



# Sarat Chandra IAS Academy

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## UPSC CURRENT AFFAIRS

### MONTHLY MAINS ENRICHMENT

### DECEMBER 2023



• Hyderabad (Ashok Nagar) • Delhi (Rajinder Nagar) • Vijayawada (Benz Circle)

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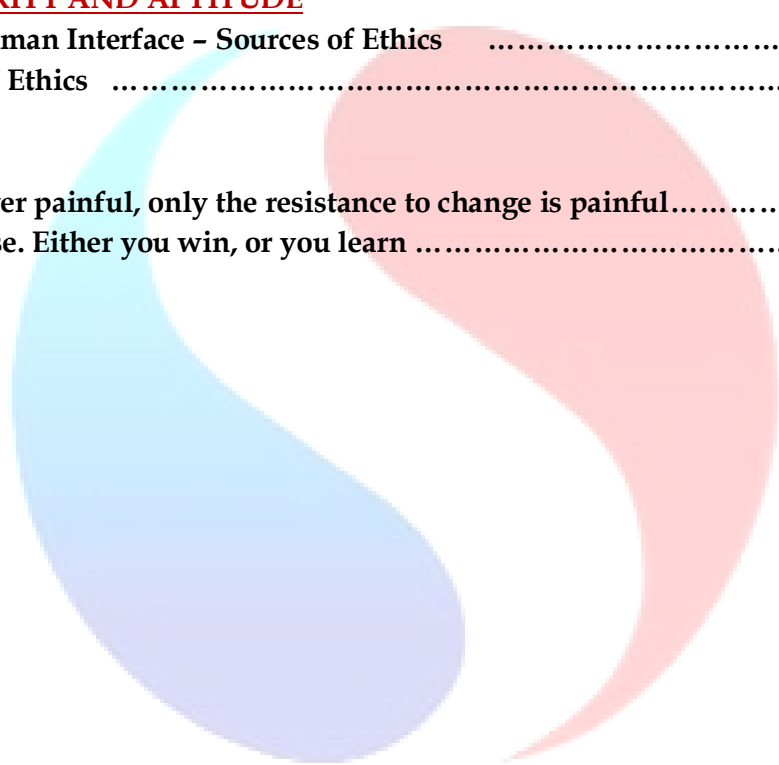
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**SCAP – MAINS ENRICHMENT PROGRAMME**

**MONTHLY COMPILATION – DECEMBER 2023**



## A) INDIAN ART & CULTURE

### 1) GANDHI AND AMBEDKAR-SIMILARITIES AND DIFFERENCES:

#### Context:

- ▶ Rich tribute paid to B.R. Ambedkar 67th Mahaparinirvana Divas

#### Similarities between Gandhi and Ambedkar:

##### ▶ **Social Reform:**

- **Goal:** Both aimed to dismantle the oppressive caste system and uplift the downtrodden.
- **Gandhi:** Led non-violent movements like the Champaran Satyagraha against discriminatory practices against indigo farmers and the Dandi March against British salt tax.
- **Ambedkar:** Burned copies of Manu smriti, a text considered to justify the caste system, and led Dalit movements like the Mahad Satyagraha for access to public water resources.

##### ▶ **Non-Violent Resistance:**

- **Belief:** Both championed non-violence as the cornerstone of social change.
- **Gandhi:** Employed non-violent protests like boycotts, strikes, and hunger fasts to achieve political goals and social reforms.
- **Ambedkar:** Used boycotts and protests to demand equal rights for Dalits, including access to education and employment.

##### ▶ **Education:**

- **Emphasis:** Both believed education was crucial for individual and social upliftment.
- **Gandhi:** Established educational institutions like the Wardha scheme, emphasizing basic education and vocational skills.
- **Ambedkar:** Advocated for reservation in educational institutions for Dalits and founded educational institutions like the People's Education Society.

##### ▶ **Limited State Power:**

- **Vision:** Both favoured a decentralized system with limited state power over individual lives.
- **Gandhi:** Advocated for Panchayat Raj, a system of self-governing villages.
- **Ambedkar:** Drafted India's Constitution, ensuring individual freedom and rights while also establishing a strong central government.

##### ▶ **Religious Tolerance:**

- **Stance:** Both supported religious freedom and the separation of religion and state.
- **Gandhi:** Advocated for interfaith dialogues and promoted tolerance of all religions.

#### **Books written by Gandhi:**

1. The Story of My Experiments with Truth (1925-1929).
2. Hind Swaraj or Indian Home Rule (1909).
3. Satyagraha in South Africa (1928).
4. From Yeravda Mandir (1930).
5. Harijan (1933-1948).
6. Young India (1919-1932).
7. Unto This Last (1904).

#### **Books written by Dr. B.R. Ambedkar:**

1. Castes in India: Their Mechanism, Genesis and Development (1916)
2. The Annihilation of Caste (1936)
3. Ranade, Gandhi, and Jinnah (1943)
4. States and Minorities (1947)
5. What Congress and Gandhi Have Done to the Untouchables (1945)
6. Waiting for a Visa (1935) - An autobiography

- **Ambedkar:** Criticized religious dogma and inequality within religious institutions but ultimately converted to Buddhism, seeking equality and social reform.

#### Differences between Gandhi and Ambedkar:

Feature	Gandhi	Ambedkar
<b>Approach to social reform</b>	Gradual social integration	Radical transformation of the caste system
<b>Method of resistance</b>	Satyagraha (non-violent civil disobedience)	Boycotts, protests, and legal challenges
<b>View on religion</b>	Deeply religious, believed in the importance of Hinduism	Critical of religion, particularly Hinduism, and its role in perpetuating caste
<b>View on the state</b>	Advocated for a decentralized, village-based democracy	Believed in a strong central government to protect the rights of Dalits
<b>Focus of social reform</b>	Uplifting all of Indian society	Specifically focusing on the upliftment of Dalits and other marginalized groups

► [Source 234668651.pdf \(core.ac.uk\)](#)

## **2) UNESCO INTANGIBLE CULTURAL HERITAGE-RELEVANCE TO INDIA**

### What is UNESCO Intangible Cultural Heritage?

- UNESCO Intangible Cultural Heritage encompasses the **living traditions, expressions, knowledge and skills that communities, groups and individuals recognize as part of their cultural heritage.** This intangible heritage is passed down from generation to generation, often through oral traditions, performing arts, social practices, rituals, festive events, and traditional crafts. It's essentially the vibrant and dynamic heart of a culture, as opposed to physical monuments or artifacts.
- UNESCO's two main lists for safeguarding intangible cultural heritage are:
  - **The Representative List of the Intangible Cultural Heritage of Humanity:** This list recognizes cultural expressions that demonstrate the diversity of human heritage and raise awareness about its importance. Some examples include: **The Nawrouz**
  - **The List of Intangible Cultural Heritage in Need of Urgent Safeguarding:** This list identifies cultural elements that are at risk of disappearing and require urgent measures to ensure their survival. Some examples include: **The traditional wood carving skills of the Shipibo people of Peru.**

### UNESCO Intangible Cultural Heritage in India:

Entity	Year added	Description
<b>Ramlila</b>	2008	The traditional performance of Ramayana performed across North India during the festival of Dussehra. Most representative are those performed in Sattna, Vrindavan, Varanasi and Ramnagar.
<b>Vedic Chanting</b>	2008	Chanted during sacred rituals and recited daily by the Vedic communities known not only for the rich content of its oral literature but also for ingenious techniques employed by the priests.
<b>Kudiyattom</b>	2008	A Sanskrit theatrical tradition practised in Kerala, traditionally performed in theatres called Kuttampalams, located in Hindu temples.
<b>Ramman</b>	2009	A religious festival in honour of the tutelary god, Bhumiya Devta, practised in the villages of Saloor-Dungra in Uttarakhand.

<b>Chhau dance</b>	2010	A tradition from Eastern India that enacts episodes from the Mahabharata and the Ramayana, local folklore and abstract themes.
<b>Kalbelia</b>	2010	A folk song and dance form of Rajasthan. The songs disseminate mythological knowledge through stories.
<b>Mudiyettu</b>	2010	A ritual dance drama from Kerala based on the tale of the battle between Darika, a demon and Goddess Kali.
<b>Buddhist Chanting</b>	2012	Sacred texts chanted by the Buddhist priests of the Ladakh region.
<b>Sankirtana</b>	2013	Set of arts performed to mark religious occasions and various stages in the life of the Vaishnava people of the Manipur plains.
<b>Traditional Brass and Copper Craft of Utensil Making</b>	2014	The craft of the Thathelias of Jandiala Guru constitutes the traditional technique of manufacturing brass and copper utensils in Punjab.
<b>Yoga</b>	2016	The art of unifying the mind with body and soul for greater physical and mental well-being. It consists of a series of poses, meditation, controlled breathing, word chanting, etc.
<b>Nowruz</b>	2016	The Persian new year celebrated worldwide. It involves street performances of music and dance, public rituals involving water and fire, traditional sports and the making of handicrafts.
<b>Kumbh Mela</b>	2017	One of the largest human congregations in the world. It is a major pilgrimage and festival for Hindus.
<b>Durga Puja in Kolkata</b>	2021	The annual festival celebrated in September or October marking the ten-day worship of the Hindu mother-goddess Durga.
<b>Garba of Gujarat</b>	2023	Dance form from Gujarat entrenched deeply in ritualistic and devotional roots.

### Significance of UNESCO Intangible Cultural Heritage for India:

- ▶ Celebrate its rich and diverse cultural heritage.
- ▶ Promote cultural exchange and understanding.
- ▶ Strengthen social cohesion and identity.
- ▶ Boost tourism and cultural economy.
- ▶ Protect vulnerable traditions.
- ▶ Contribute to global dialogue and respect for cultural diversity.
- ▶ **Cultural Diplomacy:**
  - Building bridges
  - Soft power
  - Breaking stereotypes
  - Exchange and collaboration
- ▶ **Ek Bharat Shreshtha Bharat:**
  - Celebrating unity in diversity
  - Cultural exchange and integration
  - Breaking down language barriers
  - Preserving local traditions

With 46 inscribed Intangible Cultural Heritage elements as of December 2023, China currently holds the top spot.

#### **Government Initiatives:**

- ▶ Ministry of Culture's Scheme for Safeguarding Intangible Heritage
- ▶ National Inventory of Intangible Cultural Heritage
- ▶ Cultural Centers and Museums

#### **Measures Needed by India to Further Promote UNESCO Intangible Cultural Heritage:**

- ▶ Strengthening Legal Framework
- ▶ Increased Funding
- ▶ Promoting Economic Viability
- ▶ Enhancing Documentation and Research
- ▶ Empowering Communities
- ▶ Raising Public Awareness
- ▶ Utilizing Digital Technology

### 3) TRIBAL REVOLTS IN INDIA-SIGNIFICANCE AND CHALLENGES

#### Factors responsible for Tribal revolts in India:

- ▶ **Land Dispossession and Loss of Livelihoods:**
  - **Colonial Forest Acts:** The Indian Forest Act, 1865, and the Indian Forest Act, 1878,
  - **Displacement for Development Projects:** Large-scale development projects like dams and mines
  - **Land Encroachment by Outsiders:** Settlers and landlords often encroached upon tribal lands,
  - **Example: The Santhal Rebellion (1855-1857) in Bengal** was partly triggered by the imposition of the Forest Act and the subsequent restrictions on their traditional use of forest resources.
- ▶ **Exploitation and Oppression:**
  - Debt Bondage
  - Beggar (Forced Labor)
  - Discriminatory Practices
  - **Example: The Munda Revolt (1899-1900) in Bihar and Jharkhand** was a reaction against oppressive landlords, moneylenders, and the zamindari system, which exploited tribal communities through unfair taxes and labour practices.
- ▶ **Cultural Imposition and Religious Conversion:**
  - Attempts to Assimilate Tribal Communities:
  - Loss of Cultural Identity
  - **Example: The Birsa Munda Rebellion (1895-1900) in Jharkhand** was partly driven by attempts to convert tribals to Christianity and suppress their traditional religious practices.
- ▶ **Denial of Political Rights and Representation:**
  - Limited Participation in Governance
  - Exploitation by Colonial Administration
  - **Example: The Gadaba and Bhuiya Rebellions (1832-1854) in Odisha** were partly a response to the political and economic domination of the British East India Company, which ignored their concerns and exploited their resources.

