both Personal and Non-Personal Data:**

❍ The reality of mixed datasets and the inevitable overlap between the two means that a clear demarcation is not tenable.

- The language of the **Digital Personal Data Protection (DPDP) Act, 2023** alludes to mixed datasets falling under the ambit of personal data protection standards, much like the application of the **General Data Protection Regulation (GDPR)** in Europe.
  - ○ While it may be possible for data to be non-human and non-personal, the distinction becomes murky when data is derived from an individual, especially considering the challenges of anonymisation.
    - This issue is a point of contention even within the GDPR framework but seems to be overlooked in the proposed legal framework, which is concerning given the mandatory data sharing envisioned in the DPDP Act 2023.

➢ **Lack of Effective Utilisation of NFD:**
  - ○ **None of the above-mentioned laws** (DPDP Act, 2023 and NPD Framework) **provide for an enforceable regime for NPD in India.** For this reason, vast reservoirs of NPD stand unregulated and are supported only by limited guidance in dissemination, use, or exchange thereof.
    - Such a de-siloed accumulation results in sub-optimal legal and policy decisions, and engenders sub-par strategies at sectoral and national levels.

➢ **Unprotected Interflow Across Departments:**
  - ○ The unprotected inter-flow of NPD across government departments, third-parties, and citizens can make sensitive aspects of NPD vulnerable due to privacy breaches. This can unfairly benefit capacity-carrying actors like Big Tech.
    - The imperfect analysis of crucial public trends can result in faulty decision-making. Such exchange of data is also inefficient as it fails to unlock the power of interdisciplinary legislative and policy-making.

➢ **Issues in NPD Framework:**
  - ○ The NPD Framework, being a pioneering step, also exhibits several gaps. It formulates abstract high-level principles and objectives for NPD governance but lacks tangible, actionable guidance to achieve them.
  - ○ While legislation is expected, practical operationalisation is overlooked, leaving questions unanswered regarding stakeholder rights and obligations across sectors.
    - Additionally, mechanisms for pricing of data and appropriate legal structures for data exchange are not addressed. The absence of standardised governance tools compounds these challenges.

What Measures Need to be Adopted to Effectively Harness NFD?

➢ **Critical Assessment of NPD Framework:**
  - ○ A critical evaluation of the NPD Framework to address the existing gaps will be beneficial. This will supplement MeiTY's effort to regulate NPD and will help forge data exchanges as suitable media to make NPD interoperable across sectors.
  - ○ By creating a regulatory design for data exchanges in India, public-welfare functions can be digitised and automated to a large extent. This reduces administrative burden, facilitates inter-sectoral integration, builds the safeguards to using/sharing NPD, and makes digitisation of civic functions more participatory in nature.

➢ **Formulating Blueprints Governing Data Exchanges:**
  - ○ Data exchanges are scalable ecosystems which galvanise multiple stakeholders. This makes them a fertile ground for deploying advanced analytics for outcome-oriented decision making and helps achieve economies of scale.
  - ○ In India, Telangana has created an agriculture data exchange, and the Ministry of Housing & Urban Affairs, in partnership with the Indian Institute of Science, has established the India Urban Data Exchange.
    - The Department of Science & Technology also plans to set up data exchanges to implement aspects of the **National Geospatial Policy.**
  - ○ With growing interest in data exchange structures, it is important to develop a blueprint for governing them in India. This examination will align with global discussions on regulating data exchanges and support the efforts of MeiTY and other bodies in governing Non-Personal Data (NPD) in India.

➢ **Lessons From European Union (EU):**
  - ○ In 2019, the EU came out with a regulation framework for the free flow of non-personal data in the European Union, in which it suggested that member states of the union would cooperate with each other when it came to data sharing.
  - ○ Such data, the EU had then ruled, would be shared by member states without any hindrances, and that they must inform the "commission any draft act which introduces a new data localisation requirement or makes changes to an existing data localisation requirement".

➢ **Recommendations of Expert Committee:**
  - ○ The Expert Committee constituted by the MeiTY to study various issues relating to non-personal data submitted its report in July, 2020. **The Committee made following recommendations:**

- **Formulating Roles in NPD Governance Framework:** The data principal is the entity to whom the non-personal data relates to. This entity can be an individual, a community, or a company. Data principals may exercise rights over their data through a representative entity, called data trustee.

  - The Committee recommended establishing 'data business' as a new category of business in the country. Entities (including government agencies) which collect, process or store data beyond a threshold (as specified by the regulator) will be classified as data businesses.
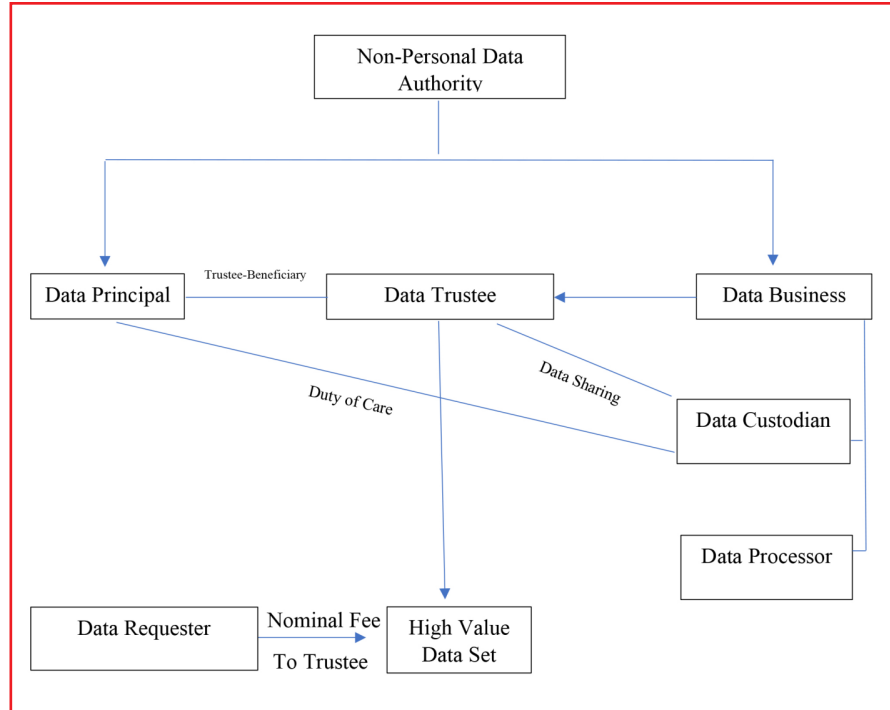
- **Non-Personal Data Authority:**

  - This regulatory authority will be established for putting in place the framework for governance of non-personal data. It will consist of experts in fields such as data governance and technology.

  - The Authority will be responsible for framing guidelines with respect to data sharing and risks associated with non-personal data.

- **Sharing of Non-Personal Data:**

  - Any entity may raise a data-sharing request for a: (i) sovereign purpose (such as national security or legal requirements), (ii) public interest purpose (policy making or better delivery of services), or (iii) economic purpose (to provide for a level playing field or for a monetary consideration).

  - The Committee recommended that public data, community data or private data (limited to raw/factual data collected by a private entity) can be requested at no remuneration.

- **Rights of Community Over NPD:**

  - The Committee held that a community can exercise rights over non-personal data. It defines community as any group of people that are bound by common interests and purposes and are involved in social or economic interactions.

  - The community could be a geographical community or an entirely virtual community.

- **Data Custodians and Processors:**

  - Data custodian is a public or private entity which undertakes collection, storage, processing, and use of data. Data custodian will have a duty of minimising harms to the concerned community.

  - A data processor is defined as a company that processes non-personal data on behalf of a data custodian. Data processors will not be considered a data custodian under the framework.

Conclusion

While NPD holds promise as a 'public good' and can enhance public services, its unregulated status poses risks, including de-anonymisation and unfair advantages

for certain entities. The current governance framework, including the National Data Governance Framework Policy, lacks enforceability and operational clarity, leaving NPD largely unregulated and hindering its potential benefits.

To address these challenges and leverage the potential of NPD, a comprehensive regulatory design for data exchanges is essential. By formulating a blueprint for governing data exchanges, India can enhance the digitisation of public-welfare functions.

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World Water Day, 2024

This editorial is based on "Water, an instrument to build world peace" which was published in The Hindu on 22/03/2024. The article delves into World Water Day 2024, exploring the importance of enhanced water security, sustainable agricultural practices, and environmental preservation.

Tag: GS Paper-3, Environmental Pollution & Degradation, GS Paper-1, Water Resources, Conservation of Resources, GS Paper-2, Government Policies and Intervention.

World Water Day, which falls on March 22, is a global initiative backed by the **United Nations,** and has been observed every year since 1993. Under different themes, the attempt has been to raise awareness among stakeholders about the importance of freshwater. As everyone knows, there was a time when clean water was available in wells, ponds, streams, rivers and other sources, but the situation is vastly different now. There is a problem of water availability with respect to quantity or quality, which manifests itself in the form of water scarcity or crisis.

Throughout history, water has been a pivotal resource for some of the greatest civilisations such as those that arose around the Indus, the Nile, the Tigris and the Euphrates. But it is also true that in these civilisations, conflicts arose on account of this resource, like the well documented tensions between the Mesopotamian cities of Lagash and Umma. This conflict, one of the oldest known wars in human history, centered around a fertile piece of land and water resources.

Note: March 22, 2024, is the 31st World Water Day, with the theme, "Leveraging water for peace". Under the 'World Water Assessment Programme', **UNESCO** led the development of the 2024 edition of the flagship **United Nations World Water Development Report**, "Water for Prosperity and Peace" as a part of **UN Water** (an interagency coordination mechanism on water and sanitation of 35 UN entities along with 48 other international partners).

What is World Water Day?

➢ **Aim:** The Day aims to support the achievement of **Sustainable Development Goal 6:** water and sanitation for all by 2030.

➢ **Theme**: The theme for 2024 is **"Water for Peace"**

➢ **History:**

○ The idea for this international day goes back to 1992, the year in which the UN Conference on Environment and Development in Rio de Janeiro took place.

○ That same year, the United Nations General Assembly adopted a resolution by which 22nd March of each year was declared World Day for Water, to be observed starting in 1993.

○ Later on, other celebrations and events were added. For instance, the International Year of Cooperation in the Water Sphere 2013, and the current International Decade for Action on Water for Sustainable Development, 2018-2028.

➢ **Significance:**

○ The day's intention is to inspire people around the world to learn more about water-related issues and to take action to make a difference.

○ While water covers almost 70% of the planet, freshwater only amounts to about 3% of it, out of which two-thirds is frozen or inaccessible and unavailable for use.

○ These observances serve to reaffirm that water and sanitation measures are key to poverty reduction, economic growth, and environmental sustainability.
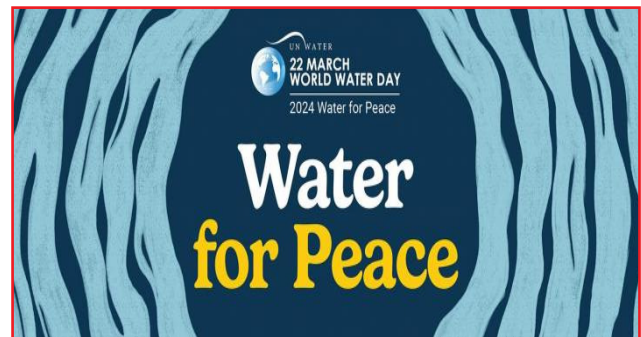
Other Important Days :
➢ 22 April: **Earth Day**
➢ 22 May: **World Biodiversity Day**

What are the Different Aspects of Water Crisis Witnessed in India?

➢ **Multidimensional Connotation of Water Crisis:**

○ The water crisis can be classified as either physical or economic, stemming from a variety of factors

including rapid urbanization, industrialization, unsustainable agricultural methods, climate change, unpredictable rainfall patterns, excessive water consumption.

- Apart from those, inefficient water management, pollution, insufficient infrastructure, a lack of stakeholder engagement, and runoff exacerbated by heavy rainfall, soil erosion, and sediment buildup also play significant role. Water scarcity disrupts ecosystem functions, jeopardizes food and water security, and ultimately impacts peace.

➢ **Issues of Water Stress:**

- According to the World Resources Institute, 17 countries face 'extremely high' levels of water stress which is threatening to result in conflict, unrest and peace among people. India is not an exception to these problems.

  - In India, water availability is already low enough to be categorised as water stressed, and is expected to reduce further to 1341m^3 by 2025 and 1140m^3 by 2050. Also, 72% of all water withdrawals are for use in agriculture, 16% by municipalities for households and services, and 12% by industries.

➢ **Groundwater Table Depletion:**

- In almost every State and in the main cities of India, there is groundwater table depletion. The example of Bengaluru is one prominent example. In Punjab, Rajasthan, Delhi and Haryana, the ratio of groundwater consumption to availability is 172%, 137%, 137% and 133%, respectively, which is cause for alarm.

  - In contrast, in Tamil Nadu, Uttar Pradesh, Gujarat, Madhya Pradesh and Maharashtra, it is 77%, 74%. 67%, 57%, and 53%, respectively. Most perennial rivers/streams now have intermittent flows or have run dry. In most areas after April-May, there is Less water availability even for drinking and other uses.

➢ **Silting of Reservoirs and Wetlands:**

- Springs in India's hilly areas are almost dry. In India, the total number of water bodies is 5,56,601 whose irrigation potential covered 62,71,180 hectares. But, due to a lack of or inappropriate catchment treatment measures, bad design and poor maintenance of water bodies, most of the reservoirs/waterbodies/wetlands have silted up, resulting in reduced storage capacity and lower efficacy.

➢ **Mismanagement of Water as a Resource:**

- In most areas, tubewell density and networks have

increased. Groundwater discharge is now more than groundwater recharge. The letting out of sewerage water and other sources of grey water into water bodies and rivers is causing a deterioration in water quality.

  - There is a lack of proper surface and groundwater management. Rainfed regions in India which comprise over 48% of land area produces nearly 45% of the gross agricultural product.

➢ **Lack of Streamlined Approach Across Domestic and Agricultural Domains:**

- The government's emphasis on **'Per Drop More Crop'**, 'Gaon ka pani gaon mein', 'Khet ka pani khet mein', 'Har Medh per ped' under various programmes such as the **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)**, watershed management, **Mission Amrit Sarovar** and the **Jal Shakti Abhiyan**, etc adopts a siloed approach vis-a-vis domestic and agricultural uses.

  - In this scenario, it is mandated to adopt a comprehensive and synchronized localist interventions tailored to the needs of different regions and States that provides equal emphasis on all aspects of water usage and conservation.

➢ **Experiencing Meteorological Extremities:**

- Today, the world is also experiencing countless meteorological extremities: from intense heat waves to turbulent floods, magnifying concerns about the climate crisis as well as its continuing implications over water insecurity.

  - For example, here in India, the monsoon has become erratic over the years and brings with it major uncertainties for agriculture, which lies at the heart of India's USD 3 trillion economy.