#### Strategies used by Tribes for the revolt:

- ▶ Guerilla warfare
- ▶ Boycotts and non-cooperation:  
No tax campaigns
- ▶ Spiritual resistance: Munda Flag

#### Contribution of tribal revolts to Freedom struggle:

- ▶ **Weakening British Control and Resources**
  - **Example: The Santhal Rebellion (1855-57)** effectively crippled British administration in large parts of Bengal, forcing them to withdraw troops from other areas and negotiate a settlement with the rebels.
- ▶ **Sparking Public Discontent and National Consciousness:**
  - **Example: Birsa Munda's rebellion (1895-1900)** resonated with other marginalized communities and national leaders like Gandhi, who recognized the common enemy and the need for solidarity against British oppression.
- ▶ **Highlighting Injustices and Fueling Nationalist Discourse:**
  - **Example: The Munda Revolt (1899-1900)** focused on exploitative land tenure systems and bonded labour, prompting national leaders to address agrarian reforms and social justice as integral parts of the independence struggle.
- ▶ **Training Guerilla War Tactics and Inspiring Future Generations:**
  - **Example: Chaitanya Singh's rebellion (1763-1767) in Bengal** provided valuable lessons in guerilla warfare that were later employed by revolutionaries like Bhagat Singh and the Indian National Army.
- ▶ **Laying the Groundwork for Post-Colonial Autonomy and Identity:**
  - **Example: The Naga Hills campaign (1954-1964) led by Rani Gaidinliu** ultimately contributed to the formation of the independent state of Nagaland within India, acknowledging their distinct cultural identity and right to self-governance.

### Challenges Faced during Tribal Revolts in India

- ▶ Lack of Centralized Leadership and Organization
- ▶ Limited Resources and Military Prowess
- ▶ Communication Gaps with Mainstream Political Movements:
- ▶ Brutal Suppression and Retaliatory Measures
- ▶ Internal Divisions and Exploitation by Outsiders
- ▶ Difficulty Sustaining Momentum and Long-Term Goals
- ▶ Limited Recognition and Integration into National Narratives

### For Prelims:

#### Major Tribal Revolts in India

Revolt	Period	Cause	Leader(s)	Region
<b>Santhal Rebellion</b>	1855-57	Land dispossession, exploitation by zamindars, imposition of Forest Act	Sidhu Kanhu Murmu, Kandi Munda	West Bengal, Bihar
<b>Munda Revolt</b>	1899-1900	Exploitation by landlords and moneylenders, land dispossession, oppressive zamindari system	Birsa Munda	Bihar, Jharkhand
<b>Khondh Rebellion</b>	1837-56	Interference in tribal practices, forced labour, and exploitation by zamindars	Dora Bisoi, Akram Khan	Odisha
<b>Bhil Uprising</b>	1818-31	Loss of traditional rights, imposition of taxes, oppression by British and local rulers	Thansing Bhilla, Zalim Singh	Western India (Gujarat, Rajasthan, MP)
<b>Pa Togan Sangma's Revolt</b>	1857-63	British occupation and interference in Garo customs	Pa Togan Sangma	Northeast India (Meghalaya)
<b>Rampa Rebellion</b>	1879-80	Imposition of taxes, restrictions on shifting cultivation, exploitation by traders and zamindars	Dora Thammanna or Alluri Seetharam Raju	Andhra Pradesh
<b>Birsa Munda's Bhagat Movement</b>	1913-14	Religious reform movement aiming to end exploitation and oppression by landlords and moneylenders	Birsa Munda	Bihar, Jharkhand



## **B) GEOGRAPHY & DISASTER MANAGEMENT**

### **1) Why is Cyclone Michaung, headed to Andhra coast, an unusual storm?**

#### **Context:**

- ▶ Tropical Cyclone Michaung is projected to make landfall in the Bapatla district between Nellore and Machilipatnam on Tuesday forenoon, as per the India Meteorological Department. The storm, located 80 km southeast of Nellore, has caused heavy rain in Tamil Nadu, Andhra Pradesh, and southern Odisha.

#### **Formation of Indian Tropical Cyclones:**

- ▶ **Warm Ocean Waters:** The process begins with the presence of warm ocean waters, typically with temperatures of 26 degrees Celsius or higher, at depths between 50 to 100 meters. This warm water serves as the energy source for the cyclone.
- ▶ **Cyclogenesis:** Cyclogenesis refers to the development of a cyclone. Warm ocean temperatures create conditions conducive to the evaporation of water, leading to the formation of low-pressure systems.
- ▶ **Low-Pressure System:** As warm air over the ocean surface rises, it creates an area of low pressure. This low-pressure system becomes the centre around which the cyclone will form.
- ▶ **Coriolis Effect:** The Coriolis effect, caused by the Earth's rotation, starts influencing the developing system, imparting it with a spin. This effect is essential for cyclone formation.
- ▶ **Formation of a Depression:** The system evolves into a depression as the winds around the low-pressure centre intensify. At this stage, the India Meteorological Department (IMD) might classify it as a deep depression or a cyclonic storm based on wind speeds.
- ▶ **Intensification:** If the conditions remain favourable, the depression further intensifies. Warm ocean waters and the transfer of heat from the ocean to the atmosphere fuel this intensification.
- ▶ **Naming and Cyclonic Storm:** Once the cyclone reaches a certain threshold of intensity, it is officially named. The IMD classifies it as a cyclonic storm if wind speeds reach a specified level.
- ▶ **Further Intensification:** In favourable conditions, the cyclonic storm can continue to intensify, potentially reaching severe cyclonic storm or very severe cyclonic storm status.
- ▶ **Landfall or Dissipation:** The cyclone either makes landfall, causing potential damage, or it weakens and dissipates over the ocean if it encounters unfavourable conditions.

#### **What is a tropical cyclone?**

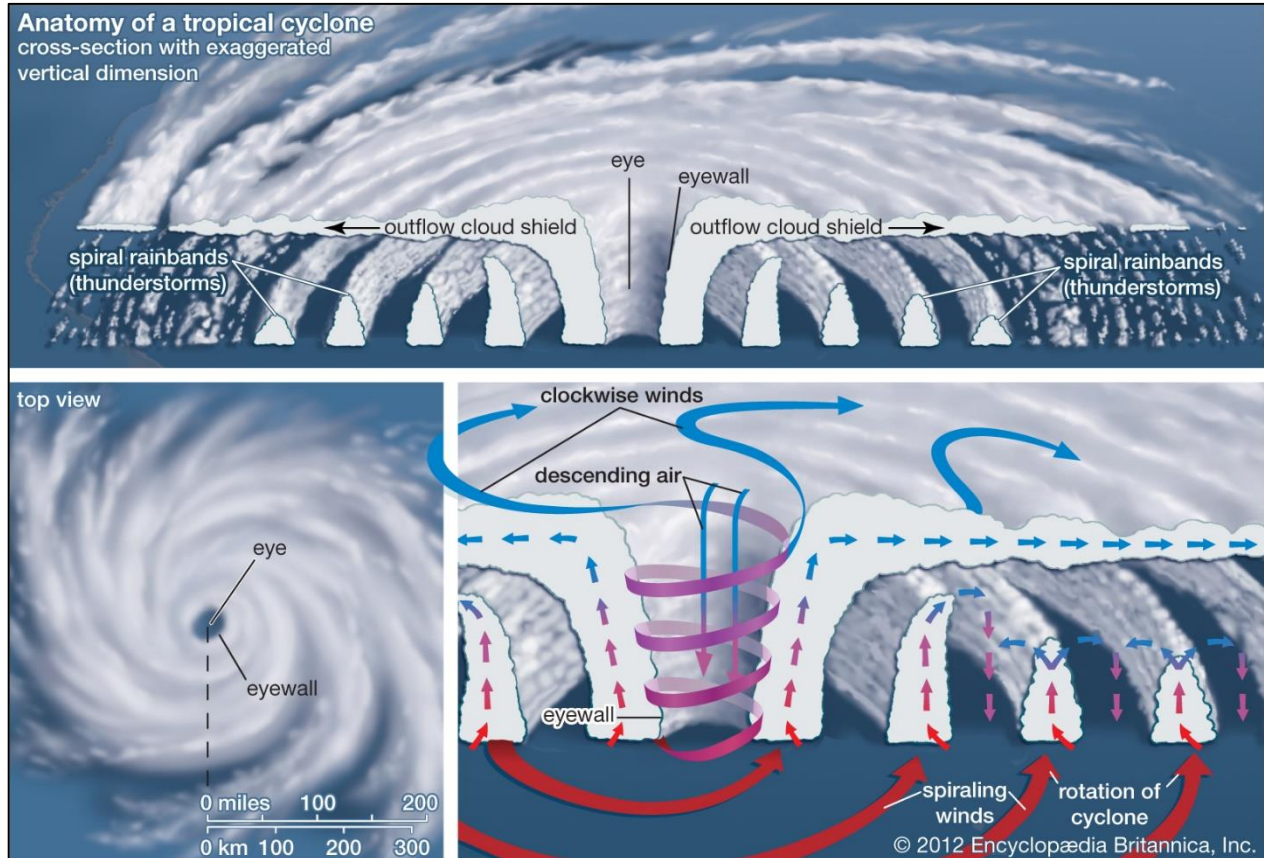
A tropical cyclone is a large-scale weather system characterized by **low atmospheric pressure, organized thunderstorms, and strong winds** circulating around a **well-defined centre**. These systems form over warm ocean waters near the equator and are known by different names in various regions – **hurricanes in the Atlantic and eastern Pacific, typhoons in the western Pacific, and cyclones in the Indian Ocean and South Pacific.**

Type of Disturbances	Wind Speed in Km/h	Wind Speed in Knots
Low Pressure	Less than 31	Less than 17
Depression	31-49	17-27
Deep Depression	49-61	27-33
Cyclonic Storm	61-88	33-47
Severe Cyclonic Storm	88-117	47-63
Super Cyclone	More than 221	More than 120

#### **Indian Tropical Storms:**

- ▶ The North Indian Ocean basin **averages five cyclones annually**, with the Bay of Bengal witnessing four and the Arabian Sea one. **Arabian Sea cyclones tend to reach higher intensities, posing greater damage risks.**

- ▶ Cyclone susceptibility **peaks in pre-monsoon** and post-monsoon periods, especially in May and November, due to favourable ocean conditions.



#### **Why Michaung is An unusual cyclone:**

- ▶ Unfavourable ocean conditions typically prevent North Indian Ocean storms in December from reaching destructive intensities.
- ▶ High-intensity cyclones, like Michaung with high speeds and heavy rain, are uncommon during this time of the year.
- ▶ The IMD initially expected Michaung to remain a 'tropical cyclone,' but it was upgraded to a 'severe' storm with wind speeds of 88-166 kph.
- ▶ The intensification of a December cyclone, as seen with Michaung, is considered unique by the IMD.
- ▶ The heat index off the southern Andhra Pradesh coast was higher than normal, contributing to Michaung's strengthening, according to IMD officials.

## 2) Tackling Chennai's flood problem

### Introduction:

- ▶ Cyclone Michaung's torrential rains on December 3-4 revealed urban planning shortcomings in Chennai. Severe flooding hit southern and northern areas, excluding the central parts. Nearby districts, including Kancheepuram, Chengalpattu, and Tiruvallur, were also significantly affected.

### Reasons for Chennai's flood problem:

#### ▶ **Direct Factors:**

- ▶ Increase in Rainfall:
  - Due to climate change.
- ▶ Urbanization Impact:
  - Encroachment of all water bodies, wetlands, etc.,
  - Construction of transportation networks all along the major watercourses
  - Increase in concrete spaces which stops percolation of water into the ground
  - Decrease in open areas/green spaces
  - Lack of Transportation facilities (esp. in slums)
- ▶ Topographical Challenges:
  - (1) Plain terrain lacking natural gradient for free run-off

#### Indirect Factors:

- ▶ Inadequate & poor drainage systems
  - Sewage systems were planned originally before 4 decades and only few minor modifications were made which is far below the required capacity
  - Heavy siltation all along the drainage channels
  - Lack of coordination between the agencies
- ▶ Disposal of solid waste & other debris
  - Attitude of people
  - Lack of management measures by the agencies
- ▶ Vehicle parking on roads
  - Increase in concrete spaces
  - Discrepancies between public & local authority

#### Government efforts:

- ▶ DMK government highlights its response, crediting a ₹4,000-crore stormwater drain project. Chief Minister Stalin swiftly allocates ₹6,000 aid per cyclone-affected family in four districts.
- ▶ The government established a system to better channel and coordinate voluntary organizations' relief efforts.
- ▶ Efficient collaboration between Central and State governments, overcoming political differences, aided crisis mitigation. Central agencies, led by Defence and Home Ministers, actively participated, allocating funds for flood-related efforts.

#### Measures to be taken:

- ▶ **Unified Flood Management Agency:** Establishing a centralized flood management agency to coordinate planning, monitoring, and execution, integrating existing bodies and incorporating disaster management functions.
- ▶ **Topographical Mapping:** Local authorities should create accurate topographical maps, particularly for flood-prone areas, utilizing GIS and digital elevation mapping for effective flood control planning.

#### **Impact of floods in India**

**Direct and Indirect Losses:** Flooding causes direct loss of life and property, indirectly contributing to waterborne infections and environmental damage.

**City Disruption:** Normal city functions are disrupted, affecting water supply, power lines, transportation, and infrastructure.

**Environmental Impact:** Extreme water flow damages vegetation, impacting the environment, while animals suffer from diseases and loss of shelter.

**Hygiene Compromise:** Flooding compromises hygiene, facilitating disease spread as sewage and solid waste infiltrate homes and buildings.

**Psychological Toll:** Flood-induced loss and the prolonged recovery process lead to significant psychological impact, causing long-lasting trauma in affected individuals.

- ▶ **Chennai River Restoration:** Implement a dedicated Chennai River Restoration program alongside Lake conservation efforts to significantly alleviate flood issues.
- ▶ **Pollution Prevention:** Halt the discharge of untreated sewage and solid waste, reducing waterway blockages that contribute to flooding problems.
- ▶ **Encroachment Clearance:** Remove encroachments near water bodies and flood plains, relocating affected populations to alternative areas to reduce flood risks.

### Conclusion:

In conclusion, the devastating consequences of flooding extend beyond direct losses to encompass city disruption, environmental impacts, hygiene compromises, and enduring psychological tolls. Addressing these multifaceted challenges requires comprehensive strategies and collaborative efforts to build resilience and mitigate the far-reaching effects of inundation.

## 3) **WHAT ARE VOLCANOES – AND WHY DO THEY KEEP ERUPTING IN ICELAND?**

### Introduction:

- ▶ In southwest Iceland, the Fagradalsfjall volcano erupted after weeks of tremors, prompting the evacuation of 4,000 people. Lava flows are slowing, but new vents could open. Iceland, a highly volcanic region, has seen increased eruption frequency in recent years.

### What are volcanoes?

- ▶ According to the US Geological Survey: "Volcanoes are openings, or vents where lava, tephra (small rocks), and steam erupt onto the Earth's surface."

### How volcanoes are formed?

#### ▶ **Divergent Boundaries:**

- Occurs when tectonic plates move away from each other. Magma rises to fill the space created. Underwater volcanoes can form in this process.
- Example: Mid-Atlantic Ridge

#### ▶ **Convergent Boundaries:**

- Takes place when tectonic plates move towards each other. Earth's crust can be forced deep into its interior. High heat and pressure cause the crust to melt and rise as magma.
- Example: Mount St. Helens (Cascade Range, USA)

#### ▶ **Hotspots:**

- Hot areas inside the Earth where magma heats up. As magma gets warmer, it becomes less dense and rises.
- Example: Hawaii - Mauna Loa and Kilauea

### Types of Volcanoes:

#### ▶ **Stratovolcano:**

- Steep-sided and cone-shaped.
- Formed by alternating layers of lava, ash, and volcanic rocks.

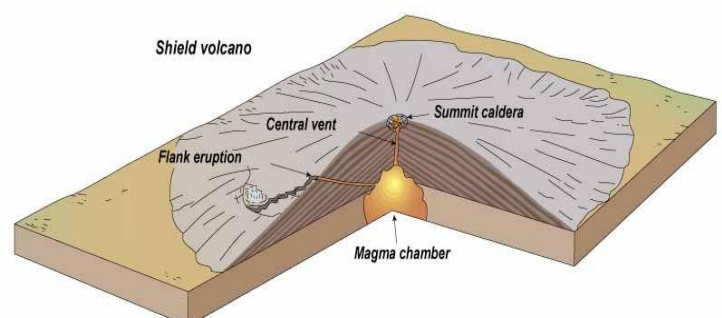
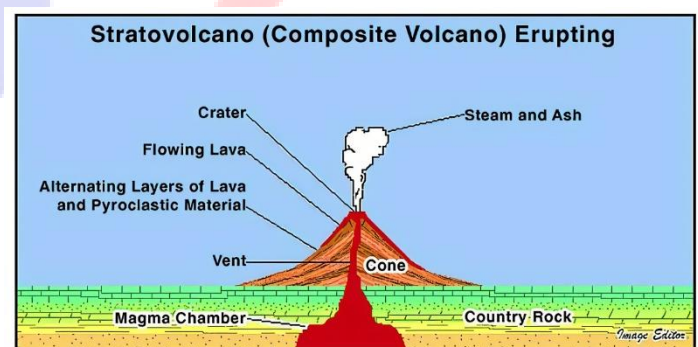
#### ▶ **Shield Volcano:**

- Low profile, resembling a shield lying on the ground.
- Characterized by broad, gently sloping sides.

#### ▶ **Significance of Volcanoes:**

### **Magma Characteristics**

- Magma is the molten material beneath the Earth's surface.
- Referred to as "lava" when it breaks through the surface.
- Composed of liquid rock, ash, and gases.
- Significantly hotter than the surrounding environment.



- ▶ **Geological Formation:** Volcanoes contribute to the formation and modification of the Earth's crust, creating diverse landforms.
- ▶ **New Land Creation:** Volcanic eruptions can lead to the formation of new land, islands, and even contribute to the expansion of continents.
- ▶ **Mineral Enrichment:** Volcanic activity is associated with the release of minerals from the Earth's interior, enriching the surrounding soil and supporting fertile ecosystems.
- ▶ **Geothermal Energy Source:** Volcanic regions often serve as sources of geothermal energy, harnessing heat from the Earth's interior for power generation.
- ▶ **Biodiversity Hotspots:** Volcanic islands can be unique ecosystems, fostering biodiversity and serving as habitats for species adapted to challenging volcanic conditions.
- ▶ **Climate Influence:** Volcanic eruptions can release ash and gases into the atmosphere, impacting climate patterns and contributing to short-term cooling effects.
- ▶ **Global Carbon Cycle:** Volcanic activity plays a role in the global carbon cycle, releasing gases like carbon dioxide. This contributes to the balance of atmospheric gases and the regulation of Earth's climate.
- ▶ **Natural Laboratories:** Volcanic areas serve as natural laboratories for studying extremophiles – organisms adapted to extreme conditions. Insights gained can inform astrobiology studies.
- ▶ **Formation of Geological Features:** Volcanic eruptions create various geological features such as calderas, craters, and lava plateaus, shaping the Earth's surface over time.
- ▶ **Research:** Volcanoes offer a unique setting for scientific study, exploring geological processes and magma dynamics. Research aids natural hazard understanding, informing risk mitigation, while educational initiatives raise public awareness on environmental stewardship.

#### **Why is ice land so volcanically active?**

Iceland, situated between the Eurasian and North American tectonic plates moving apart, experiences rising magma that erupts as lava. Additionally, a hotspot beneath enhances volcanic activity in the region.

## C) SOCIAL ISSUES

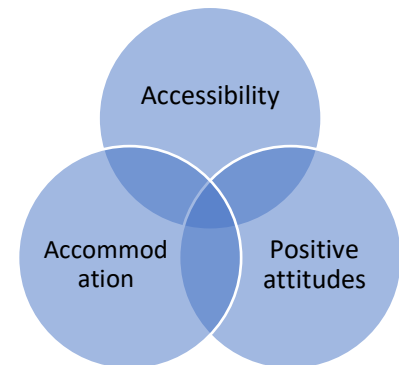
### 1) DISABILITY INCLUSION-BENEFITS AND CHALLENGES:

#### What is Disability Inclusion?

- ▶ Disability inclusion is all about creating a world where people with disabilities have the same opportunities and can participate fully in all aspects of life. This means removing barriers and creating an environment that is accessible and welcoming for everyone.