➢ **Prevalent Issues in Water Discrimination:**

- Age and Gender are the foremost reason for discrimination when it comes to accessing clean water. Women and Children are the worst affected population. In fact, children are more vulnerable to diseases due to dirty water.

- Other reasons for water discrimination include race, ethnicity, religion, birth, caste, language and nationality. Certain people are particularly disadvantaged due to disability, age, health and economic and social status.

  - Environmental degradation, climate change, population growth, conflict, forced displacement and migration are also some reasons due to which marginalized groups of society suffer.

➢ **Continuous Encroachment on Catchment Areas:**
  ○ Small water bodies such as lakes, ponds, and streams are under constant threat due to encroachment on their catchment areas. As urbanization expands, people are building houses, commercial buildings, and other infrastructure in and around the catchment areas of these water bodies.
    ● The urban agglomeration witnessed from the 1990s has severely impacted SWBs, turning many of them into dumping grounds. The Standing Committee on Water Resources (2012-13) underlined in its 16th report that most of the water bodies in the country were encroached upon by State agencies themselves.

What are the Different Steps Required for Mitigating the Water Crisis?

➢ **Adopting Judicious Mix of Traditional and New Technologies:**
  ○ A large amount of India's food grains is from the rainfed region. The Government lays stress on having a judicious mix of 'traditional indigenous and new technologies to improve soil health and conserve water' and pitched for the efficient use of every drop of water. Hence, paying attention to these points is important.

➢ **Emphasizing Both, Quality and Quantity:**
  ○ Enhancing water availability with respect to quantity and quality and blue and green water is vital since water is more than just a basic human right. Water is also an instrument of peace-building and enhances the overall quality of life. Promoting sustainable agricultural production, ensuring water security and maintaining environmental integrity are increasingly becoming important issues.

➢ **Adopting Different Resource Conservation Measures:**
  ○ Water Crisis mitigation can be made possible by **adopting different resource conservation measures in general and rainwater harvesting (in-situ and ex-situ)** and ensuring roof top rainwater harvesting in particular.
  ○ **Rain water harvesting (RWH) enables resilience** against water scarcity and drought by augmenting recharge and aiding irrigation. The optimum use of surface water by large-scale RWH structures, conjunctive use with groundwater And safe reuse of waste water are the only viable solutions to boost and maintain the current level of food grain production.

➢ **Need for a Protocol for Revival of Water Bodies:**
  ○ There is the need for a protocol of the revival of ponds/waterbodies. To tackle all these problems there is a great need to study the condition of every waterbody, its water availability, water quality and the state of ecosystem services it supports. There is a need also to create more waterbodies and their revival in every village by looking into the catchment-storage-command area of each waterbody.

➢ **Fostering Collaborative Governance Across Nations:**
  ○ Within the added climate change-related pressures it faces, the world needs to foster improved cooperation over water-sharing and embrace universal principles for International Water Law. By governing the use of shared waters and encouraging the use of water sustainably, world can strive for better water diplomacy - making water a force for peace.
    ● The shared recognition that water is a vital resource, with limitations in quality and availability, necessitates collaborative governance to ensure effective and equitable water allocation among nations, fostering regional stability and peace, and an understanding of the intricate relationships between water, climate, and international stability.

➢ **Adopting Inclusive Approaches:**
  ○ Water diplomacy also requires inclusive approaches, acknowledging the indigenous and local communities' extensive cross-border networks, as well as involving civil society and academic networks, who can also play an important role in facilitating political processes to prevent, mitigate, and resolve water-related disputes.

➢ **Addressing Rural Issues and Promoting Investments:**
  ○ Within India, a total of 70% of the rural population relies on water to run their households, where agriculture remains the principal source of livelihood. This is even more striking as we know that agriculture also accounts for 70% of the total freshwater use, globally.
    ● With improved water accessibility, these differences can be erased, and increased water investments in the rural areas have the potential for returning positive outcomes - in health, education and employment, not to mention basic human needs and dignity.

➤ **Promoting Technological Integration with Agrarian Sector:**

  ○ In the agrarian sector, the efficient use of emerging **artificial intelligence (AI)** technology in the conservation of water, ranging from tackling crop and food loss, to minimising chemicals and fertilizers, and saving water, is starting to show that outputs that are both productive and sustainable can be enabled.

➤ **Resolving Issues of Transboundary Rivers:**

  ○ A "large proportion of the world's freshwater resources are in transboundary waters" including in India. With its expansive landmass, India boasts a network of long rivers, not only serving its own needs but also shared with its neighbours.

    ● And, yet, in the South Asian region, the extent of water pollution has worsened considerably in recent years, especially the Meghna, Brahmaputra, Ganga and Indus.

  ○ To solve these problems, the world needs a sophisticated form of cross-border water governance, promoting effective and equitable water allocation among nations that share water resources.

➤ **Maintaining Small Water Bodies:**

  ○ India has a vast network of small water bodies like ponds, lakes, and tanks, which play a vital role in recharging groundwater and providing water for irrigation. The 5th Minor Irrigation Census mentions that India has a total of 6.42 lakh small water bodies. Due to lack of proper maintenance, their storage capacity has been declining.

  ○ As a result, the irrigated area of tanks has declined sharply from 45.61 lakh hectares in 1960-61 to 16.68 lakh hectares in 2019-20. By restoring and maintaining these small water bodies, India can help conserve water and improve the availability of water in nearby communities.

➤ **Adopting Multi-Dimensional Interventions:**

  ○ With these following solutions, the theme of World Water Day 2024 can be strengthened and India can become water secure. **These are also steps to ensure a more peaceful world as per UN Water Development Report, 2024:**

    ● The pricing of water use;

    ● Having a circular water economy;

    ● Ensuring efficient irrigation techniques such as integrating water resources with micro-irrigations systems and IOT based automation; having integrated water resource management;

    ● Installing water meters to reduce water use for domestic purposes;

    ● No free electricity, having a convergence and linkages of line departments;

    ● Fostering community awareness and peoples' participation, awareness campaigns about water conservation;

    ● Ensuring groundwater use neutrality;

    ● Land neutrality, growing low water requirement crops;

    ● Optimal crop plan having integrated farming system models;

    ● Building resilience against climate change and ensuring the needs of a growing population by adopting an integrated and inclusive approach to manage water which is a finite resource;

    ● Reducing losses from water distribution systems, and ensuring safe wastewater reuse, desalination and appropriate water allocation, tubewell/borewell development;

    ● Enabling the integration and collaboration of research, industry and academia to implement different developed and new technologies.

What Are the Different Initiatives to Promote Water Conservation?

➤ **U.N. Initiatives to Save Water:**

  ○ The United Nations Water Conference (1977), the International Drinking Water Supply and Sanitation Decade (1981-1990), the International Conference on Water and the Environment (1992) and the Earth Summit (1992) - all focused on the vital resource, Water.

  ○ The 'Water for Life' International Decade for Action 2005-2015 helped around 1.3 billion people in developing countries gain access to safe drinking water and drove progress on sanitation as part of the effort to meet the Millennium Development Goals.

  ○ The most recent initiative is the 2030 Agenda for Sustainable Development that aims to ensure availability and sustainable management of water for all by the year 2030.

➤ **Indian Initiatives:**

  ○ **Swachh Bharat Mission**

  ○ **Jal Jeevan Mission**

  ○ **Jal Kranti Abhiyan.**

  ○ **National Water Mission.**

  ○ **National Rural Drinking Water Programme.**

  ○ **NITI Aayog Composite Water Management Index.**

  ○ **Jal Shakti Abhiyan.**

  ○ **Atal Bhujal Yojana**

- ○ **National Water Policy, 2012**
- ○ **Pradhan Mantri Krishi Sinchayee Yojana**
- ○ **Atal Bhujal Yojana**
- ○ **Per Drop More Crop**

Conclusion

Since time immemorial, world has made significant progress in fostering peace; however, if freshwater runs scarce, it threatens our collective well-being and peace. This is also crucial for the 2030 Agenda and achieving the SDGs. Through transboundary cooperation and other interventions on the sustainable management of water, world can realise benefits across various sectors including health, food and energy security, protection from natural disasters, education, improved living standards, employment, economic development, and numerous ecosystem services.

■■■

Empower Election Commission: To Defend Institutional Credibility

This editorial is based on " Selection and election: On the appointment of Election Commissioners " which was published in The Hindu on 20/03/2024. The article talks about the necessity for an impartial selection panel devoid of executive bias for the Election Commission of India.

Tag: GS Paper - 2, Indian Constitution, Constitutional Bodies, Executive, Government Policies & Interventions.

In a recent development, Gyanesh Kumar and Sukhbir Singh Sandhu, both retired bureaucrats, have been swiftly appointed as Election Commissioners. This appointment comes just two days before the scheduled announcement of the dates for the 2024 Lok Sabha elections. They now join Rajiv Kumar, the Chief Election Commissioner, forming the three-member panel of the **Election Commission of India**.

However, the resignation of Arun Goel, an Election Commissioner, amidst a Constitutional Bench hearing aimed at ensuring an independent selection process for ECI members, has raised criticism. Moreover, the absence of a clear explanation for Goel's resignation, especially timed just before the finalization of the **Lok Sabha** election schedule, has heightened apprehensions regarding the transparency and autonomy of the commission's operations.

What is the Election Commission of India?

➢ **About:**
- ○ The **Election Commission of India (ECI)** is an autonomous constitutional authority responsible for administering Union and State election processes in India.
  - It was established in accordance with the Constitution on 25th January 1950 (celebrated as **National Voters' Day**). The secretariat of the commission is in New Delhi.
- ○ The body administers elections to the **Lok Sabha**, **Rajya Sabha**, and **State Legislative Assemblies** in India, and the offices of the **President** and **Vice President** in the country.
  - It is not concerned with the elections to **panchayats** and **municipalities** in the states. For this, the Constitution of India provides for a separate **State Election Commission**.

➢ **Constitutional Provisions:**
- ○ **Part XV (Article 324-329):** It deals with elections and establishes a commission for these matters.
- ○ **Article 324:** Superintendence, direction and control of elections to be vested in an Election Commission.
- ○ **Article 325:** No person to be ineligible for inclusion in, or to claim to be included in a special, electoral roll-on grounds of religion, race, caste or sex.
- ○ **Article 326:** Elections to the House of the People and to the Legislative Assemblies of States to be based on adult suffrage.
- ○ **Article 327:** Power of Parliament to make provision with respect to elections to Legislatures.
- ○ **Article 328:** Power of Legislature of a State to make provision with respect to elections to such Legislature.
- ○ **Article 329:** Bar to interference by courts in electoral matters.

➢ **Structure of ECI:**
- ○ Originally the commission had only one election commissioner but after the Election Commissioner Amendment Act 1989, it was made a multi-member body.
- ○ The Election Commission shall consist of the Chief Election Commissioner (CEC) and such number of other election commissioners, if any, as the President may from time-to-time fix.
- ○ Presently, it consists of the CEC and two Election Commissioners (ECs).

➢ **Appointment & Tenure of Commissioners:**

○ The President appoints CEC and Election Commissioners as per **the CEC and Other ECs (Appointment, Conditions of Service and Term of Office) Act, 2023**.

○ They have a fixed tenure of six years, or up to the age of 65 years, whichever is earlier.

○ The salary and conditions of service of the CEC and ECs will be equivalent to that of the Cabinet Secretary.

➢ **Removal:**

○ They can resign anytime or can also be removed before the expiry of their term.

○ The CEC can be removed from office only through a process of removal similar to that of a SC judge by Parliament, while ECs can only be removed on the recommendation of the CEC.

What Accomplishments Has the Election Commission of India Achieved So Far?

➢ **Conducting Free and Fair Elections:**

○ The Election Commission of India (ECI) has successfully organized numerous elections across the country, ensuring they are conducted fairly and without bias.

○ It has ensured the integrity—free and fair—of 17 national and more than 370 state elections since 1947.

➢ **Celebrated as Undocumented Wonder:**

○ It conducts some of the largest and longest elections globally. For instance, the 2019 parliamentary elections had 900 million eligible voters and spanned nine phases over 39 days.

○ Celebrated as an "undocumented wonder", the ECI has emerged as a guardian of public value, ensuring the integrity of free and fair elections in India.

➢ **Initiatives for Inclusive Participation:**

○ Steps taken by the ECI have ensured that the poor and marginalized have been enthusiastic voters and have participated in elections in increasing numbers, without fear of intimidation by higher-ranked, more powerful groups.

○ It has implemented special provisions such as reserved constituencies for Scheduled Castes and Scheduled Tribes, as well as measures to prevent electoral malpractices such as booth capturing, voter intimidation, and bribery, thereby upholding the democratic process.

➢ **Introducing Voter ID Cards:**

○ The Indian **Voter ID Card** (officially the Elector's Photo Identity Card (EPIC)) was first introduced in 1993 during the tenure of Chief Election Commissioner T. N. Seshan.

○ Voter ID cards serve as proof of identity and address, helping to maintain the integrity of the electoral roll and reduce instances of impersonation.

➢ **Introduction of Electronic Voting Machines (EVMs):**

○ The adoption of **EVMs** by the ECI has significantly streamlined the voting process, making it more efficient and reducing the chances of electoral fraud.

○ EVMs ensure accuracy in vote counting and have increased the transparency and credibility of elections in India.

➢ **Implementation of Model Code of Conduct (MCC):**

○ The ECI enforces the **MCC** during elections to ensure a level playing field for all political parties and candidates.

○ The MCC lays down guidelines for conduct during the electoral process, including rules on campaigning, political advertisements, and the use of government resources, thereby promoting fair and ethical election practices.

➢ **Innovative Use of Technology:**

○ The ECI has embraced technological advancements to improve the electoral process, such as the introduction of voter registration portals, online voter verification systems, and mobile apps for voter education and information dissemination.

○ These initiatives have made the electoral process more accessible, transparent, and efficient.

○ The **cVIGIL** which stands for Citizen Vigilance is a mobile application designed by the Election Commission of India, with an opportunity to report election code violations directly by citizens.

➢ **Implementation of Voter Education Programs:**

○ The ECI has launched extensive voter education campaigns to enhance voter awareness and participation in the electoral process.