#### Benefits of Disability Inclusion for India:

- ▶ **Untapped Talent Pool:** India has over 21 million people with disabilities, and a staggering 80% are unemployed. Including them could add an estimated \$1.7 trillion to the GDP by 2025. That's like adding another Bangladesh to the economy! (World Bank, 2017)
- ▶ **Reduced Costs:** Investing in accessibility saves money in the long run. For every dollar spent, there's a \$4 return on investment. (Business for Social Responsibility, 2018)
- ▶ **Accessible tourism** can attract an untapped market of 650 million disabled travellers globally, generating \$1 trillion in revenue. (UNWTO, 2018)
- ▶ **Poverty Reduction:** 90% of people with disabilities live in poverty. Inclusion lifts them out, creating a ripple effect of improved health, education, and overall well-being for families and communities. (World Bank, 2017)
- ▶ **Investing in accessible education** can increase the literacy rate of people with disabilities by 20%, leading to a more skilled workforce. (UNESCO, 2016)



#### Challenges in Disability Inclusion in India:

- ▶ **Incomplete & outdated Census data:** Undercounts the disabled population,
- ▶ **Inconsistent definitions & classifications:** Creates confusion and hinders targeted interventions.
- ▶ **Built environment:** Only 2-3% of public buildings comply with accessibility norms, creating barriers to mobility and participation. (Accessibility India, 2019)
- ▶ **Literacy gap:** 45% literacy rate among people with disabilities compared to 78% national average. (UKFIET, 2020)
- ▶ **Limited access to inclusive education:** Only 62.9% of children with disabilities attend regular schools. (UKFIET, 2020)
- ▶ **Private sector lagging behind:** Only a fraction of companies fulfils the mandated 5% quota for hiring people with disabilities. (RPWD Act, 2016; ASSOCHAM India, 2020)
- ▶ **Social stigma and discrimination:** Deep-rooted prejudices limit opportunities and perpetuate social exclusion. (Human Rights Watch, 2019)
- ▶ **Negative media portrayal:** Sensationalized or stereotypical coverage reinforces harmful biases. (NCPED, 2023)
- ▶ **Lack of awareness and empathy:** Limited understanding of disability needs and challenges hinders inclusion efforts. (DARE India, 2023)
- ▶ **Inadequate funding:** Government allocations for disability programs fall short of actual needs. (World Bank, 2016)
- ▶ **Inefficient implementation:** Fragmented programs and lack of coordination hinder effective resource utilization. (CAG, 2018)
- ▶ **Limited enforcement of laws:** The RPWD Act faces challenges in implementation and monitoring, leaving rights unprotected. (Human Rights Watch, 2019)

#### Measures taken by government of India for disability inclusion:

- ▶ Articles 15, 21, 26, and 39 specifically address their rights.
- ▶ **Rights of Persons with Disabilities Act, 2016**
- ▶ National Policy for Persons with Disabilities, 2006
- ▶ **Accessible India Campaign (Sugamya Bharat Abhiyan)**

- ▶ National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation & Multiple Disabilities (Divyangjan)
- ▶ **Inclusive Education Policy (NEP) 2020**
- ▶ **Reservation in government jobs:** The RPWD Act mandates 4% reservation for PWDs in government jobs and 5% in public sector undertakings.
- ▶ **National Skill Development Programme (NSDP)**
- ▶ Scheme for Implementation of Rights of Persons with Disabilities Act, 2016 (**SIRPD**):
- ▶ National Handicapped Finance and Development Corporation (**NHFDC**)
- ▶ National Social Assistance Programme (**NSAP**)
- ▶ **Unique Disability ID (UDID)**

#### Measures needed for Disability Inclusion in India:

- ▶ **Accurate and disaggregated data:** Like Australia's National Disability Survey
- ▶ **Universal Design principles: Inspired by Japan,** India can adopt inclusive design standards for public spaces, buildings, and transportation, making them usable for everyone.
- ▶ **Inclusive education from the start:** Like Finland's integrated education system,
- ▶ **Skills development with a purpose:** Drawing on Germany's dual vocational training model.
- ▶ **National awareness campaigns:** Inspired by Thailand's "Promoting the Potential of Persons with Disabilities" campaign,
- ▶ **Disability rights education:** Integrating disability rights into school curriculums, like in South Africa,
- ▶ **Empowering disabled voices:** Platforms like the UK's "Disability Rights UK" can be replicated.
- ▶ **Public-private partnerships:** Learning from Singapore's "Enabling Lives" initiative.
- ▶ **Community engagement:** Inspired by the success of Kenya's "Disability Inclusion through Community Engagement" program,
- ▶ **Learning from global networks:** Actively participating in platforms like the UN Convention on the Rights of Persons with Disabilities (CRPD)

#### SPARK Project of ILO in Maharashtra

- ▶ The ILO's SPARK project is a global initiative that supports the employment of people with disabilities.
  - In Maharashtra, the SPARK project is implemented by the Maharashtra State Handicapped Development Corporation (MSHDC) in partnership with the ILO.

#### The project aims to:

- ▶ Increase the employment rate of people with disabilities in Maharashtra.
- ▶ Improve the quality of employment for people with disabilities.
- ▶ Promote inclusive workplaces.

#### Outcome:

- ▶ The SPARK project has made significant progress in Maharashtra. Since its inception in 2018, the project has:
  - ▶ Trained over 10,000 people with disabilities.
  - ▶ Placed over 5,000 people with disabilities in jobs.
  - ▶ Reached over 100,000 people with awareness-raising campaigns.
- ▶ The SPARK project is a valuable initiative that is helping to create a more inclusive and equitable labour market in Maharashtra.

## 2) The only castes that matter

### ► Introduction:

► India's historical caste system, rooted in the Varna system, initially organized society by professions, fostering efficiency and cultural richness. However, it evolved into a rigid structure, stifling individual potential and fostering societal stagnation. Caste-based discrimination dehumanized individuals, instilling feelings of inferiority. Social reformers sporadically challenged this discrimination.

### ► Measures by the present government to show the path to a caste-less society:

► **Governance Focused on Inclusivity:** Implement policies and governance models that prioritize inclusivity, social justice, and equal opportunities for all sections of society.

### ► **Restoring Dignity through Symbolic Actions:**

Empower marginalized communities through symbolic actions, naming initiatives after deities, and promoting positive nomenclature for aspirational development, fostering dignity and inclusion.

- For example, use positive nomenclature to shift the narrative from deprivation to aspiration. Terminology like "aspirational districts" reframes developmental needs, emphasizing the hopes and aspirations of people rather than stigmatizing regions.

► **Addressing Deprivation Beyond Caste Lines:** Design and implement schemes that address the development and aspirational needs of all citizens, irrespective of their position in the caste structure.

Ensure that assistance reaches those in need, regardless of caste, religion, or gender.

► **Empowering Marginalized Communities:** Tailor initiatives to specifically empower marginalized communities. Examples include the PM Janjati Adivasi Nyaya Maha Abhiyan, focusing on justice for neglected Adivasis, and the PM Vishwakarma Yojana, supporting artisans and craftspeople.

► **Eradicating Poverty as a Common Goal:** Emphasize poverty eradication as a common goal, transcending caste lines. The focus on improving access to sanitation, nutrition, cooking fuel, financial inclusion, drinking water, and electricity should benefit all sections of society.

► **Education and Empowerment of Women:** Implement programs like Beti Bachao, Beti Padhao to ensure equal opportunities for girl children, allowing them to dream and lead. Education and empowerment of women contribute significantly to dismantling traditional gender-based and caste-based norms.

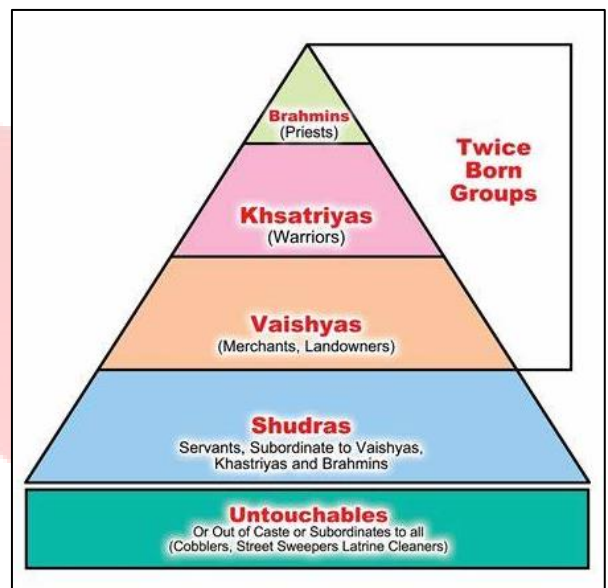
► **Measuring Success Beyond Caste-Based Parameters:** Evaluate the success of initiatives based on socio-economic indicators rather than caste-based parameters. Focus on measurable outcomes related to poverty reduction, education, healthcare, and overall well-being.

### ► Conclusion:

India's journey towards a caste-less society requires sustained efforts, emphasizing inclusivity, dignity restoration, and holistic development. By transcending caste lines, empowering marginalized communities, and measuring success beyond traditional parameters, societal transformation becomes achievable.

### Caste System

A caste system is a social hierarchy where individuals are categorized into distinct groups based on birth, occupation, and social status, often with limited mobility between these groups.





### Features of Caste System in India

**Segmental Division:** Society divided into castes, distinct social groups determined by birth.

**Hierarchy:** Louis Dumont's caste hierarchy, with Brahmins at the top and untouchables at the bottom, intermediate castes in between.

**Endogamy:** Primary caste feature; marriage within the caste or sub-caste, with strict consequences for violations.

**Gotra Exogamy:** Gotra-based divisions within castes, prohibiting marriage within the same gotra.

**Hereditary Status and Occupation:** Castes associated with hereditary occupation; mentioned by Greek traveller Megasthenes.

**Food and Drink Restrictions:** Caste-based food taboos, including restrictions on accepting cooked food from lower castes and various associated taboos related to cooking vessels.

**Particular Name:** Each caste has a specific name, often associated with a particular occupation.

**Purity and Pollution:** Higher castes claim ritual, spiritual, and racial purity, maintaining distance from lower castes due to the concept of pollution.

### 3) Despair in distress - The farming crisis is forcing youths to take to illegal migration

▶ **Introduction:**

▶ In a world marked by restricted labour mobility, individuals facing distress in their homeland often seek opportunities in developed nations, risking perilous journeys. The recent forced return of Indians highlights a concerning trend in migration, prompting the need for attention to human trafficking and its root causes.

▶ **Key points:**

▶ Labour movement restrictions in their home land across the globe lead distressed individuals to seek opportunities in developed nations, despite significant risks.

▶ Forced return of 303 Indians from France sparks human trafficking concerns and approximately 100,000 Indians attempted to enter the U.S. between October 2022 and September this year, with a fivefold increase from the previous year.

▶ Indians undertaking such risky journeys to become illegal immigrants suggest desperation or possible misinformation.

▶ Recent incident details mirror past cases, with a majority of air passengers being men from Punjab, Haryana, and Gujarat, along with unaccompanied minors.

▶ Reasons for migration include alleged religious persecution and distress in farming, especially in rural Punjab and Haryana.

▶ Urgent attention is needed from the Indian government to address the widespread trafficking racket, particularly in rural areas where people fall prey to false promises.

▶ The farming crisis, marked by plummeting incomes and overexploited farmlands, adds to the challenges, emphasizing the need for a crackdown on exploitative middlemen in the labour market.