○ These initiatives aim to educate citizens about their voting rights, the importance of casting their vote, and the significance of making informed choices during elections.
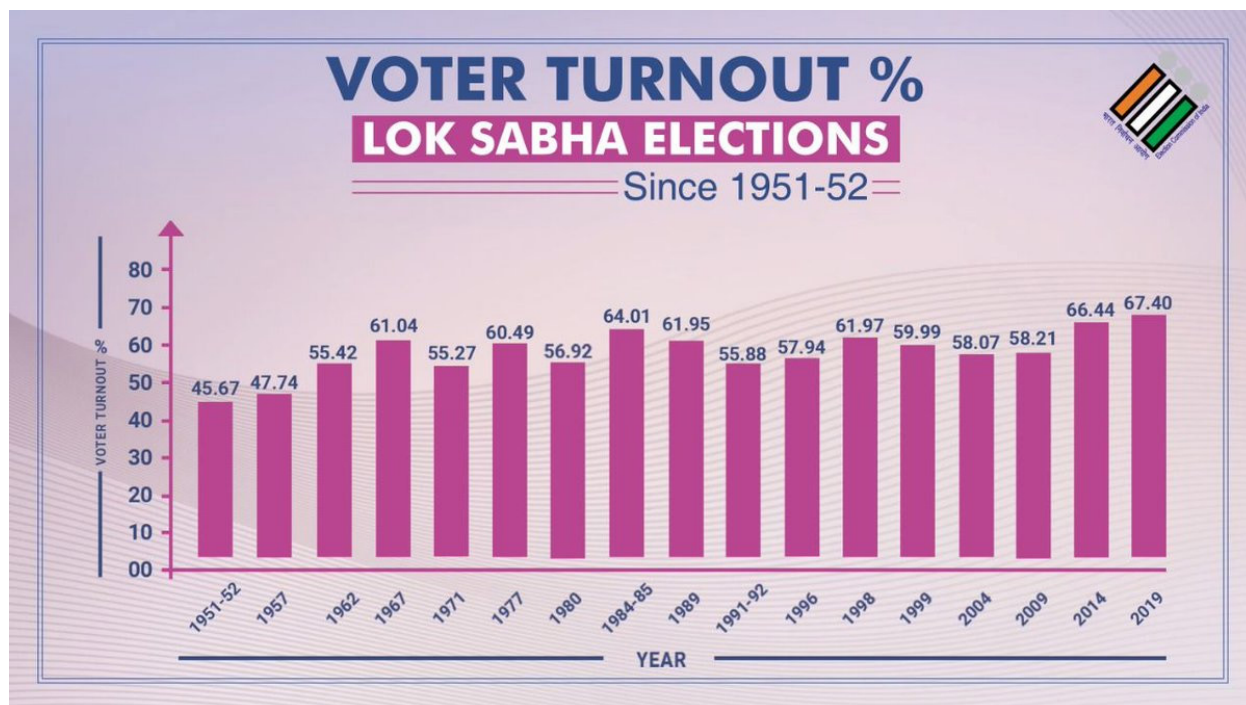
What are the Issues Associated with the Election Commission of India?

➢ **Constitutional Limitations:**

○ The Constitution has not prescribed the qualifications (legal, educational, administrative, or judicial) of the members of the Election Commission.

○ The Constitution has not specified the term of the members of the Election Commission.

○ The Constitution has not debarred the retiring election commissioners from any further appointment by the government.

➢ **The Selection Committee is Dominated by the Government :**

○ **The Chief Election Commissioner and other Election Commissioners (Appointment Conditions of Service and Terms of Office) Act, 2023** put in place a selection committee comprising the Prime Minister, Leader of the Opposition in the Lok Sabha, and a Union cabinet minister.

○ Thus, the Selection Committee has a majority of members from the government of the day, which may undermine the independence of the ECI.

➢ **Security of Tenure :**

○ Security of tenure is not guaranteed for Election Commissioners as they can be removed by the government in power upon the recommendation of the Chief Election Commissioner, rather than through a formal impeachment process, leaving them vulnerable and potentially impacting their independence.

➢ **Lack of Financial Independence :**

○ The Election Commission's financial independence is limited as it relies on the Union Government for financial matters.

○ Despite efforts to ensure independence through various provisions, the expenses of the Election Commission are not drawn from the Consolidated Fund of India, further reinforcing its dependence on the central government.

➢ **Electoral Malpractices:**

○ Irregularities and discrepancies in voter rolls, such as duplicate entries, inaccuracies, and omissions, are persistent issues that can lead to disenfranchisement and affect the fairness of elections.

○ Instances of electoral fraud, including tampering with electronic voting machines (EVMs), voter impersonation, and manipulation of voter lists, pose a threat to the integrity of elections.

○ Electoral violence remains a significant issue, particularly in areas with a history of political rivalry or communal tensions.

➢ **Political Bias Allegations:**

○ The ECI has faced allegations of political bias and favoritism in its decision-making processes.

○ There are instances of abrupt transfer of senior officials working under State governments by an order of the commission.

○ Instances of violations of the MCC by political parties and candidates, such as hate speech, misuse of government resources, and distribution of cash and gifts, highlight the need for more effective enforcement mechanisms.

○ Some political parties and stakeholders have accused the ECI of being influenced by the ruling party or failing to act impartially in addressing electoral disputes and complaints.

➤ **Lacks the Authority to Deregister Political Parties :**

○ The Election Commission, despite its role as the enrolling authority under Section 29A of the **Representation of the People Act, 1951**, lacks the authority to deregister political parties even in cases of severe violations.

○ Additionally, the ECI is not empowered to enforce inner-party democracy or regulate party finances.

➤ **Accessibility and Inclusivity:**

○ Despite efforts to enhance voter accessibility and inclusivity, challenges remain in ensuring that all eligible citizens can exercise their right to vote.

○ Issues such as inadequate infrastructure for voters with disabilities, language barriers, and logistical challenges in remote or marginalized areas can hinder voter participation.

Selection Process of the Election Commission in certain countries

Country	Appointing Authority	Selection Committee/Process
South Africa	President	President of the Constitutional Court (Chairperson), representative of the Human Rights Court, representative of the Commission on Gender Equality, and the public prosecutor.
United Kingdom	The monarch, upon approval by the House.	• The Speaker's Committee on the Electoral Commission with MPs as members, oversees the recruitment of electoral commissioners. • The candidates for these posts are then approved by the House of Commons and appointed by the British monarch. • The Speaker asks the Leader of the House to table a motion for an address to appoint the recommended candidates.
United States	President	The Commission is appointed by the President and confirmed by the Senate.
Canada	-	Appointed by a resolution of the House of Commons.

Selection process of the Election Commission in certain countries

What Steps should be Taken to Strengthen the Election Commission of India?

➤ **Formation of Independent Selection Committee:**

○ Create an independent selection committee comprising representatives from various stakeholders in addition to government officials. This committee should oversee the appointment process and ensure fairness and impartiality.

○ In Anoop Baranwal vs Union of India Case, 2023, a five-judge bench of the **Supreme Court (SC)** unanimously ruled that the appointment of the **Chief Election Commissioner** and the Election Commissioners shall be made by the President on the advice of a Committee consisting of the Prime Minister, the **Leader of the Opposition** of the Lok Sabha and **Chief Justice of India (CJI).**

➤ **Provide Statutory Safeguards to Election Commissioners:**

○ Enact legislation that clearly defines the conditions under which Election Commissioners can be removed from office.

○ This legislation should incorporate stringent criteria and procedural safeguards to prevent arbitrary dismissal.

➤ **Transparent Funding Mechanisms:**

○ Implement transparent mechanisms for allocating funds to the ECI, such as through a parliamentary appropriations process or an independent budgetary oversight committee.

○ This would enhance accountability and ensure that funding decisions are made in a fair and impartial manner.

➤ **Power for Proportional Punishments:**

○ Empower ECI to Implement a range of sanctions and penalties for political parties found guilty of violations, including fines, suspension of privileges, and temporary or permanent deregistration.

○ The severity of the punishment should be commensurate with the severity of the offense.

➤ **Enhance Electoral Integrity**:

○ Strengthening mechanisms to ensure the integrity of the electoral process is paramount.

○ This includes enhancing measures to prevent electoral fraud, voter intimidation, and malpractices, as well as improving the security and reliability of electronic voting systems, voter registration databases, and ballot counting procedures.

○ The commission needs to establish its trust amongst people by installing **Voter Verifiable Paper Audit Trail System (VVPATS)** in more and more constituencies.

➤ **Technological Integration:**

○ Embracing technological advancements and investing in the modernization of electoral infrastructure can improve the efficiency, transparency, and integrity of the electoral process.

○ This includes the adoption of advanced voting technologies, such as blockchain-based voting systems, to enhance security and reduce the risk of tampering or fraud.

➤ **Inclusive Participation:**

○ Promoting inclusive participation in the electoral process involves taking proactive measures to address issues such as voter suppression, discrimination, and disenfranchisement, as well as ensuring adequate representation of diverse communities in electoral decision-making bodies.

○ Ensure that polling stations are accessible to all voters, including those with disabilities. This may involve providing ramps, wheelchair-accessible entrances, Braille signage, and tactile voting machines

➤ **International Collaboration:**

○ Strengthening collaboration and cooperation with international electoral management bodies and organizations can facilitate knowledge exchange, capacity-building initiatives, and the adoption of best practices in electoral governance.

○ This can enhance the ECI's credibility, effectiveness, and reputation on the global stage.

Conclusion

Looking ahead, the future of the Election Commission of India lies in its ability to adapt to technological advancements, strengthen regulatory frameworks, promote inclusive participation, and uphold democratic principles. By empowering the Election Commission and enhancing its capacity to regulate and oversee elections effectively, India can reaffirm its commitment to democratic governance and foster trust and confidence among its citizens in the electoral system.

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Mitigating TB Burden In India

This editorial is based on "*TB control in India calls for person-centered solutions*" which was published in The Hindu on 25/03/2024. The article discusses the persistent public health challenge posed by tuberculosis (TB) on a global scale and specifically in India. Despite India's health authorities setting ambitious goals for TB elimination, the progress has been slow, necessitating a carefully planned approach to effectively address this crisis.

Tag: GS Paper - 2, Health, Government Policies & Interventions, Important International Institutions

World TB Day, on March 24, commemorates Dr. Robert Koch's discovery of Mycobacterium tuberculosis (the bacteria that causes tuberculosis) in 1882. Every day, 3,500 people worldwide lose their lives to **tuberculosis (TB)**, and around 30,000 people become infected with TB bacilli, according to **World Health Organization (WHO)** estimates.

India alone accounts for 27% of global TB cases. This is astonishing, given that TB is a detectable and curable disease and TB diagnosis and treatment protocols have been a part of existing health systems for a long time.
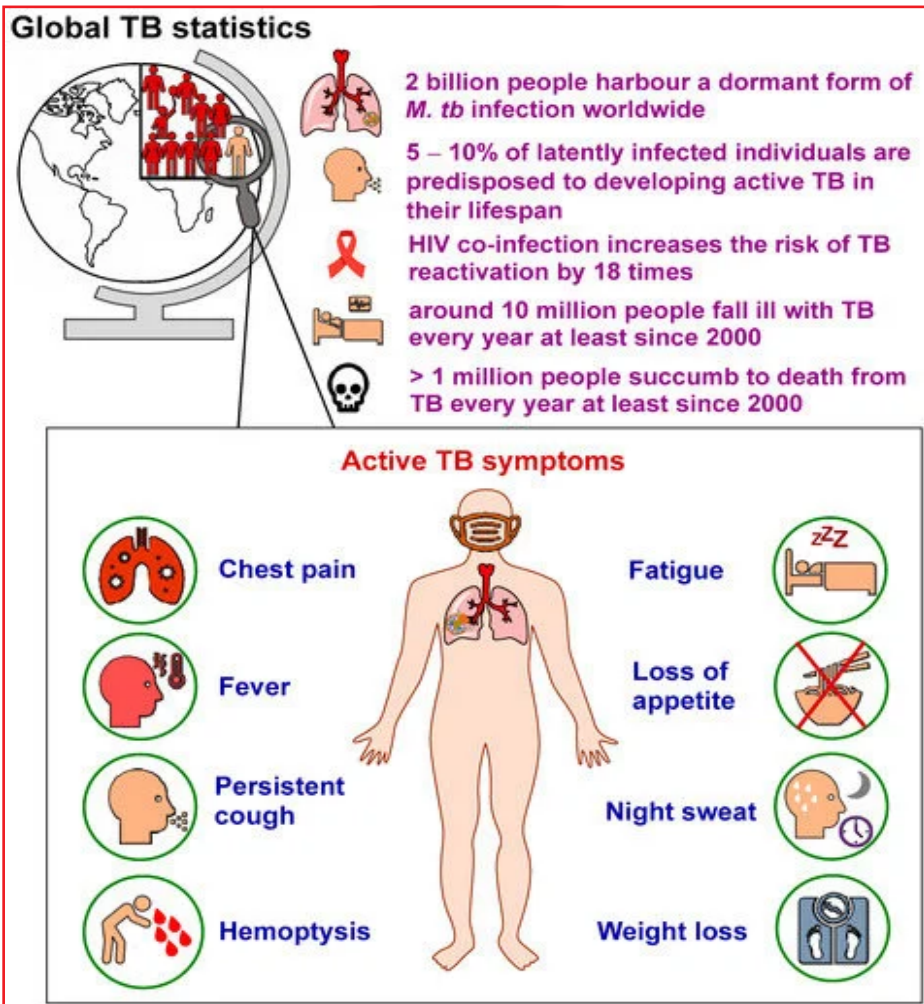
Note:

➤ Looking back, India's fight against TB started even before independence:

○ In 1929, India joined the International Union Against Tuberculosis. The King George V Thanksgiving Fund for TB control was established to support TB education and prevention, establish clinics, and train health workers.

○ After independence in 1947, the Union government established a TB division under the Directorate General of Health Services with the Ministry of Health to oversee the plan.

○ In 1959, the government, with the help of the WHO, established the National TB Institute in Bengaluru. Subsequently, the National Tuberculosis Control Programme (NTP) was formulated in 1962.

○ The deficiency in the NTP was identified in 1963 and the Revised National TB Control Programme was developed. Fast forward to 2023, India's National TB Elimination Programme is leading the effort to meet the goal of eliminating TB by 2025, five years ahead of the Sustainable Development Goals.

➢ Ending the TB epidemic by 2030 is among the health targets of the **United Nations' Sustainable Development Goals.**

➢ In November 2023, the WHO acknowledged India's success on two major fronts: in reducing TB incidence by 16% from 2015 to 2022 (close to double the pace at which global TB incidence is declining) and in reducing TB mortality by 18% during the same period, keeping in line with the global trend.

➢ **Prime Minister** addressed the One World TB Summit in Varanasi where he announced initiatives like TB Mukt Panchayat and roll-out of a shorter three-month course on preventive treatment towards achieving the goal of TB elimination by 2025.

○ The PM also announced the nation-wide rollout of a 3-month preventive treatment for those at risk of developing TB. This will reduce the course of treatment from the previous six months and replace the daily pills with a once-a-week medicine regimen.

Global TB statistics

- 2 billion people harbour a dormant form of *M. tb* infection worldwide
- 5 – 10% of latently infected individuals are predisposed to developing active TB in their lifespan
- HIV co-infection increases the risk of TB reactivation by 18 times
- around 10 million people fall ill with TB every year at least since 2000
- > 1 million people succumb to death from TB every year at least since 2000

Active TB symptoms

- Chest pain
- Fever
- Persistent cough
- Hemoptysis
- Fatigue
- Loss of appetite
- Night sweat
- Weight loss

What is Tuberculosis (TB)?

➢ **About:**

○ TB is caused by a bacterium called Mycobacterium tuberculosis, belonging to the Mycobacteriaceae family consisting of about 200 members.

○ Some of Mycobacteria cause diseases like TB and Leprosy in humans and others infect a wide range of animals.

○ In humans, TB most commonly affects the lungs (pulmonary TB), but it can also affect other organs (extra-pulmonary TB).