▶ **Cause for illegal migration:**

#### **Types of migration**

**Internal Migration:** Movement within the borders of a single country.

**Emigration:** Leaving one's country of origin.

**Immigration:** Settling in a new country.

**Seasonal Migration:** Temporary movement based on seasons or specific work opportunities.

**Forced Migration:** Involuntary movement due to conflict, persecution, or natural disasters.

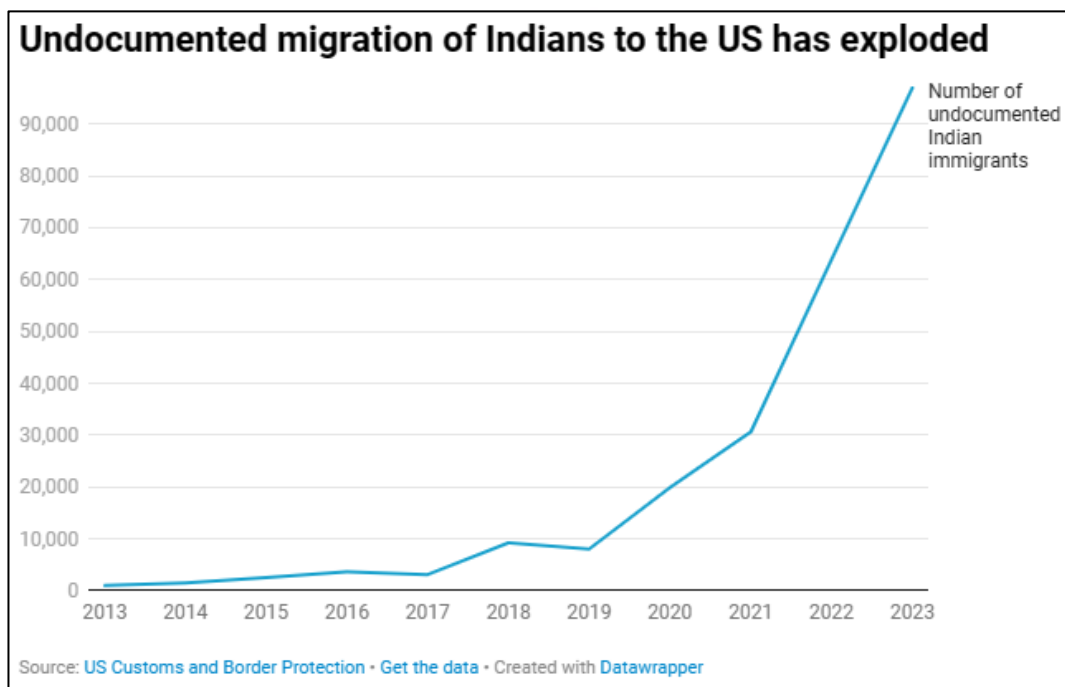
**Rural-to-Urban Migration:** Shift from rural areas to cities in search of better opportunities.

**Urban-to-Rural Migration:** Movement from cities to rural areas, often for lifestyle reasons.

**Brain Drain:** Migration of highly skilled or educated individuals from one country to another.

- ▶ Seeking better employment abroad due to insufficient job opportunities. Social conflicts or governance concerns drive some to pursue stability elsewhere.
- ▶ The U.S. lures migrants with better jobs, higher wages, and career advancement opportunities, enhancing its appeal.
- ▶ Migrants seek illegal entry to reunite with family in the U.S., drawn by proximity to settled relatives.
- ▶ The desire of top-quality education and prestigious U.S. academic institutions attracts students and families in search of educational opportunities.
- ▶ Global migration surged post-pandemic as people sought improved opportunities and security in diverse countries, leading to increased movement.
- ▶ Sophisticated smugglers provide sought-after services for illegal entry. Visa delays push individuals toward alternative, albeit illegal, pathways into the USA.
- ▶ The willingness of Indians to face enormous difficulties and take significant risks to become illegal immigrants in the U.S. suggests either desperation or possible misinformation about the opportunities available.

**Illegal migration** involves crossing borders without proper authorization, violating immigration laws of the destination country.



### The impact of illegal migration to the U.S. includes:

- ▶ **Social Impact:** Illegal migration strains social cohesion with integration challenges, causing tensions, cultural shifts, and issues in healthcare, education, and community services.
- ▶ **Economic Impact:** Illegal immigrants impact labour markets, potentially suppressing wages and straining public resources, posing economic challenges for the receiving country.
- ▶ **Political Impact:** Illegal migration can become a political issue, influencing policy debates and public sentiment. Governments may face pressure to address immigration concerns, impacting political agendas and potentially shaping electoral outcomes.
- ▶ **Bilateral Relations:** The issue of illegal migration can strain bilateral relations between countries. Disputes may arise over border control measures, and the receiving country may seek cooperation or intervention from the migrants' country of origin to address the root causes of migration.
- ▶ **Human Trafficking and Crime:** Sophisticated smuggling services may lead to increased human trafficking and criminal activities, affecting community safety.

### Need of the hour:

- ▶ **Policy Reform:** Implement comprehensive immigration policies addressing root causes, enhancing legal pathways, and ensuring fair and efficient processes.

- ▶ **Enhanced Border Security:** Strengthen border control measures to deter illegal entry, ensuring national security and orderly immigration.
- ▶ **International Cooperation:** Collaborate with source countries to address economic, social, and political issues, fostering solutions to reduce migration pressures.
- ▶ **Humanitarian Support:** Provide support systems for migrants, addressing vulnerabilities, and ensuring



## D) "POLITY, GOVERNANCE & LAWS AND SCHEMES

### 1) Jammu & Kashmir and Article 370

#### Introduction:

- ▶ Following the collapse of the elected government in Jammu & Kashmir over five and a half years ago, constitutional changes, including the removal of Article 370, led to bifurcation. Recent legislation (Jammu and Kashmir Reorganisation (Amendment) Bill, 2023 and the Jammu and Kashmir Reservation (Amendment) Bill, 2023) aims to adjust the prospective Legislative Assembly's composition.

#### Background:

- ▶ The Instrument of Accession, signed in 1947, granted Parliament authority over Defence, External Affairs, Communications in J&K, requiring state government "concurrence" for other matters.
- ▶ Article 370, added in 1949, drafted by N Gopalaswami Ayyangar, granted J&K autonomy, enabling its own constitution, and limited Indian Parliament's legislative authority.
- ▶ Article 35A, originating from Article 370, introduced in 1954, grants J&K legislature power to define residents and confer special rights.
- ▶ Article 370 served as a constitutional tunnel for applying laws to J&K; the 1954 order expanded the Constitution, including amendments, significantly.

#### Abrogation of Article 370:

- ▶ On August 5, 2019, the President of India, utilizing the authority under Article 370(1), issued the Constitution (Application to Jammu and Kashmir) Order, 2019. This action resulted in significant modifications to Article 370, fundamentally transforming the relationship between Jammu and Kashmir and the Indian Union.

#### Recent legislations:

- ▶ **Significant changes in Jammu and Kashmir Reorganisation (Amendment) Bill, 2023:**
  - Increase in total Assembly seats from 107 to 114.
  - Reservation of nine seats for Scheduled Tribes, a first.
  - Empowerment of Lieutenant-Governor for nominations.
- ▶ **Significant change in Jammu and Kashmir Reservation (Amendment) Bill, 2023:**
  - Replacement of "weak and underprivileged classes (social castes)" with "Other Backward Classes" as declared by the UT.
- ▶ **Concerns/Challenges:**
  - Propriety questioned in proceeding with changes before the Supreme Court's verdict on the legality of the abrogation of special status and bifurcation of the erstwhile State.
  - Changes proposed in Lok Sabha without the participation of elected representatives from Jammu & Kashmir.
  - Raises concerns that changes are presented as 'fait accompli' to the Union Territory's citizens.
  - Last five and a half years marked by the suspension of political and civil liberties of politicians.
  - Instances of arbitrary arrests and detentions, communication shutdowns, chilling effect on the media, and prolonged power cuts.
  - Changes should not alienate citizens, particularly in a region affected by separatism and terrorism.
  - Emphasizes the need for a more inclusive and participatory approach to political transformation.

#### Measures:

- ▶ **Judicial Prudence and Inclusivity:**
  - Respect judicial propriety by waiting for Supreme Court's verdict. Foster inclusivity by involving elected representatives in decision-making processes for change.
- ▶ **Transparency and Citizen Engagement:**
  - Enhance legislative transparency with public input. Establish continuous communication mechanisms to prevent decisions from seeming predetermined, ensuring public awareness.

### ► Safeguarding Civil Liberties:

- Institute safeguards to prevent the unwarranted suspension of political and civil liberties.
- Ensure a judicious approach to arrests and detentions, with clear criteria and due process, promoting a conducive environment for political expression.

### ► Balancing Security and Citizen Empowerment:

- Formulate policies addressing security while preserving citizens' rights. Prioritize citizen empowerment, restoring democratic processes for governance alignment with public sentiment.

### ► Call for Restoration of Democratic Process:

- Urgent need for the restoration of the democratic process in Jammu & Kashmir.
- Advocates for holding popular elections and the restoration of the region's Statehood.

### ► Addressing Long-Pending Issues:

- Restoration of democratic processes seen as a critical step not only for the immediate void but also for addressing longstanding issues leading to the persistence of militancy.

**All About Article 370**

**What Is Article 370?**

EXCEPT FOR DEFENCE, foreign affairs, communications and matters specified in the Instrument of Accession of J&K, Indian Parliament needs the concurrence of the J&K Government for applying all other laws.

**ARTICLE 370, HENCE, GRANTS SPECIAL STATUS TO JAMMU AND KASHMIR, A SEPARATE CONSTITUTION AND PENAL CODE**

**Can It Be Abrogated?**

IT IS NOT POSSIBLE FOR THE CENTRE TO REVOKE ARTICLE 370 WITHOUT CONCURRENCE OF THE J&K ASSEMBLY

THE PRESIDENT can declare that Article 370 ceases to be operative or shall be operative with exceptions and modifications

BUT FOR this, the President will need a recommendation from the Assembly of J&K

WITH NATIONAL CONFERENCE AND PDP AGAINST THE MOVE, SUCH A RECOMMENDATION CANNOT BE OBTAINED

### Way forward:

The path forward entails prioritizing the restoration of democratic processes in Jammu & Kashmir through popular elections and reinstatement of Statehood. This strategic move aims to address longstanding issues and mitigate the persisting challenges, fostering regional stability and inclusivity.

## 2) What is All India Judicial Service, why it has failed to become a reality

### Introduction:

- President Droupadi Murmu, during the Supreme Court's Constitution Day celebration, advocated for an "all-India judicial service" to diversify the judiciary by enhancing representation from marginalized social groups.

### What is the All India Judicial Service?

- **Article 312 Provision:** Article 312 of the Constitution establishes the All-India Judicial Service (AIJS) similar to central civil services.
- **Scope of AIJS:** Article 312 (2) specifies that AIJS cannot include posts below that of a district judge as defined in Article 236.
- **Inclusion in District Judge:** District judge category includes roles like city civil court judge, additional district judge, chief judge, magistrate, sessions judge, and assistant sessions judge.
- **AIJS Centralization:** The AIJS aims to centralize the recruitment of judges, particularly at the levels of additional district judges and district judges, across all states.
- **Comparison to UPSC:** AIJS, akin to UPSC for civil services, advocates centralized recruitment of lower judiciary judges, with subsequent assignment to specific states.

### What is the current selection system?

- **Constitutional Provisions:** Articles 233 and 234 of the Constitution address the appointment of district judges, placing it within the purview of states.

- ▶ **State Jurisdiction:** The selection process for district judges is managed by State Public Service Commissions and the respective High Courts, given the latter's authority over the subordinate judiciary.
- ▶ **Selection Procedure:** Candidates undergo examinations, followed by interviews conducted by panels of High Court judges for final selection and appointment.
- ▶ **Lower Judiciary Recruitment:** Provincial Civil Services (Judicial) exam, commonly known as PCS (J), is the standard examination for selecting judges up to the district judge level in the lower judiciary.