○ TB is a very ancient disease and has been documented to have existed in Egypt as early as 3000 BC. It is a treatable and curable disease.

➢ Infection Prevalence:

○ Every year, 10 million people fall ill with TB. Despite being a preventable and curable disease, 1.5 million people die from TB each year – making it the world's top infectious killer.

○ TB is the leading cause of death of people with HIV and also a major contributor to antimicrobial resistance.

○ Most of the people who fall ill with TB live in low- and middle-income countries, but TB is present all over the world. About half of all people with TB can be found in 8 countries: **Bangladesh, China, India, Indonesia, Nigeria, Pakistan, Philippines and South Africa.**

➢ **Treatment:**

○ TB is treated with a standard 6-month course of 4 antimicrobial drugs that are provided with information, supervision and support to the patient by a health worker or trained volunteer.

○ Anti-TB medicines have been used for decades and strains that are resistant to 1 or more of the medicines have been documented in every country surveyed.

● Multidrug-resistant tuberculosis (MDR-TB) is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful, first-line anti-TB drugs. MDR-TB is treatable and curable by using second-line drugs such as Bedaquiline.

● Extensively drug-resistant TB (XDR-TB) is a more serious form of MDR-TB caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.
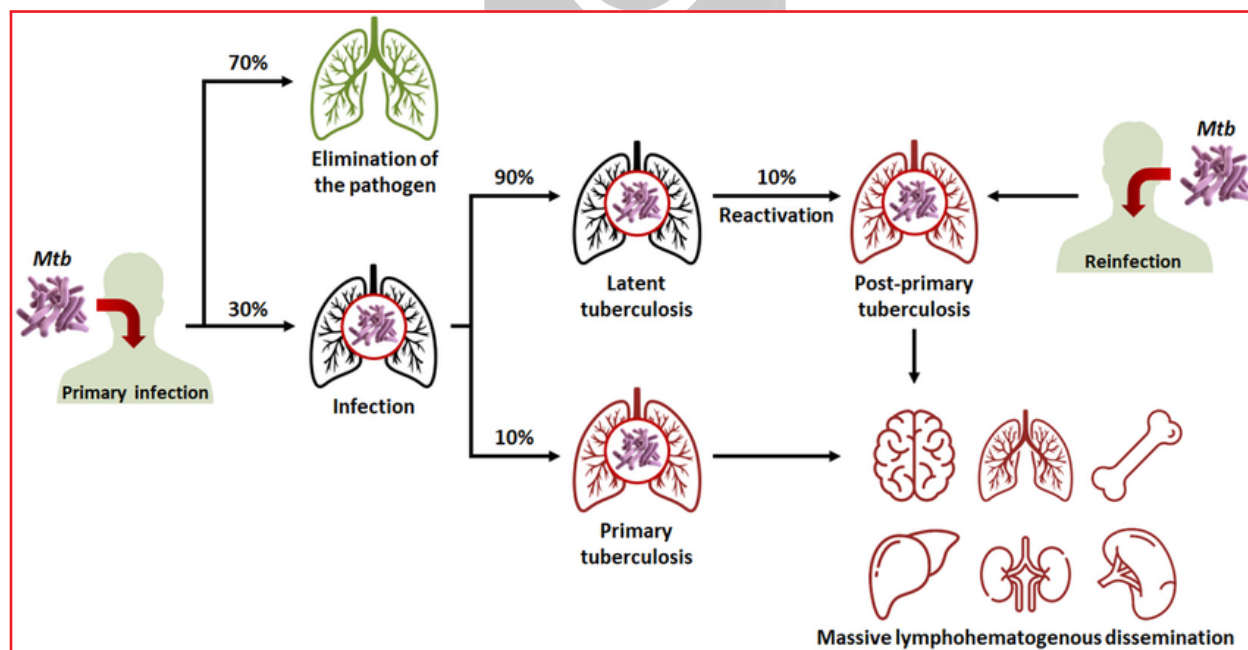
What are the Different Issues in Curing TB Burden in India?

➢ **Only Focussing on the Medical Aspect:**

○ The biggest deficiency has been in comprehending the real-life experiences of individuals affected by and battling TB. It is far too common for us to presume their requirements, difficulties, and anticipations.

○ Occasionally, the system has erred by excessively medicalizing this illness, as is often the case with doctors and public health professionals.

● It has frequently **failed to recognize TB as a humanitarian crisis**, one with gender-specific implications, economic ramifications, and broader social and environmental impacts.

➢ **Disproportionately Affecting Marginalised Section:**

○ While TB can affect people of any class, religion, ethnicity, and socioeconomic status, it disproportionately affects the most marginalised in society, including **children, the urban poor, prisoners, and people living with HIV/AIDS.**

○ The disease has gone beyond being a health crisis alone. It is an economic crisis which by some estimates, costs India billions in losses each year and pushes families and communities into debt and poverty.

➢ **Excessive Use of Antibiotics:**

○ Drug resistance in TB remains a man-made phenomenon. Unregulated use of antibiotics and non-compliance with treatment regimens lead to selective evolutionary pressure on the bacillus, in turn resulting in developing drug resistance.

○ Poor regulatory mechanisms for drug control and non-compliance with treatment regimens are the main reasons for such a high degree of drug resistance.

➢ **Assessing the Extent of Drug Resistant TB:**

○ There needs to be data on the proportion of people diagnosed with TB who have rifampicin-resistant TB (RR-TB) and multidrug-resistant TB (MDR-TB) - this is resistance to both rifampicin and isoniazid, collectively referred to as MDR/RR-TB.

● This helps in better plan and design of the control programme, resource allocation for diagnosis, the treatment regime as well as availability of trained staff mandated for DR-TB.

➢ **Reassessing the Screening Procedures:**

○ A Lancet study as well as the **Indian Council of Medical Research's** 'National TB Prevalence Survey in India' showed that while screening people for symptoms is good, it is not substantive.

○ Studies also show that in many cases, despite not showing any apparent symptoms, people may have infectious TB and may even be transmitting it. X-ray imaging is a quick and efficient way to find these patients.

➢ **Tests Limited Due to High Cost and Accessibility Issues:**

○ The age-old sputum microscopy test has its limitations which are addressed by the newer molecular tests that are rapid, accurate, and even detect resistance against drugs. India has also scaled up molecular diagnostic capacity significantly.

● The NAAT (nucleic acid amplification test) machines in India have gone up from 651 in 2017 to more than 5,000 in 2022. But the utility of these tests is limited due to their high costs and issues with accessibility.

➢ **Challenges in Molecular Testing Reliant on Sputum Collection:**

○ First, It may not be as easy for everyone, especially young children, to produce sputum. Second, sample transportation, especially in remote and hilly districts, remains a challenge.

● During the COVID-19 pandemic, when an alternative to nasopharyngeal swabs was introduced in the form of simpler nasal swabs, saliva, and self-collection, the testing coverage greatly increased.

➢ **Dual Burden of Diabetes Melitus (DM) and TB:**

○ DM increases the likelihood of unfavourable TB treatment outcomes, such as treatment failure, relapse/reinfection, and even death. The coexistence of TB and DM in patients may also modify TB symptoms, radiological findings, treatment, final outcomes, and prognosis.

● The dual burden of DM and TB not only impacts the health and survival of individuals but also places a significant burden on the healthcare system, families, and communities.

What are the Steps to be Taken to Mitigate the TB Crisis?

➢ **Prioritising the Needs and Interests of Patients and Communities:**

○ The needs and the interests of patients and communities must be prioritised within the care paradigm and the health-care system. This principle, echoed by survivors, communities, health experts and policymakers, underscores the need for a person-centred approach to TB care and management.

➢ **Following a Individual-Centric Approach:**

○ The rise of influential advocates among TB survivors who have vigorously pushed for the inclusion of affected communities' needs in discussions. They have advocated for changes in various areas, leading governments to adjust their approaches to meet these community needs.

● For example, there has been some progress in providing nutritional support, albeit limited, which marks a significant advancement.

➢ **Bridge the Gap Between Policy Intent and Ground Realities:**

○ There is a need to bridge the gap between policy intent and on-the-ground realities. For instance,

India needs to prioritise targeted interventions aimed at improving and expanding access to TB diagnosis and treatment.

- ○ TB testing facilities must be expanded, particularly in rural and underserved areas, and ensure the availability of free, affordable and quality-assured TB drugs.
  - ● Molecular testing is the gold standard and less than a quarter of symptomatic patients are getting that as their first test.

➢ **Making TB Care More Humane:**

- ○ Efforts are needed to strengthen community-based TB care models, empowering frontline health-care workers to deliver comprehensive care which addresses not just treatment but also social, economic and mental health needs and is closer to where patients live.
- ○ This is important as survivor narratives tell us the stigma, discrimination and mental stress they go through, not to mention the side-effects of treatment.

➢ **Adopting a Multi-Sectoral Approach:**

- ○ Addressing the socio-economic determinants of TB requires a multi-sectoral approach. Poverty alleviation, improvement in nutritional status, well-ventilated housing and better air quality will all contribute towards reducing TB.
- ○ By tackling the underlying root causes of TB, India can make significant strides towards eliminating the disease and improving the overall health and well-being of its population.

➢ **Tapping Technology:**

- ○ Leveraging technology and innovation holds promise in enhancing TB care efforts in India. The adoption of **AI** and digital health solutions for TB diagnosis, adherence and surveillance can revolutionise the way TB care is delivered and accessed in the country. By investing in developing better vaccines, we can hope to ultimately eliminate this airborne disease.
  - ● X-ray technology has advanced dramatically. Now, we not only have portable hand-held devices, but also software driven by AI that can read digital X-ray images and detect possible TB with a high degree of certainty.

➢ **Implementing a 8-Point Agenda in Curing TB Burden:**

- ○ **Early Detection:** Given TB's aetiology, early detection is the key. Symptoms are often ignored and mistaken for other common ailments, leading to delays in reporting. Compulsory screening for family and contacts of each index case is essential,

necessitating availability of laboratory facilities and efficient follow-up mechanisms within health systems.

- ○ **Precise Treatment Categorisation:** With increasing DR-TB, it is imperative to know the resistance status at the time of diagnosis to assign appropriate treatment regimens as per their phenotypic susceptibility.
- ○ **Treatment Adherence and Follow-Up:** Unlike other bacterial diseases, TB requires a long period of sustained treatment. Often, this leads to non-compliance, which could be due to observable improvement in health status, or change of residence, movement across States and districts.
- ○ **Zero Mortality:** Mitigating mortality due to TB, be it DR-TB or non-pulmonary TB, is necessary in order to realise the targets by 2025.
- ○ **Availability of Appropriate Medicines:** Assured medical supply is mandated under the TB control programme. However, procurement challenges for DR-TB medications such as bedaquiline and delamanid must be addressed, in addition to ascertaining treatment facilities for all DR-TB cases which require in-patient care.
- ○ **Integration into Larger Health Systems:** Strengthening referral networks within and between different levels of public health systems and private health systems is vital to ensure (a) no symptomatic cases are lost, (b) no patients miss their dosages and are non-compliant, and, importantly, (c) the screening of contacts for all positive cases of pulmonary TB cases (DR or non-DR).
- ○ **Dynamic Notification System:** A robust notification system will ease the burden of health system personnel. While Ni-kshay has evolved — 'Ni-Kshay-(Ni=End, Kshay=TB) is the web enabled patient management system for TB control under the **National Tuberculosis Elimination Programme (NTEP)'** — it requires improvements to capture real-time TB data between sectors, practitioners, time, and locations.
- ○ **Considering Population Mobility and Migration:** Often, the productive aspects of life are overlooked when discussing disease and health care seeking, particularly in the context of TB, which suffers from social and cultural stigma. Interestingly, once TB is diagnosed and positive cases are put on treatment, health is restored quickly for the patient to resume their daily activities. Therefore, portability of TB treatment within the country is crucial at the policy level.

What are Different Initiatives to Combat TB?

➢ **Global Efforts:**
  ○ The **WHO (World Health Organisation)** has launched a joint initiative "Find. Treat. All. #EndTB" with the **Global Fund** and **Stop TB Partnership**.
  ○ WHO also releases the **Global Tuberculosis Report**.

➢ **India's Efforts:**
  ○ **Pradhan Mantri TB Mukt Bharat Abhiyan**
  ○ **National Strategic Plan (NSP) for Tuberculosis Elimination (2017-2025)**
  ○ **TB Harega Desh Jeetega Campaign**
  ○ **Nikshay Poshan Yojna**

Conclusion

The path to TB elimination in India requires a concerted effort to prioritise person-centred care, address social determinants of health, and embrace innovation. By adopting a holistic and person-centred approach, India can overcome the barriers that stand in the way of TB control and create a healthier future for all its citizens.

There is a need to simply improve implementation and be more proactive in deploying new technologies. It is to be ensured that new technologies are streamlined and rolled out faster and capacity is built at the sub-district level to conduct diagnostic tests as needed.

UNSC Resolution: Ceasefire in Gaza

This editorial is based on "*Stop the war*" which was published in The Hindu on 27/03/2024. The article discusses how the US supported the first UN Security Council Resolution for an immediate ceasefire in Gaza, which was passed 14-0 on March 25, 2024. The resolution calls for a ceasefire to allow aid to reach Palestinian civilians and for the release of all remaining hostages held by Hamas.

Tag: GS Paper - 2, Effect of Policies & Politics of Countries on India's Interests, Bilateral Groupings & Agreements, Regional Groupings, Indian Diaspora, Groupings & Agreements Involving India and/or Affecting India's Interests.

After five and a half months since Israel began its assault on **Gaza**, the **UN Security Council (UNSC)** issued a call for an "immediate ceasefire" on March 25, 2024. Additionally, the UNSC called for the release of all hostages held by Hamas.

The US, which had previously vetoed every UN resolution calling for an immediate ceasefire in Gaza, abstained this time, indicating a shift in the Biden administration's approach to the conflict.
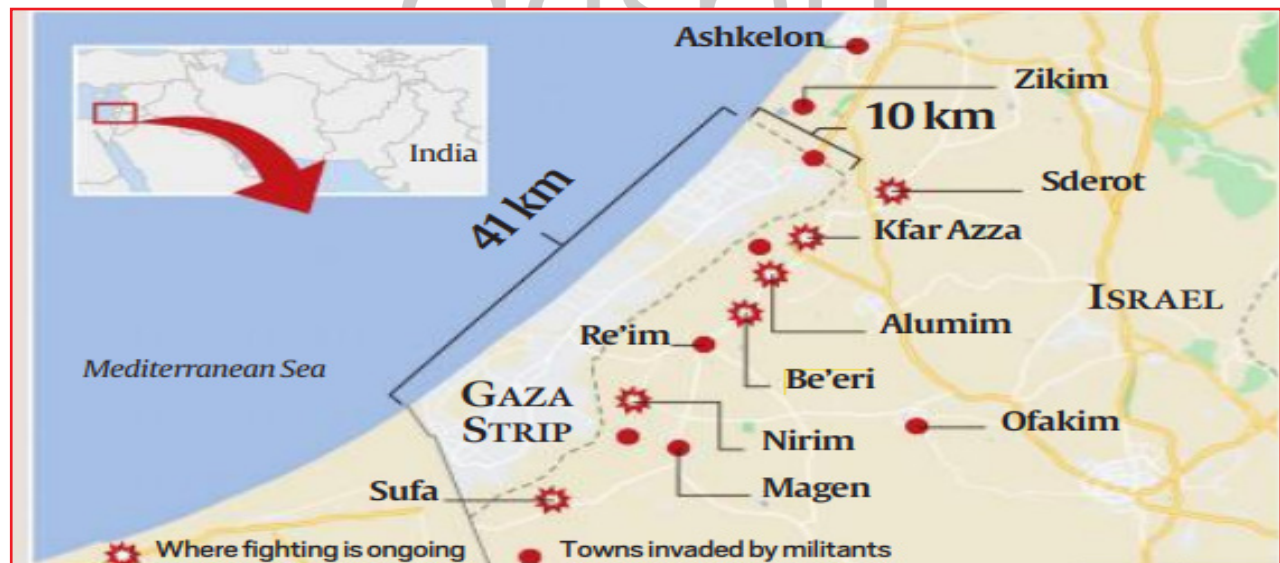
ISRAEL-PALESTINE CONFLICT

The Israel-Palestine conflict is a long-standing geopolitical dispute over territory and self-determination in the Middle East.