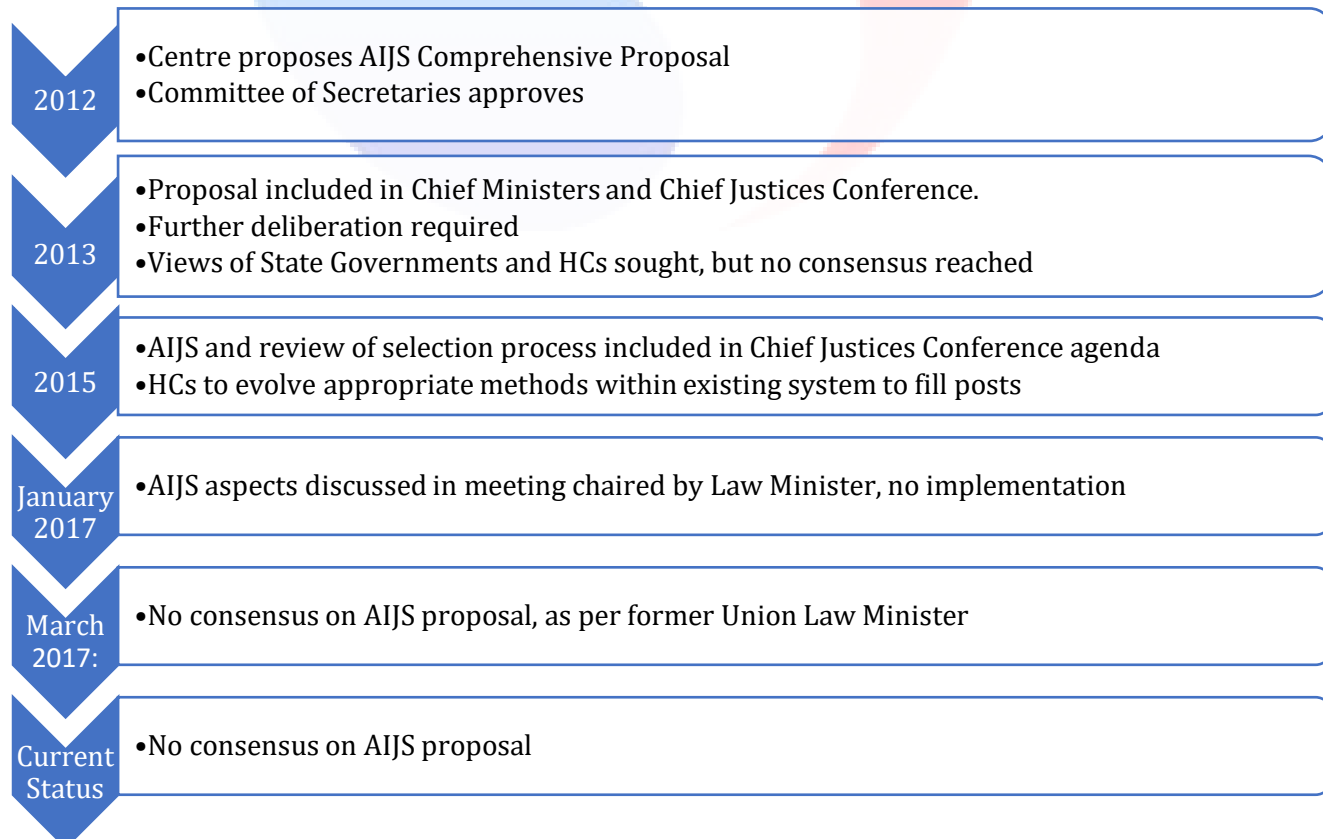
#### Why has the AIJS been proposed?

- ▶ **Origin in 1958 Law Commission Report:** The concept of a centralized judicial service was first deliberated in the Law Commission's 1958 Report on Judicial Administration Reforms.
  - **Suggested Body - UPSC:** Consideration was given to creating a statutory or constitutional body, similar to the UPSC, to conduct standardized, centralized exams for recruiting and training judges.
- ▶ **1978 Law Commission Report:** The idea resurfaced in the Law Commission Report of 1978, primarily focusing on addressing delays in lower courts.
- ▶ In 2006, the **Parliamentary Standing Committee** on Personnel, Public Grievances, Law, and Justice, in its 15th Report, endorsed the concept of a pan-Indian judicial service and even prepared a draft bill to support the idea.

#### What has the Supreme Court said?

- ▶ **1992 SC Directive:** In the case of All India Judges' Association (1) v. UOI, the Supreme Court directed the Centre to establish an All India Judicial Service (AIJS) in 1992.
- ▶ **1993 Review:** A 1993 review of the judgment granted the Centre the freedom to take initiatives on the AIJS issue.
- ▶ **2017 SC Intervention:** In 2017, the Supreme Court, on its own motion, addressed the appointment of district judges and proposed a "Central Selection Mechanism."
- ▶ **Arvind Datar's Proposal:** Arvind Datar, amicus curiae, proposed a unified district judge exam with HC interviews, preserving state and HC authority.

#### ▶ Why hasn't this been implemented yet?



**Challenges in AIJS:**

- ▶ **Constitutional Conflicts:** AIJS may face challenges related to conflicts with existing constitutional provisions and frameworks.
- ▶ **State Resistance:** States may resist centralization, impacting AIJS implementation and effectiveness.
- ▶ **Logistical Complexities:** Implementing a nationwide system poses logistical challenges in coordination, administration, and management.
- ▶ **Judicial Autonomy Concerns:** Centralization may raise concerns about compromising the autonomy of state judiciaries.
- ▶ **Differing Legal Landscapes:** Varied legal landscapes in states may complicate standardized training and recruitment.

**Arguments in favour of AIJS:**

- ▶ **Diversity:** It promotes diversity in the judiciary, addressing representation gaps for marginalized social groups.
- ▶ **Centralized Recruitment:** It centralizes judge recruitment, mirroring the effective UPSC model for civil services.
- ▶ **Structural Issues:** It tackles pay variations, expedites vacancies, and standardizes training in the judiciary.
- ▶ **Efficiency and Uniformity:** It streamlines selection, ensuring efficient and uniform recruitment and training processes.
- ▶ **Legal System Enhancement:** It improves the legal system with a qualified, diverse, and well-trained judiciary nationwide.

**Conclusion:**

- ▶ Harmonize with states, address constitutional concerns, garner state support, ensure logistical efficiency, and prioritize judicial autonomy to advance the implementation and success of AIJS.

**3) Can Bihar increase its reservation pool?****Context:**

- ▶ Bihar Governor approved laws raising job and education reservations to 75. Debate ensues over exceeding the 50% limit set by the Supreme Court in the Indra Sawhney case (1992).

**Key points:**

- ▶ The reservations include 20% for Scheduled Castes, 2% for Scheduled Tribes, 18% for Other Backward Classes, 25% for Extremely Backward Classes, and 10% for economically weaker sections (EWS).
- ▶ The move has reignited a debate on the permissible limits of reservations in India, especially concerning the 50% cap set by the Supreme Court in the Mandal Commission case (Indra Sawhney, 1992).

**The laws in Bihar outline or specify:**

- ▶ In January 2023, the Bihar government announced a caste-based census, and the results, released in October, led to the introduction of two bills/laws in the Legislative Assembly.
- ▶ The laws breach the 50% (now 60%) reservation ceiling limit, potentially requiring the Bihar government to justify the breach based on the exception carved out in the Mandal Commission case, relating to communities from far-flung areas or socially excluded groups.
- ▶ Chief Minister Nitish Kumar justifies surpassing reservation limits in Bihar by aligning with caste census, but Supreme Court emphasizes reservations must ensure "adequate" rather than "proportionate" representation.
- ▶ States like Chhattisgarh (72%), Tamil Nadu (69%), and several northeastern states, including Arunachal Pradesh, Meghalaya, Mizoram, and Nagaland (80% each), have already surpassed the 50% limit, excluding the EWS quota. Lakshadweep has 100% reservations for Scheduled Tribes.
- ▶ Previous attempts by Maharashtra and Rajasthan to exceed the 50% limit were struck down by the courts, indicating a potential legal challenge for Bihar's laws.

**Arguments in favour of reservation:**

- ▶ **Historical Injustice:** Supporters argue that reservations are a necessary corrective measure to address historical injustices and centuries of social and economic discrimination faced by marginalized communities.
- ▶ **Diversity and Inclusion:** Proponents emphasize that reservations contribute to diversity and inclusion, fostering a more representative and equitable society by ensuring participation from all sections of the population.
- ▶ **Empowerment:** Reservation policies are seen as a tool for empowering marginalized communities by providing them access to education, employment, and opportunities they were historically denied.
- ▶ **Social Cohesion:** Advocates assert that reservations promote social cohesion by reducing disparities and creating a more inclusive environment, fostering understanding and cooperation among diverse groups.
- ▶ **Constitutional Mandate:** Supporters highlight that the Indian Constitution (Article 15(4) and 16(4)) allows for reservations as a means to achieve social justice, and these policies are a constitutional obligation to uplift historically disadvantaged groups.

**Discussion about 50% rule**

- Supreme Court historically set 50% limit on reservations, considering them as **exceptions**, established in 1963 **M.R. Balaji case**.
- In 1976, reservations recognized as **facet of equality**; 50% limit unchanged.
- 1990 **Mandal Commission case** reaffirmed 50% limit, allowing exceptions for socially excluded communities.
- **103rd Constitutional Amendment upheld by Supreme Court** allows 10% EWS reservations; current 50% limit applies to non-EWS.

**Arguments against reservation:**

- ▶ **Meritocracy Concerns:** Critics argue that reservations compromise meritocracy, as candidates may be selected based on caste rather than individual qualifications, impacting overall competence.
- ▶ **Reverse Discrimination:** Opponents claim that reservation policies can lead to reverse discrimination, disadvantaging individuals from non-reserved categories, potentially perpetuating social divisions.
- ▶ **Stigmatization:** Critics argue that reservation policies may inadvertently contribute to the stigmatization of reserved categories, fostering stereotypes and undermining efforts towards a truly egalitarian society.
- ▶ **Economic Disparities:** Some argue that reservations may not effectively address economic disparities, as they are based on caste rather than financial need, leaving economically disadvantaged individuals without adequate support.
- ▶ **Administrative Challenges:** Critics contend that implementing and managing reservation policies can be administratively complex, leading to inefficiencies and potential misuse of the system.

The **Mandal Commission, formed in 1979**, recommended **27% reservation** for Other Backward Classes (OBCs) in **jobs and education to address social and economic disparities**, aiming for inclusive development.

**How it can be done?**

- ▶ **Socioeconomic Criteria:** Shift focus from caste to socioeconomic factors for targeted affirmative action.
- ▶ **Education and Skill Development:** Enhance education and skill development for underprivileged communities.
- ▶ **Inclusivity:** Promote inclusive policies ensuring fair representation without compromising meritocracy.
- ▶ **Periodic Review:** Regularly assess and adjust reservation policies to address changing societal dynamics and needs.

**Way forward:**

- ▶ For effective reservation in India, policies should focus on socioeconomic criteria rather than caste alone. Implementing targeted affirmative action, enhancing education and skill development, and promoting inclusivity are crucial.