BEGINNING

- UN adopted **Resolution 181** - the Partition Plan in 1947
- State of Israel created in 1948, sparking the **first Arab-Israeli War** (Israel won)
  - Palestinians displaced
  - Division of territory into - State of Israel, West Bank and Gaza Strip

INITIAL TENSIONS AND CONFLICTS (1956-1979)

- **Suez Crisis** and Israeli **invasion of Sinai Peninsula** in 1956
- **Six-Day War (1967) -** Israel gained control over Sinai Peninsula, Gaza Strip, West Bank, East Jerusalem and Golan Heights

Controversy over Jerusalem as Capital
- **Israel view:** Complete and united Jerusalem
- **Palestinians view:** East Jerusalem future capital

- **Yom Kippur War (1973) -** Surprise attack by Egypt and Syria
- **Camp David Accords (1979)** b/w Egypt and Israel

Intifada (Arabic for 'shake off')
- **First Intifada -** 1987 to 1993
  - Led to the foundation of Hamas (1987) - a Palestinian political party designated as a foreign terrorist org by US
  - Response - **Madrid Conference 1991** (chaired by the US and Russia)
- **Second Intifada -** 2000-2005
- The latest escalation (2023) is being called the beginning of "Third Intifada"

OSLO ACCORDS (MEDIATED BY US)

- **First (1993)**
  - Estd framework for **Palestinian self-governance** in West Bank and Gaza
  - Enabled mutual recognition between Israel and Palestine

- **Second (1995)**
  - Expanded on Oslo I Accords
  - Mandated **complete Israeli withdrawal** from several cities and towns **in West Bank**

POST 2000 CONFLICT AND RESPONSES

- **2013 -** US-led peace process began
- **2014-18 -** Gaza Conflict (2014)
  - Palestine announced break from territorial divisions under Oslo Accords (2015)
- **2018-20 -** US Cancelled funding for Palestinian refugees under UN Relief and Works Agency (UNRWA)
  - US proposed **"Peace to Prosperity"** plan
- **2020 - Abraham Accords**
- **2022-2023:**
  - Israel raids on **Jenin refugee camp**
  - Hamas launched **"Operation Al-Aqsa Flood"** and Israel launched "Operation Iron Swords" (both in 2023)
    - Israel declared a **State of War**
  - **India's Stand:**
    - Supports a **Two State solution** for Israel and Palestine
    - **Condemned the recent attack** by Hamas on Israel

Considered occupied territory by most of the international community

GOLAN HEIGHTS

LEBANON — Damascus
SYRIA
Haifa — Sea of Galilee
Mediterranean Sea
Nablus
Tel Aviv — WEST BANK — Amman
• Ramallah
★ Jerusalem
Gaza City — Dead Sea
GAZA STRIP
ISRAEL — JORDAN
EGYPT
30 miles
SAUDI ARABIA

Drishti IAS

What was the Resolution Passed by UNSC?

➢ **About:**
- ❍ Apart from calling for an "immediate ceasefire for the month of Ramadan to be respected by all parties leading to a lasting, sustainable ceasefire", it also states:
  - The release of the Israeli captives taken by Hamas on October 7, 2023 and emphasises the need for more humanitarian aid flowing into Gaza and on adherence to international law.

ISRAEL'S WAR ON GAZA
UN adopts resolution on ceasefire in Gaza

The UN Security Council adopts a resolution demanding an 'immediate ceasefire in Gaza for the month of Ramadan' leading to a lasting ceasefire, the 'immediate, unconditional release of all hostages' and humanitarian aid access.

In favour (14)

Algeria	Mozambique
▪ China	South Korea
Ecuador	▪ Russia
▪ France	Sierra Leone
Guyana	Slovenia
Japan	Switzerland
Malta	▪ UK

Against (0)

Abstained (1)

▪ US

▪ Permanent member

The UN Security Council

- Made up of 15 countries, including 10 on rotation, each with one vote
- Decisions are generally legally binding for all 193 member countries
- Five permanent members may block resolutions using their veto power

Source: United Nations | March 25, 2024   @AJLabs ALJAZEERA

➤ **Nature of the Resolution:**

❍ All UNSC resolutions are considered binding, in accordance with Article 25 of the UN Charter which was ratified by the US. However, the US has described the latest resolution as non-binding.

- If a UNSC resolution is not followed, the council can vote on a follow-up resolution addressing the breach and take punitive action in the form of sanctions or even the authorisation of an international force.

➤ **Previous Resolutions:**

❍ In 2016, the UNSC passed a resolution deeming Israel's settlements in Palestine illegal and a violation of international law. The resolution passed with 14 votes and the US abstained. Israel ignored this resolution.

- More recently, in December 2023, the **UN General Assembly** voted with an overwhelming majority to call for a "humanitarian ceasefire". That was a non-binding resolution – and Israel refused to act on it.

- Israel is also under the scanner of the **International Court of Justice (ICJ),** where **South Africa has accused it of committing acts of genocide in Gaza.**

What is the Role of the US in Passing Resolutions Calling for Ceasefire?

➤ **Role of US vis-a-vis Russia:**

❍ The US has not halted the supply of military aid to Israel and has insisted that its commitment to Israel's security remains firm. In fact, the US has categorically held that **"Our vote does not – and We repeat that, does not – represent a shift in our policy."** The US did not use its veto power at disposal against resolution, rather abstained from voting on it.

- Shortly before the vote, the word "permanent" was dropped from the resolution to try to build consensus on the text.

❍ **Russia tried to push for the use of the word "permanent"** saying that not using the word could

allow Israel "to resume its military operation in the Gaza Strip at any moment" after Ramadan.

➢ **Resolution Put Forth by US:**

○ A draft resolution was put forth by the US before the UNSC and the members voted on it. It was vetoed by Russia and China; Algeria voted against it and Guyana abstained. Eleven members voted in favour of this draft resolution, which preceded the current resolution.

● The resolution did not demand a ceasefire, but instead supported "international diplomatic efforts to establish an immediate and sustained ceasefire as part of a deal that releases the hostages".

➢ **US Condemning Hamas in Its Resolution:**

○ The USA's resolution urged UNSC member states to "suppress the financing of terrorism, including by restricting financing of Hamas". The resolution also condemned Hamas and noted that Hamas "has been designated as a terrorist organisation by numerous member states".

● US' statement further said that the current resolution failed to condemn Hamas, which is a key language that the US views as essential.

➢ **Impact on US-Israel Relations:**

○ The US abstained after vetoing three previous draft resolutions calling for a ceasefire. Subsequently, the Israeli **Prime Minister** cancelled a trip by a delegation to Washington and held that the United States has abandoned its policy in the UN.

What was Israel's Response to the Ceasefire Resolution?

➢ **Ceasefire Not Conditioning Release of Hostages:**

○ All members of the UNSC (except US), including Britain, which until now had resisted calls to back a ceasefire, voted for the resolution. Israel responded unhappily, blasting the resolution, for not conditioning a ceasefire on the release of Israeli hostages in the control of Hamas.

➢ **Planning Attack on Rafah:**

○ Israel has repeatedly maintained in recent times that an invasion of Rafah, the southernmost town where some 1.4 million Palestinians have been cramped into, was in the offing. It would be highly inappropriate, after 14 members of the UNSC called for an immediate ceasefire, for Israel to launch an attack on Rafah, which could end up in another bloodbath.

➢ **Lack of Long-Term Solutions in Foresight:**

○ The war has also increased Israel's isolation, with tensions rising in its ties even with its close partners, including the US and Britain. If Israel continues the war with no clear end in sight, it will only worsen the domestic and international challenges it is facing, besides killing more Palestinians in the defenceless, battered, besieged, bombed-out Gaza.

● With this resolution, Israel did not find any solace and may be at risk of becoming more deeply entangled in the war, with no favourable outcomes foreseeable in the near or short-term future.

➢ **Disrespecting US' So-Called "Red-Line":**

○ Rather than respect the US' stated "red line", that Israel must not engage in a ground offensive, Israel has doubled down on its rhetoric. In fact, it has denied even the principle of a two-state solution.

○ Such maximalist positions — both in terms of the current conflict and the broader Israel-Palestine issue — are untenable. They also harm Israel's long-term interests.

➢ **Unilateral Impositions:**

○ The UN added that the text was legally binding on Israel but not on Hamas, as the Palestinian group is not a state. This has evoked a very strong reaction from the state of Israel, which calls it discriminatory and a partial resolution, neglecting the concerns of Israelis. Israel argues that it was not Israel but Hamas that staged and waged the war first.

What are the Different Options Available to Israel at Present?

➢ **Following a Long-Term Perspective:**

○ Instead of keeping the country in the permanent state of war, Israel shall take the message from the UNSC seriously, stop the war, allow urgent humanitarian assistance into Gaza and continue talks with Hamas through international mediators for both the release of all hostages and the withdrawal of his troops from the enclave.

➢ **Abiding by the Values of Abraham Accords:**

○ Before the outbreak of war, Israel was in a reasonable position vis a vis its neighbourhood and the broader international community - especially after the **Abraham Accords** that sought to normalise relations between Israel and several Arab states.

- Now, increasingly isolated, Israel's government must listen to its friends and pause hostilities. Otherwise, it will only bolster the view that its prime minister is placing his political interests above the national interest.

➢ **Cooperating with Hamas:**

  ❍ Hamas, the Palestinian Islamist group which governs Gaza and which triggered the war with an unprecedented attack on Israel on 7 October, also welcomed the resolution.

    - It said it was ready "to engage in an immediate prisoner exchange process that leads to the release of prisoners on both sides". The group has made any hostage release conditional on the release by Israel of Palestinians held in Israeli prisons.

➢ **Synchronising with US' Stand:**

  ❍ The US had previously been accused of using its power of veto to shield Israel at the UN. However, it has become increasingly critical of Israel over the escalating death toll in Gaza, where more than 32,000 people - mainly women and children - have been killed.

    - The US has also pressed Israel to do more to get aid delivered to Gaza, where it says the entire population is suffering severe levels of acute food insecurity.

➢ **India's Role in Promoting a Balanced Approach:**

  ❍ The world at large needs to come together for a peaceful solution but the reluctance of the Israeli government and other involved parties have aggravated the issue more.

  ❍ Thus a balanced approach would help to maintain favourable relations with Arab countries as well as Israel. India has continuously maintained good rapport with Middle-Eastern countries and Israel, which it can capitalise effectively.

    - India was re-elected to the **Human Rights Council** for the 2022-24. India should use these multilateral forums to act as a mediator to resolve the Israel-Palestine issue.

Conclusion

The abstention by the US in the recent UNSC resolution marks a significant shift in its stance on the Israel-Palestine conflict. While critics argue that the resolution's non-binding nature diminishes its impact and view the move as a political strategy ahead of elections, it underscores growing tensions between the US administration and Israel's government. Israel's refusal to heed US' warnings against a ground offensive in Rafah highlights the escalating discord. Israel's

maximalist positions risk further isolation and undermine its long-term interests, necessitating a reconsideration of its approach to the conflict for the sake of regional stability and its own national interest.

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China-Taiwan Conflict

This editorial is based on "*Preventing a China-Taiwan conflict*" *which was published in The Hindu on 28/03/2024. The article explores India's involvement in disputes over distant Asian borders, such as Taiwan, where India aims to prevent the escalation of conflict. China asserts its sovereignty over Taiwan and is actively preparing for a potential forcible takeover of the island, while the U.S. has shown a growing readiness to support and defend Taiwan.*

Tag: GS Paper-2, Effect of Policies & Politics of Countries on India's Interests, India and its Neighbourhood.

China continues to assert its sovereignty over **Taiwan**, viewing it as a part of its territory and insisting on eventual reunification, by force if necessary. China has significantly increased its military activities around Taiwan, including regular air and naval incursions into Taiwan's air defence identification zone (ADIZ). The United States has reiterated its commitment to Taiwan's security and has increased its support, including arms sales and military cooperation, in response to China's growing assertiveness.

Taiwan, on the other hand, maintains its separate identity and democratic system, with a majority of its population supporting the status quo of de facto independence. Taiwan has bolstered its defences in response to China's military threats and has sought to strengthen its international presence and partnerships.

What is the Present Context of China-Taiwan Conflict?

➢ **Historical Context:**

  ❍ Taiwan came under Chinese control during the Qing dynasty but was given to Japan after China lost the first Sino-Japanese war in 1895.

  ❍ China regained control of Taiwan in 1945 after Japan lost **World War II**, but the civil war between the nationalists and communists led to the nationalists fleeing to Taiwan in 1949.

  ❍ The roots of the Taiwan issue go back to the Chinese Civil War (1927-1950) between the Nationalist Party (Kuomintang) and the Communist Party of China (CPC).

○ After the Communist victory in 1949, the Nationalist government retreated to Taiwan, establishing the Republic of China (ROC) there, while the CPC proclaimed the People's Republic of China (PRC) on the mainland.

➢ **One-China Policy:**

○ Both the PRC and the ROC claim to represent the legitimate government of all of China. The PRC asserts sovereignty over Taiwan and insists that there is only one China and Taiwan is part of it. This is encapsulated in the **One-China Policy.**

➢ **International Recognition:**

○ Most countries, including the United States, recognize the PRC as the legitimate government of China and acknowledge the One-China Policy.

○ However, they maintain unofficial relations with Taiwan, often in the form of economic and cultural ties, without officially recognizing Taiwan's sovereignty.

➢ **Taiwan's Identity:**

○ Taiwan has developed its own separate identity over the decades, with its own government, constitution, and democratic system. Many Taiwanese people identify as Taiwanese rather than Chinese.

➢ **Cross-Strait Relations:**

○ Over the years, relations between Taiwan and mainland China have fluctuated. There have been periods of tension and hostility, as well as periods of detente and cooperation, especially in the economic sphere.

➢ **Military Threats:**

○ China has not ruled out the use of force to reunify Taiwan with the mainland if peaceful means fail. It has modernised its military capabilities, including building up its naval and missile forces, which has raised concerns in Taiwan and among other countries in the region.

➢ **International Community:**

○ The Taiwan issue remains a sensitive and contentious topic in international relations. Many countries seek to maintain a delicate balance between their relations with China and their support for Taiwan's security and democracy.

Note:

Strategic Significance of Taiwan:

➢ **Geopolitical Location:**

○ Taiwan is situated in a strategically important location in the western Pacific Ocean, adjacent to China, Japan, and the Philippines. Its location provides a natural gateway to Southeast Asia and the **South China Sea**, which are critical for global trade and security.
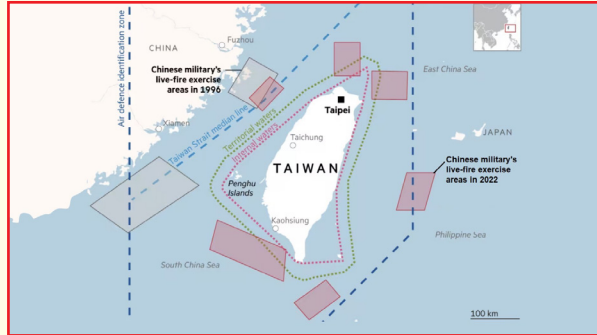
➢ **Military Significance:**

○ Taiwan's proximity to mainland China makes it a critical factor in military planning for both China and other regional powers.

○ Control over Taiwan would enhance China's ability to project power into the western Pacific and potentially threaten key US allies such as Japan and South Korea.

➢ **Economic Importance:**

○ Taiwan is a major economic player in the global market, particularly in the semiconductor and electronics industries.

○ Its economy is closely integrated with regional and global supply chains, making it strategically important for regional stability and economic security. Taiwan produces over 60% of the world's semiconductors and over 90% of the most advanced ones.

What are the Different Aspects of China-Taiwan Conflict in Present Times?

➢ **China's Concerns:**

○ **One China Policy Challenged:**

● This means that countries seeking diplomatic relations with the People's Republic of China (PRC, Mainland China) must break official relations with the Republic of China (ROC, Taiwan) and vice versa.

● The existent diplomatic relationship of the Taiwan and its membership in intergovernmental organisations challenges this policy:

■ The ROC, Taiwan has diplomatic relations with 15 countries and substantive ties with many others such as Australia, Canada, **EU** nations, Japan and New Zealand.

○ **Agreements/Exercises Countering China:**

● The US has announced a new trilateral security partnership for the Indo-Pacific, between Australia, the UK and the US **(AUKUS)**, which is also seen as an effort to counter China.

● **Malabar Exercise** (US, Japan, India and Australia) is also a major step towards building a sustainable Indo-Pacific coalition thereby addressing the massive strategic imbalance generated by an economically and militarily powerful China.

○ **Strategic and Defense Support to Taiwan by US:**

● Taiwan has sought to improve its defences with the purchase of US weapons, including upgraded F-16 fighter jets, armed drones, rocket systems and Harpoon missiles.

● A US aircraft carrier group led by the warship Theodore Roosevelt has entered the South China Sea to ensure freedom of the seas, and build partnerships that foster maritime security.

➢ **India's Stand on the Issue:**

○ **Recognizes One-China Policy:**

● Since 1949, India has accepted the "One China" policy that accepts Taiwan and Tibet as part of China.

● However, India uses the policy to make a diplomatic point, i.e., if India believes in "One China" policy, China should also believe in a "One India" policy.

○ **Starting Diplomatic Relations:**

● Even though India has stopped mentioning its adherence to One China policy in joint statements and official documents since 2010, its engagement with Taiwan is still restricted due to the framework of ties with China.

● India and Taiwan do not have formal diplomatic relations but since 1995, both sides have maintained representative offices in each other's capitals that function as de facto embassies.

○ **Opening Third TECC Centre in India:**

● Taiwan has announced plans to open its third representative Taipei Economic and Cultural Centre (TECC), in India, specifically in Mumbai.

● The move, which involves establishing a TECC, is aimed at enhancing economic linkages and

strengthening bilateral cooperation between Taiwan and India.

➢ **US vis-a-vis- China over Taiwan:**
  ○ The Chinese government passed an Anti-Secession Law in 2005 that provides conditions under which China might employ non-peaceful means to prevent the permanent separation of Taiwan from mainland China.
    ● The US as part of the Taiwan Relations Act (TRA) 1979, is required to assist Taiwan if coerced or attacked by China.
  ○ **US' Stand:** The recent Chinese incursions and US' opposition to it are manifestations of this contradicting stand of the US and China on Taiwan.
    ● It has urged China to cease its military, diplomatic, and economic pressure against Taiwan and instead engage in meaningful dialogue with Taiwan's democratically elected representatives.

➢ **Recent Developments:**
  ○ The 2016 election of President Tsai marked the beginning of a sharp pro-independence phase in Taiwan, which was intensified by her re-election in 2020.
  ○ The island now has significant economic interests, including investments in China. Pro-independence groups worry that this economic dependence may hinder their goals.
    ● Whereas pro-reunification groups in Taiwan, as well as China, hope that increasing people-to-people contacts will eventually wear down the pro-independence lobbies.

Why does India not Want the Conflict to Escalate?

➢ **Trade and Economic Concerns:**
  ○ India and Taiwan have expanded trade seven-fold since 2001 and are exploring a possible free trade agreement. The Taiwanese firm, Powerchip Semiconductor Manufacturing Corporation, has partnered with the Tata Group to build India's first semiconductor fabrication plant.
  ○ An agreement was signed recently to send Indian workers to Taiwan. India's industry, critical supply chains, and overseas population are all increasingly invested in an enduring peaceful status quo across the Taiwan Strait.

➢ **Disruptions Due to War:**
  ○ Any Chinese aggression against Taiwan would be catastrophically costly for India. Such a scenario would, in effect, cripple global trade with China

and Taiwan, which would create disruptions throughout Asia and West Asia.
  ○ A recent Bloomberg study estimates that the costs of a conflict would amount to over 10% of global GDP. India's economy would suffer a greater shock than the US economy and its most valuable sectors, from electronics to pharmaceuticals, would run dry of components and materials.

➢ **Spill-Over Effects Across the Borders:**
  ○ A protracted or general war between China and the US, spreading beyond Taiwan, could spill over in multiple directions. It could ignite the already tense India-China land border.
  ○ It could wipe out or take offline sizable portions of Chinese, American, and other regional countries' industrial capacity, on which the world depends; apart from the risk of unthinkable nuclear escalation, it poses.

➢ **Worsening India's Long-term International Position:**
  ○ While a conflict itself would be calamitous, its outcomes could further worsen India's long-term international position, depending on which side prevails.
  ○ A limited conflict, where China has relative advantages of concentrating force near Taiwan, is also the most likely scenario to end in a Chinese victory over Taiwan and a corresponding defeat of the US and its allies.
  ○ If China, as a consequence of battle, thereby displaces the US as the region's pre-eminent military power, it would undermine the region's entire security architecture.

➢ **Promoting Arms Race in the Neighbourhood:**
  ○ American security guarantees would be less credible, neighbours may seek to assure their security with more arms or offensive postures, and China's military would be free to further project unchecked influence, including into the Indian Ocean.
    ● It may even feel emboldened to press its claims on Arunachal Pradesh. India is not an American ally, but it does depend on the US for its military modernisation and a broadly benign strategic environment.

What are the Options Available for India in Managing the Escalating Conflict?

➢ **Maintaining Military Balance in the Taiwan Strait:**
  ○ Beijing employs various tools, such as international law, economic leverage, and political influence, in its strategy towards Taiwan, avoiding military

coercion when possible. It aims to minimise costs and disruptions, reserving military action for when it believes victory is assured.

- The military balance in the Taiwan Strait is key to deterring conflict, but nations like India can also contribute by convincing Beijing that its conditions for military action are not met.

➢ **Exploring Different Policy Options:**

❍ India has six types of policy options at its fingertips: international law arguments; building narratives opposed to aggression; coordinated diplomatic messaging; economic de-risking; active information operations to support the Taiwanese people; and military support to the US forces in the Indian Ocean.

- Each option can be calibrated to variable levels of ambition and political appetite; and they can be adapted and applied by many other countries.

❍ These options can also advance India's grand strategic position, regardless of their impact on the China-Taiwan dispute:

- Enacting these policies would, first and foremost, lend India more leverage in its intensifying strategic competition with China.

- They also offer additional pathways for India to deepen its cooperation with the US., thereby accelerating its national rise.

- And they offer a wider agenda for Indian international leadership, especially among countries of the Global South, which otherwise would be passive or at best uncoordinated in deterring Chinese aggression more broadly.

➢ **Reconsidering One-China Policy:**

❍ India can rethink the One China Policy and separate its relationship with mainland China from that with Taiwan just as China is expanding its involvement in Pakistan occupied Kashmir (PoK) through its ambitious project **China Pakistan Economic Corridor (CPEC)**.

➢ **Following a Collaborative Approach:**

❍ India and other powers must draw a redline for any Chinese effort to take Taiwan by force. After all, the Taiwan issue is not just a moral question of allowing the destruction of a successful democracy, or a question of international ethics where the principle of settling disputes peacefully is adhered to.

- In fact, the reason for drawing that line is not about Taiwan at all, but because of what the consequences of a Chinese invasion of Taiwan would be for India and the rest of Asia.

Conclusion

India's expanding national interests present stronger reasons to maintain the status quo regarding Taiwan. Any involvement in a conflict over Taiwan is highly unlikely due to India's economic and security interests. The costs of such a conflict would be catastrophic, affecting global trade and potentially leading to broader regional conflicts. To prevent such a scenario, India can use various policy options, including international law arguments, diplomatic messaging, economic strategies, information operations, and military support to the US in the Indian Ocean.

■■■

Chandigarh's Mayoral Election: A Catalyst for Municipal Reforms

This editorial is based on " It is time for comprehensive reforms to municipal elections" which was published in The Hindu on 27/03/2024. The article talks about the challenges with respect to the conduct of municipal elections and suggests the need for an enhanced role of the State Election Commission to address these challenges effectively.

Tag: GS Paper - 2, Indian Constitution, Local Government, Government Policies & Interventions.

The recent **Supreme Court** ruling regarding the Chandigarh mayoral election prompts a broader reflection on municipal elections. While elections to the **Lok Sabha** and **State Assemblies** stand out as commendable democratic exercises due to their timely conduct, organisational efficiency, and seamless transfer of power, the same level of praise does not always apply to elections for local governments like panchayats and municipalities.

The Court's intervention corrected a specific issue in one city, but it underscores the need for substantial reforms to strengthen local governments across India.

What was the Controversy in the Chandigarh Mayoral Election, 2024?

➢ **Significance of the Election**: The **Chandigarh Mayoral election** carried significant weight as it signalled the inaugural alliance between major opposition parties, presenting a unified challenge to the ruling party. This event lays the groundwork for potential collaborations in other states leading up to the forthcoming Lok Sabha elections.

➢ **Initial Postponement:** Originally slated for January 18, the polling date was postponed due to the illness of the presiding officer. Subsequently, the **UT administration** suggested February 6 as the new polling date. However, opposition parties sought intervention from the Punjab and Haryana High Court, resulting in the rescheduling of the polls to January 30.

➢ **Election Day Chaos:** On election day, tension gripped as allegations surfaced regarding the victory of the ruling party with 16 votes, while the opposition alliance secured 12 votes. However, eight votes were declared invalid by the presiding officer. The opposition raised concerns, accusing the presiding officer of unfairly invalidating votes.

➢ **Legal Battle:** The opposition parties promptly turned to the High Court in pursuit of justice. Dissatisfied with the ruling, they escalated the issue to the Supreme Court. The apex court issued critical remarks, reaffirming its dedication to upholding democracy.

➢ **Mayor's Resignation**: Amid escalating controversy, the newly elected mayor opted to resign.

➢ **Supreme Court's Verdict:** Finally, on February 20, 2024, the Supreme Court rendered its judgement, overturning the initial results and declaring the opposition alliance candidate as the rightful winner.
  ○ The Supreme Court of India invoked **Article 142 of the Constitution** to overturn the election results.

What the Supreme Court Said About Chandigarh Mayoral Elections?

➢ **Deliberate Efforts to Deface Eight Ballots:** The returning officer of the Chandigarh mayoral polls intentionally attempted to invalidate eight ballots cast in favour of the falsely triumphant party.

➢ **Unlawful Conduct of Presiding Officer:** The conduct of the presiding officer has to be deprecated at two levels.
  ○ Firstly, by his conduct, he has unlawfully altered the course of the mayoral election.
  ○ Secondly, in making a statement before the court, the officer expressed a **"patent falsehood"** for which he must be held accountable.

➢ **Ordered Show Cause Notice:** The judicial registrar has been directed to summon the presiding officer to provide reasons why action should not be taken against him.

➢ **Preserve Electoral Democracy:** The court is duty-bound to ensure that the process of electoral democracy is not thwarted. The entire edifice of democracy depends on principles.
  ○ The court must step in to ensure that the basic mandate of electoral democracy is preserved.

What are the Key Provisions For Urban Local Government in India?

➢ **74th Constitutional Amendment Act, 1992**: The term 'Urban Local Government' in India signifies the governance of an urban area by the people through their elected representatives. The system of urban government was constitutionalized through the **74th Constitutional Amendment Act of 1992.**

➢ **Constitutional Mandate :**
  ○ The **74th Constitutional Amendment Act** has added a new **Part IX-A** to the Constitution of India. This part is entitled as 'The Municipalities' and consists of provisions from **Articles 243-P to 243-ZG**.
  ○ In addition, the act has also added a new **Twelfth Schedule** to the Constitution. This schedule contains **eighteen functional items** of municipalities. It deals with **Article 243-W**.
  ○ The act gave constitutional status to the municipalities. It has brought them under the purview of the **justiciable part** of the Constitution.

➢ **Elections to the Municipalities**: The superintendence, direction and control of the preparation of electoral rolls and the conduct of all elections to the municipalities shall be vested in the **state election commission**. The state legislature may make provisions with respect to all matters relating to elections to the municipalities.

➢ **Structure of Urban Local Government in India**: The **Urban Local Government** consists of eight types of Urban local bodies.
  ○ **Municipal Corporation**: **Municipal corporations** are usually found in big cities such as Bangalore, Delhi, Mumbai, Kolkata, etc.
  ○ **Municipality**: The smaller cities tend to have the provision of **municipalities**. The Municipalities are often called upon by other names such as the municipal council, municipal committee, municipal board, etc.
  ○ **Notified Area Committee:** Notified area committees are set up for the fast-developing towns and the towns lacking the basic amenities.

○ **Town Area Committee:** The town area committee is found in small towns. It has minimal authority such as street lighting, drainage roads, and conservancy.

○ **Cantonment Board:** It is usually set up for a civilian population living in the cantonment area.

○ **Township:** A township is another form of urban government to provide basic facilities to the staff and workers living in the colonies established near the plant.