#### 4) Revised criminal reform Bills in Parliament: What has changed, and why

##### Context:

The Centre introduced three revised criminal reform Bills in Lok Sabha, withdrawing earlier versions proposed on August 11. The bills aim to replace IPC, CrPC, and the Evidence Act, referring them to a standing committee for further evaluation.

##### Background:

- ▶ In 2020, the Ministry of Home Affairs established a committee led by Prof. (Dr.) Ranbir Singh, former Vice Chancellor of National Law University (NLU), Delhi.
  - The committee's purpose was to review the three codes of criminal law.
  - Its mandate was to propose reforms in a principled, effective, and efficient manner, prioritizing the safety and security of individuals, communities, and the nation, while also emphasizing constitutional values such as justice, dignity, and the inherent worth of the individual.

In February, 2023, the committee submitted its recommendations on amendments to criminal law.

##### The Three New Bills:

- ▶ **Bharatiya Nyaya Sanhita (BNS) Bill, 2023:**
  - Aims to replace the Indian Penal Code (IPC), 1860.
  - Part of the revised criminal reform introduced in Lok Sabha

##### **Bharatiya Nagarik Suraksha Sanhita (BNSS) Bill, 2023:**

- Intended to replace the Code of Criminal Procedure, 1973 (originally enacted in 1898).
- Formulates part of the comprehensive criminal justice reform proposed by the Union Home Minister.

##### ▶ **Bharatiya Sakshya (BS) Bill, 2023:**

- Proposed to replace the Indian Evidence Act, 1872.
- Presented as part of the legislative overhaul in the criminal justice system and introduced in Lok Sabha.

##### Significance of the new Bills:

- ▶ **Modernization and Simplification:** Modernizing outdated laws, aligning with Indian values, and adapting to evolving crime, society, and technology.
- ▶ **Repeal of Draconian Sedition Law:** Eliminates misused sedition law (Section 124A) to protect dissenters and critics from government misuse.
- ▶ **Introduction of New Offences:** Addresses gaps, introducing laws for terrorism, corruption, mob lynching, and organized crime to adapt to societal challenges.
- ▶ **Gender-Neutral Sexual Offences:** Inclusive approach, including men and transgenders in sexual offenses, promoting equity and fairness in legal responses.
- ▶ **Empowerment of Citizens and Rights Protection:** Citizens can register complaints anywhere, ensuring protection of constitutional rights, privacy, and a fair trial.
- ▶ **Adoption of Technology:** Leverages electronic evidence, forensics, and technology advancements to strengthen investigation, prosecution, and adjudication processes.
- ▶ **Addressing Colonial Legacy:** Recognizes colonial-era laws' archaic language, aiming to align with current social norms and values.

##### **Committees recommended for reforms in criminal justice system**

###### **Vohra Committee, 1993:**

- Addressed criminalization of politics and the nexus between politicians, bureaucrats, and criminals.
- Recommended an institution to collect intelligence and take action against such elements.

###### **Malimath Committee, 2003:**

- Proposed 'social welfare offences' category for minor violations.
- Suggested a 'mixed system,' reducing the standard of proof, and making confessions before senior officers admissible.

###### **Madhav Menon Committee, 2007:**

- Drafted a national criminal justice policy.
- Emphasized human rights, restorative justice, and improved coordination among criminal justice agencies.

###### **Supreme Court Directives, 2006:**

- Issued directives for police reforms in response to a public interest litigation.
- Included the establishment of a State Security Commission, fixed tenure for the Director General of Police, and separation of investigation and law and order functions.

**Key Points:**

Original Clause	Suggestion Given by Parliamentary Standing Committee	What has changed
Original Clause 43(3) of BNSS: Allowed the use of handcuffs for individuals accused of serious offences.	Recommended restricting handcuff use to heinous crimes like rape and murder, excluding "economic offenses." Rationale: Argued against extending the use of handcuffs to those committing "economic offenses" due to the broad range of such offenses, suggesting it may not be suitable for a blanket application.	The new version of BNSS removes the reference to "economic offenses," aligning with the suggestion made by the Parliamentary Standing Committee. Additional Change: The revised provision extends the use of handcuffs not only during arrests but also to persons being produced before a court, making the application more discretionary and specifying its use for those committing an "offence against the state."
Original Clause 473(1) of BNSS: Allowed convicts undergoing death sentences or their kin to file mercy petitions, specifying the procedure and time frame.	Recommended establishing a quasi-judicial board for dealing with commutation and remission instead of relying on executive discretion. Proposed a specific time frame for hearing mercy petitions.	Change in Provision Numbering: The new Bill changed the numbering from Clause 473 to 472. Deletion of Provision: Removed the provision that allowed mercy petitions to be forwarded to the Home Department of the state government or the Centre. Modification in Unappealable Orders: While the original Clause 473(7) stated that "No appeal shall lie in any Court against the order of the President made under Article 72," the modified Clause 472(7) now makes the Governor's orders under Article 161 unappealable, expanding the scope of orders that cannot be challenged.
Original Clause 172(2) of BNSS: Expanded police powers in taking preventive action, allowing the detention or removal of persons not conforming to police directions.	Recommended specifying the time period for such detentions and clarifying the ambiguous phrase "release him when the occasion is past."	Change in Detention Duration: The new Bill specifies that the detained person may be taken to a magistrate or, in petty cases, be released within 24 hours. Modification in Terminology: Replaced "Judicial Magistrate" from the original BNSS with "Magistrate" in the new version.

**Conclusion:**

The introduction of three revised criminal reform Bills marks a significant step towards modernization and simplification of India's legal framework. These changes align with recommendations to address gaps and enhance citizen rights, reflecting a commitment to a more just and responsive criminal justice system.

## 5) INDIA POST OFFICE BILL, 2023: FEATURES, CHALLENGES AND MEASURES NEEDED

### Context:

- ▶ The India Post Office Bill, 2023 was **recently passed by both houses of Parliament, replacing the archaic Indian Post Office Act of 1898**. This landmark legislation aims to modernize the regulatory framework governing India Post and transform it into a citizen-centric service network.

### Potential benefits:

- ▶ **For citizens:**
  - Improved access to postal services
  - Enhanced service quality
  - Digitalization and diversification of services
  - Citizen-centric focus
- ▶ **For the postal sector:**
  - Modernized regulatory framework
  - Level playing field
  - Greater operational efficiency
  - Strengthened security

### Challenges that need careful consideration and mitigation:

- ▶ **Privacy Concerns**
- ▶ **Implementation Challenges:** adequate resource allocation, training for postal officials, and transparent procedures to ensure smooth integration of new regulations and technologies.
- ▶ **Potential Job Losses:** among postal employees, particularly due to increased competition and possible automation measures.
- ▶ **Accountability and Transparency:** The exemption of India Post and the government from liability for mis-delivery or damage raises concerns about accountability and service quality.
- ▶ **Lack of Public Consultation:** The bill's passage without substantial public consultation raises concerns about its responsiveness to citizen needs and potential unintended consequences.
- ▶ **Balancing Modernization and Rural Access**
- ▶ **Cybersecurity Threats:** The increased reliance on technology within postal services raises concerns about cybersecurity

### key features of the new bill:

#### ▶ **Modernization and Regulatory Framework:**

- Repeals the outdated Indian Post Office Act, 1898
- Establishes the Director General of Postal Services
- Simplifies tariff settings
- Promotes digitalization

#### ▶ **Expansion and Inclusivity:**

- Brings private courier services under its ambit
- Simplifies opening new post offices
- Preserves India Post's monopoly on letter delivery

#### ▶ **Security and Surveillance:**

- Grants the government power to intercept, open, or detain parcels.
- Lays out procedures for interception.
- Exempts government and India Post from liability for mis-delivery or damage.
- Repeals the Indian Post Office Act, 1898.
- Brings private courier services under its ambit
- Gives the government power to intercept, open, or detain parcels.
- Simplifies the process for setting up new post offices.
- Improves the working conditions of postal employees.

### Post Office Act of 1898 vs India Post Office Bill, 2023: Key Differences

Feature	Post Office Act of 1898	India Post Office Bill, 2023
<b>Regulatory Framework</b>	Outdated, inflexible	Modernized, adaptable
<b>Government Monopoly</b>	Exclusive privilege for letter delivery	Private courier services brought under regulation
<b>Interception of Postage</b>	Limited power for government, specific requirements	Broadened power for government, with concerns about privacy
<b>Liability and Exemptions</b>	Government exempt from most liabilities	Clearer lines of responsibility, potential liability for India Post in specific cases
<b>Technology Integration</b>	Limited role for technology	Promotes digitalization and integration of new technologies
<b>Rural Access and Expansion</b>	Less emphasis on rural areas	Simplifies opening post offices in underserved areas
<b>Security and Surveillance</b>	No specific provisions for interception	Grants government power to intercept parcels for national security
<b>Employee Regulations</b>	Extensive provisions, potential for job losses	Simpler framework, need for workforce adjustments
<b>Public Consultation</b>	Limited public involvement	Potential for improved public dialogue and feedback
<b>Overall Aim</b>	Traditional postal service model	Modernization and transformation of postal sector

#### Further measures needed to improve the bill:

<ul style="list-style-type: none"> <li>▶ <b>Addressing Privacy Concerns:</b> <ul style="list-style-type: none"> <li>▪ Strengthen safeguards</li> <li>▪ Narrower definition: Refine the definition of "national security"</li> <li>▪ Independent review</li> <li>▪ Enhancing Implementation:</li> </ul> </li> <li>▶ <b>Resource allocation</b> <ul style="list-style-type: none"> <li>▪ Transparency and communication</li> <li>▪ Phased implementation:</li> </ul> </li> <li>▶ <b>Minimizing Job Losses:</b> <ul style="list-style-type: none"> <li>▪ Reskilling and retraining</li> <li>▪ Early retirement schemes</li> <li>▪ Transition support</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▶ <b>Improving Accountability and Transparency:</b> <ul style="list-style-type: none"> <li>▪ Clear guidelines for liability</li> <li>▪ Strengthen grievance redressal</li> <li>▪ Regular reporting</li> </ul> </li> <li>▶ <b>Public Consultation and Inclusivity:</b> <ul style="list-style-type: none"> <li>▪ Open dialogue</li> <li>▪ Rural outreach</li> <li>▪ Inclusivity measures</li> </ul> </li> <li>▶ <b>Cybersecurity Preparedness:</b> <ul style="list-style-type: none"> <li>▪ Invest in cybersecurity</li> <li>▪ Regular audits and evaluations</li> <li>▪ Cybersecurity awareness</li> </ul> </li> </ul>
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## **6) ATTACK ON DOCTORS-AMENDMENTS TO THE BHARATIYA NYAYA (SECOND) SANHITA BILL, 2023.**

### **Context:**

- ▶ The home minister said “If someone died due to medical negligence by doctors it was treated as culpable homicide not amounting to murder. I am bringing an amendment today. Doctors have been exempted from punishment [under this section]. The Indian Medical Association [IMA] had requested us [for the exemption].”
  - The amended Bharatiya Nyaya (Second) Sanhita Bill, 2023, passed since, however did not provide that blanket exemption to doctors. Instead, the amended Section 106(1) specifies that a registered medical practitioner (RMP) shall be punished with imprisonment up to two years and a fine. In effect, the punishment for doctors as specified under Section 304(A) of the Indian Penal Code that the BNSS
    - replaces, has been retained.