○ **Port Trust**: Port trusts are established in the port areas such as Mumbai, Chennai, Kolkata, etc. It manages and takes care of the port.

○ **Special Purpose Agency**: These agencies undertake the designated activities or specific functions belonging to the municipal corporations or municipalities.

Administrative structure of India
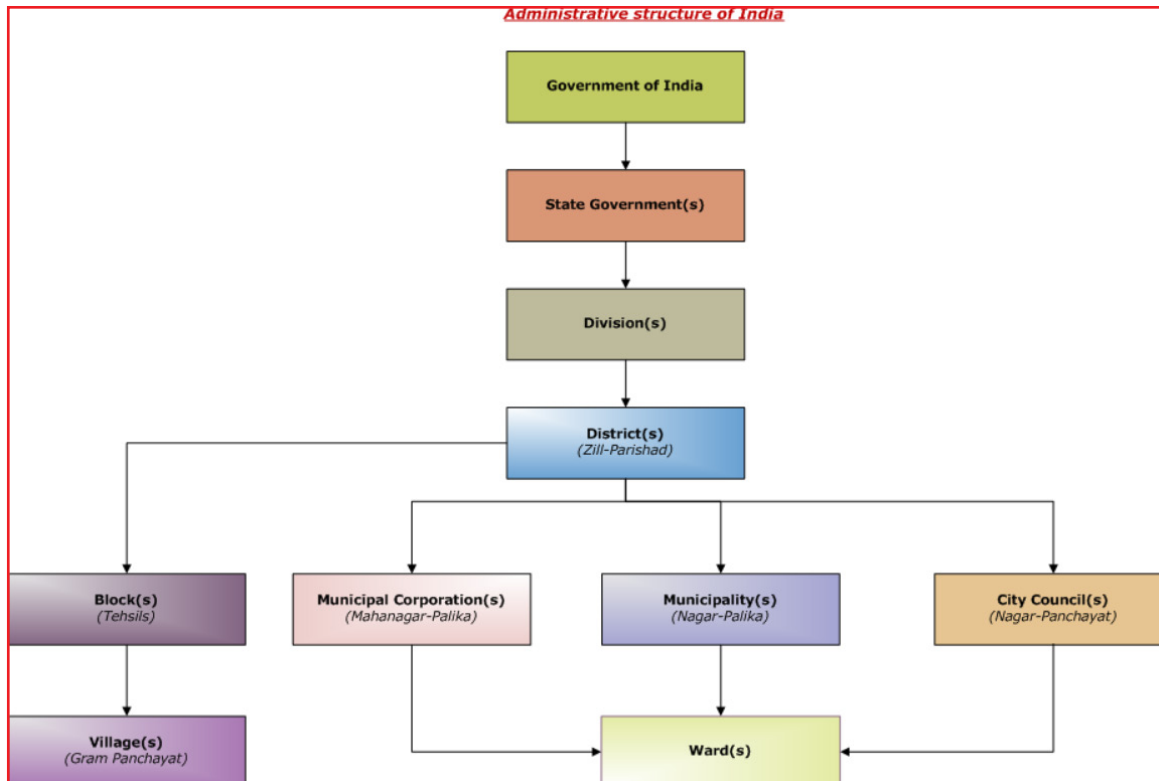
What are the Problems Faced by Urban Local Bodies in India?

➢ **Delayed Elections**:
   ○ Municipal elections often suffer from delays, violating constitutional mandates.
   ○ According to Janaagraha's Annual Survey of India's City-Systems 2023 study, over 1,400 municipalities did not have elected councils in place as of September 2021.
   ○ The CAG's audit reports of 17 States on the implementation of the 74th Constitution Amendment Act (74th CAA) observe that over 1,500 municipalities did not have elected councils in place during the audit period of 2015-2021 across States.

➢ **Incomplete Formation of Councils:**
   ○ Even when elections are held, there can be delays in constituting councils and electing key officials.

   ● For instance, in Karnataka, there was a delay of 12-24 months in forming elected councils after the declaration of election results in most city corporations.
   ○ Summary data on the constitution of councils, and elections of mayors, deputy mayors and standing committees are not available easily

➢ **Shortened Terms and Frequent Elections**:
   ○ Some urban local governments have mayoral terms shorter than five years, necessitating frequent elections. We need a standardisation of mayoral terms of five years
   ○ Around 17% of cities in India, including five of the eight largest ones, have mayoral terms of less than five years.

➢ **Discretion and Undue Influence:**
   ○ The discretion granted to government officials in determining election schedules raises concerns about the potential for delays, possibly influenced by the State government.

○ Furthermore, there is apprehension regarding the impartiality of presiding officers selected by officials, as their independence might be compromised, leading to conflicts of interest. This can undermine the autonomy and integrity of the electoral process.

➢ **Infrastructure and Resource Constraints:**

○ Many urban local bodies grapple with inadequate infrastructure and financial resources to meet the growing demands of urban populations.

○ The Urban local government heavily depends on the state governments for getting grants-in-aid out of the consolidated fund of state.

○ This hampers their ability to deliver essential services such as water supply, sanitation, and solid waste management effectively.

➢ **Lack of Empowerment and Resources for State Election Commissions (SECs):**

○ While **SECs** are entrusted with overseeing municipal elections, they often lack adequate empowerment and resources.

○ Only 11 out of 35 states and union territories have empowered SECs to conduct ward delimitation, limiting their effectiveness in ensuring fair and transparent elections.

➢ **Low Level of People's Participation:**

○ Despite a relatively higher level of literacy and educational standard, city dwellers do not take adequate interest in the functioning of the urban government bodies.

○ The multiplicity of special purpose agencies and other urban bodies confuses the public about their role boundaries.
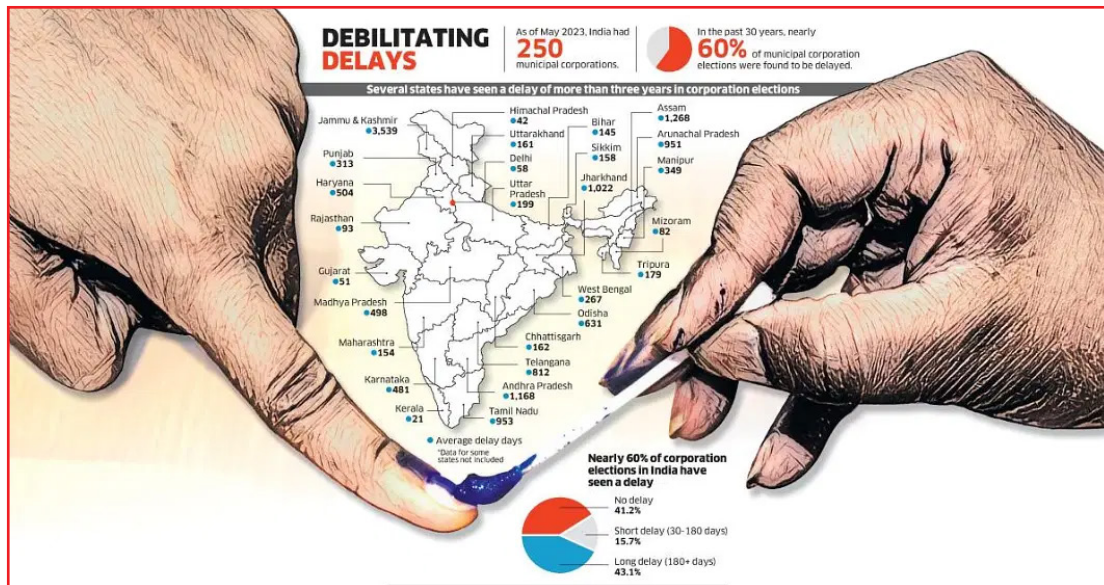
What Should Be the Way Forward to Empower Urban Local Governments in India?

➢ **Standardised Election Process**: A standardised election process and structure should be defined, governing all aspects such as :

○ Conduct of elections before term expiry, as meticulously done for state and union elections,

○ Process of upgrading and expanding municipal corporation limits,

○ Carrying out the delimitation and reservation exercise for wards,

○ Decide the composition of corporations and their leadership structure.

➢ **Empowerment of State Election Commissions (SECs):**

○ Strengthen the institutional capacity of State Election Commissions to conduct free, fair, and timely elections to urban local bodies, including providing adequate resources, training, and support to SEC officials.

○ Consider granting SECs greater autonomy and independence in the conduct of municipal elections, including the authority to oversee the entire electoral process from voter registration to result declaration.

➢ **Accountability Mechanisms:**

○ Holding election officials and authorities accountable for any delays or irregularities in the conduct of municipal elections. This can be done through transparent investigation processes and appropriate disciplinary action.

○ In the case of **Suresh Mahajan versus State of Madhya Pradesh (2022)**, the Supreme Court

emphasised the constitutional requirement to hold new elections for local bodies every five years. This constitutional obligation is absolute and cannot be violated.

➢ **Financial Empowerment:**

○ Implement the recommendations of **Finance Commissions** to enhance the fiscal autonomy of urban local bodies, including the allocation of a higher share of central and state revenues for local governments.

● The **13th Finance Commission** mandated the setting up of the State Property Tax Board as one of the conditions necessary for performance grant eligibility of states.

○ Introduce innovative financing mechanisms such as municipal bonds, public-private partnerships, and impact fees to mobilise additional resources for infrastructure development and service delivery.

➢ **Capacity Building and Training:**

○ Adopt the recommendations of the **Administrative Reforms Commission (ARC)** for strengthening the administrative capacity of urban local bodies, including the recruitment of qualified professionals, the establishment of performance-based incentive systems, and the implementation of transparent recruitment processes.

○ Establish specialised urban development committees at the national and state levels to formulate comprehensive urban development policies, coordinate inter-sectoral initiatives, and monitor the implementation of urban programs.

➢ **Citizen Participation:**

○ Promote greater citizen participation in local decision-making processes through mechanisms such as participatory budgeting, town hall meetings, and citizen advisory boards.

○ Strengthen mechanisms for transparency, accountability, and grievance redressal to ensure that local governments are responsive to the needs and concerns of residents.

➢ **Information and Communication Technology (ICT) Solutions:**

○ Leverage ICT solutions such as e-governance platforms, digital service delivery channels, and **geographic information systems (GIS)** to improve the efficiency, transparency, and accessibility of urban services.

○ The Finance Commission encouraged the use of the Geographical Information System (GIS) and digitization to improve property tax administration.

Conclusion

The empowerment of urban local governments is not just a matter of administrative reform;

it is a fundamental imperative for realising the vision of inclusive and sustainable urban development. Empowered urban local governments will be the engines driving the transformation, with the authority, resources, and capacity to address the diverse needs of their residents effectively.

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Regulating Big-Techs: India & Abroad

This editorial is based on "*Taking on Big-Tech*" which was published in Indian Express on 29/03/2024. The article discusses the long-awaited shift in the US approach to antitrust enforcement against Big Techs, a move that mirrors actions taken by the EU for some time. This change is noteworthy globally, including in India, as it signals the removal of the protective shield previously afforded to these companies by their home country.

Tag: GS Paper - 3, GS Paper - 2, IT & Computers, Statutory Bodies, Government Policies & Interventions.

The conflict between a major technology giant like Google and numerous Indian firms began years ago when app developers lodged a complaint with the **Competition Commission of India (CCI)**. The complaint alleged that Google was abusing its dominant position in the Android and Play Store ecosystem. Specifically, the search engine was accused of pressuring app developers to use Google's proprietary billing system or face a fee if they opted for a competitor's service.

The situation continues to unfold, with the CCI directing its Director General to conduct an investigation and submit a report within 60 days. It is possible that the outcome, as anticipated by the CCI, will find Google's actions in violation of the Competition Act, 2002.

What are the Different Aspects Related to Big-Tech Firms?

➢ **About:**

○ Big Tech refers to the largest and most influential technology companies globally. These companies wield significant power and influence in various sectors due to their massive market capitalization, innovative products and services, and widespread user base.

BIG TECH'S INDIA PRESENCE

Amazon

JUNE 2016
India's first AWS region, sixth in Asia, launched in Mumbai

NOVEMBER 2022
Country's second AWS region launched in Hyderabad

Alphabet

NOVEMBER 2017
Google Cloud's first India cloud centre opened in Mumbai

JULY 2021
Second data centre cluster opened in the National Capital Region of Delhi

Microsoft

SEPTEMBER 2015
Three data centres opened in India in Mumbai, Pune and Chennai

2025: Fourth centre, its largest, to be operational in Hyderabad
(Facebook has a data region in Singapore, but none in India)

○ Some of the prominent examples are Google, Facebook, Amazon, Apple, etc.

➢ **Market Dominance and Influence:**

○ Big Tech companies typically dominate their respective markets, often holding monopolistic or oligopolistic positions. They exert considerable influence over industry trends, consumer behavior, and even public policy.

● **Amazon:** Dominates e-commerce and cloud computing with its Amazon.com platform and Amazon Web Services (AWS).

● **Google (Alphabet):** Controls the majority of online search traffic and digital advertising revenue through its search engine and subsidiary companies like YouTube and Google Ads.

● **Facebook (Meta):** Leads the social media landscape with platforms such as Facebook, Instagram, and WhatsApp, shaping online communication and content consumption.

➢ **Technological Innovation:**

○ Big Tech companies are known for their continuous innovation, driving advancements in various fields such as artificial intelligence, cloud computing, and digital entertainment.

● **Apple:** Renowned for its groundbreaking products like the iPhone, iPad, and MacBook, as well as services like Apple Music and iCloud.

● **Microsoft:** Innovates across software, hardware, and cloud services with products such as Windows operating system, Office suite, Xbox gaming consoles, and Azure cloud platform.

● **Tesla:** Disrupts the automotive industry with electric vehicles, renewable energy solutions, and autonomous driving technology.

➢ **Data Collection and Privacy Concerns:**

○ Big Tech companies gather vast amounts of user data through their platforms and services, raising concerns about privacy, surveillance, and data security.

● **Google:** Collects user data through search queries, email communications, location tracking, and browsing history, fueling targeted advertising and personalized services.

● **Facebook (Meta):** Faces scrutiny over its data collection practices, including the Cambridge Analytica scandal, which involved the unauthorized harvesting of millions of Facebook users' data for political profiling.

● **Amazon:** Analyzes customer shopping habits and preferences to optimize product recommendations, pricing strategies, and supply chain management.

➢ **Regulatory Scrutiny and Antitrust Concerns:**

○ Big Tech companies often face regulatory scrutiny and antitrust investigations due to their market dominance, alleged anti-competitive behavior, and potential violations of consumer rights.

● **Google:** Under investigation by government agencies and regulatory bodies worldwide for alleged monopolistic practices, unfair competition, and antitrust violations related to its search engine, advertising business, and Android ecosystem.

● **Facebook (Meta):** Faces antitrust lawsuits and regulatory probes over its acquisitions of potential competitors like Instagram and WhatsApp, as well as concerns about its control over digital advertising and social networking markets.

- **Amazon:** Subject to antitrust scrutiny over its treatment of third-party sellers on its e-commerce platform, allegations of predatory pricing, and potential conflicts of interest as both a retailer and a marketplace operator.

Note:

Antitrust:

➢ Antitrust laws are regulations that aim to promote fair competition in the marketplace by preventing monopolistic practices, price fixing, and other activities that could harm consumers or stifle competition.

  ❍ The goal of antitrust laws, also known as competition laws, is to ensure that consumers have access to a variety of high-quality products at fair prices.

➢ Antitrust laws aim to prevent companies from gaining monopoly power, which occurs when a single company or group controls a large portion of the market. Monopolies can lead to higher prices, lower quality products, and reduced innovation.

## What are the Recent Steps Being Taken to Regulate Big Techs?

➢ **US's Federal Trade Commission:**

  ❍ The change comes due to the appointment of the Federal Trade Commission's Chiarman. US Department of Justice and 16 states sued Apple alleging it monopolised and abused the smartphone market.

    - The case against Apple follows a growing list of lawsuits against Google, Meta and Amazon for abusing market power. The modus operandi is familiar – blocking, suppressing, excluding, diminishing functionality of rival products and limiting third-party wallets.

➢ **EU's Initiatives:**

  ❍ In a slew of measures to ensure "contestable and fair markets in the digital sector" in line with the provisions of the **Digital Markets Act (DMA), 2022** the European Commission in March,2024 initiated 'non-compliance investigations' against so called **Big Techs (**Apple, Meta and Google's parent Alphabet). It will also investigate Amazon's ranking practices in its marketplace.

➢ **India's Stand:**

  ❍ **Competition Act, 2002:** In India, antitrust issues are governed by the **Competition Act, 2002** and the CCI checks upon monopolistic practices.

    - In 2022, the CCI imposed a penalty of Rs 1,337.76 crore on Google for abusing its dominant position in multiple markets for 'anti-competitive practices'.

  ❍ **Competition Amendment Bill, 2022:** The government has proposed amendments to the competition law in the **Competition Amendment Bill, 2022.** The Bill receives Presidential Assent in April 2023.

    - The CCI shall frame regulations to prescribe the requirements for assessing whether an enterprise has substantial business operations in India.

    - It will strengthen the Commission's review mechanism, particularly in the digital and infrastructure space, a majority of which were not reported earlier, as the asset or turnover values did not meet the jurisdictional thresholds.

What are the Different Concerns in Functioning of Big-Techs?

➢ **Prioritising In-House Services:**

  ❍ The non-compliance investigations concern Alphabet's alleged rules on steering or directing its customers to its in-house services over those of its competitors. Apple will be investigated for allegedly similar practices in its App Store, as well as the way it positions its Safari browser. Lastly, Meta will be investigated for its "pay or consent model."

➢ **Non-Compliance With Digital Markets Act, 2022 (DMA) of EU:**

  ❍ Alphabet, Amazon, Apple, TikTok's parent company ByteDance, and Microsoft were designated as 'gatekeepers' in September 2023. They were expected to fully comply with obligations under the DMA by March 7, 2024.

  ❍ The European Commission assessed the mandatory compliance reports submitted by these companies and gathered feedback from stakeholders, including in the context of workshops, before launching the investigation into non-compliance of DMA provisions.

➢ **Discriminatory Approach Adopted by Big-Techs:**

  ❍ The European Commission aims to assess if Google's search results show bias, specifically if the company prioritizes its own verticals over competitors' services.

    - It has suggested that Alphabet's efforts to comply with the DMA may not guarantee fair treatment for third-party services on Google's search results page, compared to Google's own services.

    - Further, the CCI in March,2024 also ordered a detailed probe against Google for alleged discriminatory practices on its Play Store pricing policy after having discovered a prima facie violation of competition law.
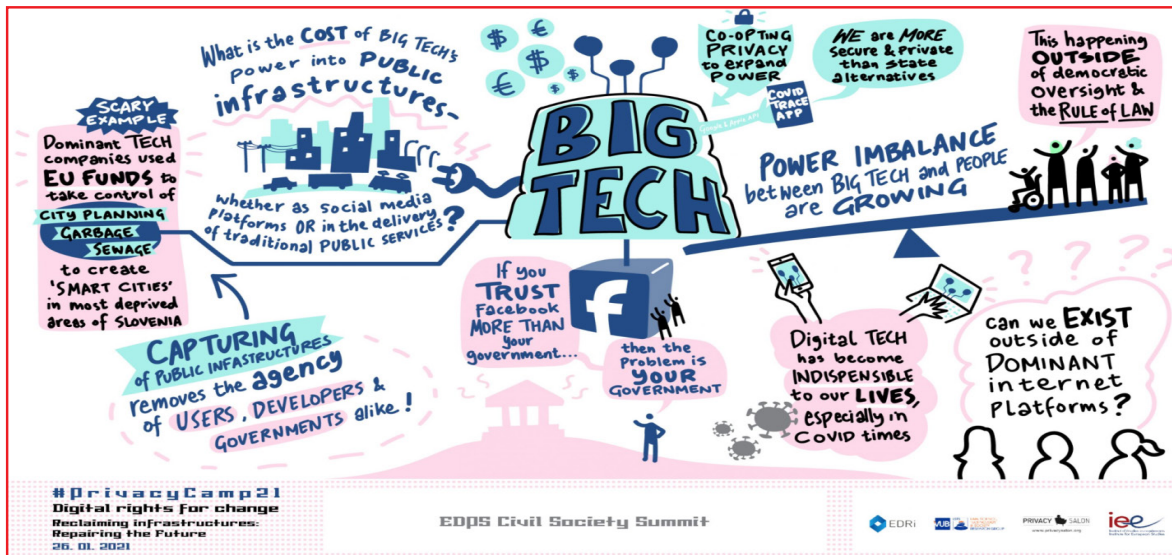
➢ **Lowering Choices For Customers:**

○ In October 2020, the U.S. Department of Justice (DoJ) accused Google of "unlawfully maintaining monopolies through anti-competitive and exclusionary practices in the search and search advertising markets" and sought it "remedy the competitive harms."

● According to the DoJ, the conduct harmed consumers by reducing the quality of their search, lowering choices, and impeding innovation. Amazon too is facing heat for similarly tailoring the listings on its marketplace.

➢ **Concerns Over Ecosystem Captitvity:**

○ The European Commission is looking to assess if Apple enables users to easily uninstall any pre-installed (or presently default) software applications on iOS, change default settings, and if prompts users with choice screens that allow them to effectively and easily select alternatives to the default service.

● The investigation emanates from the Commission's concern that Apple's measures may be preventing users from "truly exercising their choice of services with the Apple ecosystem" which precisely amounts to **'concerns over ecosystem captivity'.**

➢ **Concerns Over 'Binary-Choice' of Meta:**

○ Meta introduced a subscription model that offered people in EU, European Economic Area (EEA) and Switzerland the choice to use Facebook and Instagram without any ads. Alternatively, they could continue using these services for free while seeing ads relevant to them; in other words, consenting to personalised advertising.

● The model, however, did not seem convincing to the regulators. It held that the model's "binary choice" may not provide "a real alternative in case users do not consent, thereby not attaining the objective of preventing the accumulation of personal data by gatekeepers."

➢ **Regulatory Vacuum:**

○ Due to rapid innovation and advancement by the Big Tech firms, the regulators are only able to react, not be in readiness. These giant platforms maintain that they are only intermediaries and therefore, they can't be held liable for the content.

➢ **Arbitrary Pricing:**

○ In the non-digital arena, price determination happens through market forces. However, in the digital space, rules are largely dictated by the large platforms. Consumers are products themselves on these platforms. Concepts like network effects and winner-takes-all coupled with gatekeeping by Big Tech firms exacerbate the problem.

What are the Different Steps to be Adopted in Regulating Big-Techs?

The Standing Committee on Finance submitted its report on 'Anti-Competitive Practices by Big Tech Companies' in December, 2022. **Key observations and recommendations of the Committee include:**

➢ **Regulating Digital Markets:**

○ Digital markets are made up of internet-based companies with millions of users. Unlike physical markets, digital markets often see returns increasing with the size of the company, driven by learning and network effects.

○ This can lead to a few dominant players emerging quickly, even before policies and antitrust measures can be put in place. The Committee suggested evaluating competitive behavior before markets become monopolized, rather than the current practice of evaluating after the fact.

- ➢ **Digital Gatekeepers:**
  - ○ The Committee suggested that India should identify key players in digital markets that could harm competition and classify them as Systemically Important Digital Intermediaries (SIDIs) based on factors like revenue, market capitalization, and user base. SIDIs should then submit yearly reports to the Competition Commission of India (CCI) outlining their efforts to meet mandatory requirements.

- ➢ **Digital Competition Act:**
  - ○ The Committee observed that India needs to enhance its competition law to address the needs of the digital market. Economic drivers of this market facilitate a few players in dominating the ecosystem.
  - ○ The Committee recommended that the government should introduce a Digital Competition Act to ensure a fair, transparent, and contestable digital ecosystem.

- ➢ **Self-Preferencing:**
  - ○ An entity may have the dual role of providing the platform and competing on the same platform. Self-preferencing is a practice wherein a platform favours its own services or the services of its subsidiaries.
  - ○ The Committee noted that a lack of platform neutrality can lead to a negative effect on downstream markets. It recommended that SIDIs must not favour their own services over those of their competitors when mediating access.

- ➢ **Data Usage:**
  - ○ The Committee observed that dominant market players, with access to user data, tend to grow larger while new competitors struggle to gain traction. To address this, it recommended that SIDIs should not process personal data of end users who use third-party services that are dependent on the SIDI's core services.
  - ○ Additionally, they should not merge personal data from their core services with data from other core services, nor should they use personal data from their core service in other separately provided services without explicit user consent. Users should not be automatically signed into other platform services unless they have expressly consented to do so.

- ➢ **Revamping CCI:**
  - ○ The CCI regulates market competition in India. The Committee opined that CCI should be strengthened to address anti-competitve behaviour in digital markets. It suggested the creation of a specialied digital markets unit in CCI.

- ● This unit would: (i) monitor established and emerging SIDIs, (ii) give recommendations to the central government on designating SIDIs, and (iii) adjudicate on cases related to digital markets.

- ➢ **Third-Party Applications:**
  - ○ The Committee noted that gatekeeper entities have been found to restrict the installation or operation of third-party applications. It observed that SIDIs should allow and technically enable the installation and use of third-party software applications.
    - ● Such software applications or software application stores should be accessible by means other than the relevant core services of the platform. However, data should not be transferred to the government of a foreign adversary from SIDIs.

- ➢ **Bundling and Tying:**
  - ○ Many digital firms force consumers to buy related services. The Committee noted that this creates asymmetry in pricing and leads to the removal of competition from the market.
  - ○ It also enables leading players to leverage their market power in one core platform to another. It opined that SIDIs should not force businesses or end users to subscribe to any further services for being able to use their core platform service.

- ➢ **Anti-Steering:**
  - ○ Anti-steering provisions are clauses wherein a platform prevents its business users from steering its customers to offers other than those provided by the platform.
  - ○ The Committee recommended that SIDIs should not make access to their platform conditional on the purchase/use of other products or services that are not part of or intrinsic to the platform.

Conclusion

The European Commission and CCI have taken significant steps to ensure fair and competitive digital markets, initiating non-compliance investigations against tech giants like Apple, Meta, Google's Alphabet, and Amazon. These investigations focus on alleged anti-competitive practices, including the steering of users towards their own services, ranking practices, and subscription models. The investigations align with the Digital Markets Act's objective to regulate 'gatekeepers' and promote fairer competition. However, companies like Apple have argued against the DMA's provisions, stating that they may not consider the broader benefits to consumers and businesses.

■■■

Drishti Mains Questions

1. How does the Criminal Justice System in India ensure fairness and effectiveness in delivering justice? Discuss with reference to recent reforms and challenges.

2. The effectiveness of the reservation policy hinges on its ability to genuinely uplift the most marginalized sections of society. Examine this statement in the context of the Maharashtra State Reservation for Socially and Educationally Backward Classes Bill, 2024.

3. How can the Indian Himalayan Region effectively manage plastic waste considering its impact on freshwater sources and biodiversity? Discuss with reference to existing policies and challenges.

4. Discuss the significance of critical minerals in achieving clean energy goals and the challenges faced by India in securing a steady supply of these resources.

5. Examine the necessity and potential obstacles in enacting the Women's Urban Employment Guarantee Act in India. Propose strategies for achieving effective economic empowerment for women in the country.

6. Examine the achievements and shortcomings of the 13th Ministerial Conference of the World Trade Organization (WTO). Propose strategies for WTO reform to ensure its continued relevance in the evolving global landscape.

7. Evaluate the severity of the groundwater crisis in India and suggest effective strategies to mitigate its impact.

8. Examine the urgency of fighting cervical cancer in India, consider the challenges involved, and propose measures to address them.

9. How can the integration of AYUSH and Traditional Medicines with Modern Medicine improve healthcare delivery and patient outcomes in India?

10. How does the Household Consumer Expenditure Survey (HCES) impact policy formulation and economic planning in India? Discuss with examples.

11. How does the sub-classification of Scheduled Castes impact social welfare policies and political representation? Discuss with examples in the Indian context.

12. Examine the impact of R&D expenditure on India's scientific achievements and technological breakthroughs, assessing implications for economic growth and societal progress.

13. The India- EFTA (European Free Trade Association) Agreement stands as a potential game-changer for both parties, promising economic growth, job opportunities, and strengthening bilateral relations. Comment.

14. Discuss the historical factors that have shaped the close and friendly relations between India and Bhutan since ancient times. Also evaluate the role of economic cooperation and development assistance in strengthening the ties.

15. Discuss the implications of Artificial Intelligence (AI) on electoral processes, including its potential to influence voter behaviour and the challenges it poses to democratic principles.

Drishti Mains Questions

16. Explain the concept of MIRV technology and its significance in modern warfare. Analyse the challenges posed by MIRV technology to global arms control and non-proliferation efforts.

17. Explain the objectives of India's Neighbourhood First policy and its significance in diplomatic relations. Also discuss the challenges faced by India in implementing the Neighbourhood First policy and suggest measures to overcome them.

18. Define non-personal data and explain its importance in the context of digital economy. Discuss the challenges associated with the regulation and governance of non-personal data.

19. Discuss the significance of World Water Day in raising awareness about water-related issues. How can individuals contribute to water conservation efforts?

20. Analyze the accomplishments and challenges linked with the operational efficacy of the Election Commission of India. Suggest reforms to strengthen and empower the Election Commission of India.

21. Discuss the impact of tuberculosis (TB) on public health in developing countries, addressing challenges and strategies for prevention and control.

22. Discuss the implications of the UN's recent call for an immediate ceasefire in the Israel-Palestine conflict, particularly focusing on the changing stance of the United States.

23. Discuss India's strategic considerations and policy options regarding the China-Taiwan conflict, considering its implications on regional stability and national interests.

24. Examine the obstacles faced during urban local governance elections in India. Suggest reforms aimed at guaranteeing a transparent and equitable electoral process at the municipal level in the country.

25. How do anti-trust laws address the monopolistic practices of big tech firms, ensuring fair market competition and innovation? Explain.