### **Recent Developments:**

- ▶ Recently, in December 2023, the Lok Sabha passed the **Bharatiya Nyaya (Second) Sanhita, 2023**, which removes criminal negligence from the purview of criminal prosecution for medical professionals under certain circumstances. This has sparked debate about the balance between protecting doctors and holding them accountable for medical errors.

### **IMA stand on attack on doctors:**

- ▶ Condemnation and Demand for Stringent Laws
- ▶ Campaigns and Protests
- ▶ **Focus on Safety Measures:** including increased security personnel, CCTV cameras, and panic buttons.
- ▶ Support for Affected Doctors: They help them navigate the legal system and ensure access to counselling services.

### **Need of the hour:**

- ▶ **Strengthen Legal Framework:**
  - Harsher Penalties: like in the UK's Assaults on Emergency Workers Act 2018.
  - Fast-Track Trials: like Singapore's dedicated Medical Disciplinary Tribunal,
  - Zero-Tolerance Policy: similar to initiatives in Spain and Brazil.
- ▶ **Enhance Security Measures:**
  - Increased Security Presence: drawing inspiration from Canada's model.
  - CCTV Surveillance: similar to Australia's approach, for monitoring and potential evidence gathering.
  - Panic Buttons and Emergency Alert Systems: like in the US.
- ▶ **Promote Awareness and Respect:**

### **Criminal laws on doctor's attack:**

#### **Indian Penal Code (IPC):**

- ▶ **Offences Against Human Body:**
  - Section 319: Causing hurt.
  - Section 323: Voluntary causing hurt.
  - Section 324: Voluntary causing hurt by dangerous weapons or means.
  - Section 325: Grievous hurt.
  - Section 326: Voluntarily causing grievous hurt by dangerous weapons or means.
- ▶ **Offences Against Public Tranquillity:**
  - Section 147: Rioting.
  - Section 153: Promoting enmity between different groups on grounds of religion, race, etc.
- ▶ **Offences Against Property:**
  - Section 427: Mischief.
  - Section 435: Mischief by fire or any explosive substance intended to cause damage to property.
- ▶ **Offences Against the State:**
  - Section 332: Preventing government servant from discharging duty.

- Public Awareness Campaigns: like Thailand's "Respect Doctors, Protect Patients" campaign.
- Media Engagement: similar to initiatives in Ireland.
- Community Outreach Programs like South Africa's "Doctors in the Community" project.
- ▶ **Invest in Healthcare System Resilience:**
  - Address Underlying Causes
  - Improve Working Conditions: similar to initiatives in Germany.
  - Strengthen Grievance Redressal Mechanisms
- ▶ **International Collaboration:**
  - Knowledge Sharing: like Canada and the UK, to learn from their best practices.
  - Joint Research: Conduct joint research to understand the specific causes and dynamics of violence against doctors in India and develop culturally appropriate interventions.
  - Advocacy at Global Forums: like the World Medical Association.

**Impact of attack on doctors on health sector:**

- ▶ **For Patients:**
  - Reduced Access to Care
  - Delayed Treatment
  - Erosion of Trust
- ▶ **For Doctors and Healthcare Workers:**
  - Psychological Trauma
  - Decreased Motivation and Morale
  - Fear and Hesitation to Treat
- ▶ **For the Healthcare System:**
  - Increased Costs
  - Decreased Efficiency
  - Negative Image and Reputation

## E) INTERNATIONAL RELATIONS

### 1) India - Canada relations:

#### Introduction:

- ▶ India and Canada share robust bilateral ties grounded in democracy, pluralism, economic engagement, and people-to-people connections. Elevated to a strategic partnership in 2015, strengthened through high-level interactions, and addressing global challenges, their relationship embodies respect for sovereignty and unity.

#### Economic relations:

- ▶ In 2019-20, bilateral trade between India and Canada in goods reached USD 6.73 billion, with major exports including gems, pharmaceuticals, and garments.
- ▶ Canadian Pension Funds have invested around USD 32.6 billion in India, and over 400 Canadian companies operate in India.
- ▶ Both nations are actively discussing Comprehensive Economic Partnership Agreement (CEPA) and Bilateral Investment Promotion and Partnership Agreement (BIPPA/FIPA) for enhanced economic collaboration.

#### Agriculture:

- ▶ The bilateral MoU on agriculture cooperation between India and Canada was signed in 2009.
- ▶ The Joint Working Group (JWG) established under this MoU led to the formation of three sub-groups focusing on knowledge exchange in emerging technologies, animal development, and agricultural marketing. Additionally, a separate Joint Working Group for Pulses was established.

#### Energy Cooperation:

- ▶ Energy has been a key focus in India-Canada bilateral relations, with the last ministerial-level Energy Dialogue held in New Delhi on 8 September 2016.
- ▶ The scope of the Energy Dialogue was expanded during PM Justin Trudeau's visit in February 2018 to include electricity, energy efficiency, and renewables. India Oil Corporation holds a 10% participating interest in a Liquid Natural Gas project in British Columbia.

#### Nuclear Cooperation:

- ▶ A Nuclear Cooperation Agreement (NCA) between India and Canada was signed in June 2010, coming into force in September 2013.
- ▶ An Appropriate Arrangement (AA) for the NCA was signed in March 2013, establishing a Joint Committee on Civil Nuclear Cooperation. During PM Modi's visit to Canada in April 2015, an agreement for the supply of uranium ore concentrate to India for 2015-2020 was signed between the Department of Atomic Energy (DAE) and M/S CAMECO Inc.

#### Science and Technology:

- ▶ Indo-Canadian Science and Technology cooperation focuses on promoting Industrial R&D, emphasizing applications in new IP, processes, prototypes, or products.
- ▶ The Department of Biotechnology implements joint research projects under the IC-IMPACTS program in health care, agri-biotech, and waste management, with an annual conference held in August 2020.
- ▶ The Department of Earth Science and Polar Canada collaborates on Cold Climate (Arctic) Studies, including knowledge exchange and scientific research. A Memorandum of Cooperation between NCPOR and POLAR, Canada, was signed in February 2020.

#### Information Technology:

- ▶ A Memorandum of Understanding on Cooperation in Information and Communication Technology and Electronics (ICTE) was signed in 2012 for 5 years and was revived during the visit of PM Trudeau in February 2018.

#### Space:

- ▶ India and Canada have maintained successful cooperative and commercial relations in space since the 1990s, focusing on space science, earth observation, satellite launch services, and ground support for space missions.
- ▶ ISRO and the Canadian Space Agency (CSA) signed MOUs in October 1996 and March 2003, facilitating collaboration in the exploration and utilization of outer space.
- ▶ ANTRIX, the commercial arm of ISRO, has launched several nanosatellites from Canada, and during ISRO's 100th Satellite PSLV launch in January 2018, the Canadian first LEO satellite was flown from the Indian spaceport Sriharikota, Andhra Pradesh.

#### **Education:**

- ▶ Education is a key focus in India-Canada relations, with India being the top source of foreign students in Canada.
- ▶ The MoU on Higher Education, renewed in February 2018, underpins educational cooperation, and meetings in Ottawa in February 2019 oversee its implementation.
- ▶ The Shastri Indo-Canadian Institute (SICI) since 1968 fosters educational and cultural collaboration, and a Chair on Guru Nanak Devji was established in a Canadian University.

#### **Security and Defence:**

- ▶ India and Canada closely collaborate in international forums like the UN, Commonwealth, and G-20, with expanding defence ties, mutual ship visits, and robust cooperation on counter-terrorism through the JWG framework.
- ▶ The Framework for Cooperation on Countering Terrorism and Violent Extremism, signed in February 2018, further enhances security cooperation between India and Canada.
- ▶ The 16th JWG on Counter-Terrorism in Ottawa (March 2019) and RCMP delegation's visit to India in January 2020 demonstrate ongoing efforts in counter-terrorism collaboration, including training programs by Canada's Foreign Service Institute.
- ▶ FSI-CFSI Cooperation: The cooperation between Foreign Service Institutes of both countries has seen positive momentum with Canada's Foreign Service Institute (CFSI) trainers imparting three days training program in Bilateral & Multilateral Negotiation and Diplomacy and Global Affairs including Canada's Foreign Policy Approach to Indian diplomats at FSI, New Delhi from 20-23 January 2020.

#### **People-to-People:**

- ▶ Canada hosts a significant Indian diaspora of 1.6 million (PIOs and NRIs), constituting over 4% of its population, excelling in various sectors.
- ▶ Consular Access: The first India-Canada Consular Dialogue, addressing mutual concerns, took place in Ottawa during PM Trudeau's visit in September 2019.
- ▶ India-Canada Track 1.5 Dialogue involves experts, officials, and business leaders exploring future cooperation, with rounds held in Ottawa and Mumbai.
- ▶ Cultural Exchanges: Canada was the Country of Focus at the 48th International Film Festival of India. An India-Canada Co-production Agreement in films exists.
- ▶ Diwali Commemoration: Canada Post and India Post collaborated to issue a commemorative stamp on Diwali in 2017.

#### **Canadian PM at G-20 has highlighted the following:**

**Shared Democratic Values:** Canada and India share democratic values, rule of law, and strong people-to-people ties, forming the foundation of their relationship, as highlighted by the Canadian Prime Minister at G-20.

**Concerns on Anti-India Activities:** Canada expressed strong concerns about extremist elements promoting secessionism, inciting violence against Indian diplomats, damaging diplomatic premises, and threatening the Indian community. The nexus with organized crime, drug syndicates, and human trafficking is a shared concern.

**Importance of Mutual Respect:** The Canadian Prime Minister emphasized that a relationship based on mutual respect and trust is crucial for the progress of India-Canada relations, underscoring the need for cooperation in addressing security threats.



- ▶ Mahatma Gandhi and Guru Nanak Devji Celebrations: Events marked the 150th Birth Anniversary of Mahatma Gandhi and the 550th Birth Anniversary of Guru Nanak Devji. The Mayor of Halifax proclaimed August 2020 as "Indian Independence Month."

### **Challenges in India - Canada relations:**

#### **▶ Trade Challenges:**

- ▶ India's concerns over Sikh groups supporting Khalistan strain trade relations with Canada.
- ▶ Tensions in agricultural trade, particularly regarding pulses and canola oil, raise concerns for both nations.
- ▶ Persistent trade barriers hinder bilateral growth, and the recent pause in Free Trade Agreement negotiations adds to tensions.
- ▶ Structural challenges, labor laws, protectionism, and close ties between Canada and China contribute to a decline in Indo-Canadian trade.

#### **▶ Security Challenges:**

- ▶ Canada's balancing act on Sikh assertions, particularly regarding Khalistan, strains security relations between the two nations.
- ▶ Attacks on non-Sikh Indian diaspora, consulates, and temples heighten tensions, contributing to the deterioration of India-Canada security relations.

#### **Human Rights Challenges:**

- ▶ Disagreements on international issues, including human rights concerns, strain diplomatic relations between Canada and India.
- ▶ Canada expresses concerns about the treatment of religious minorities in India, while India raises issues regarding attacks on Hindu minorities, leading to diplomatic tensions.
- ▶ Changes in Canadian visa and immigration policies impact human mobility between the two nations.

#### **Geopolitical Challenges:**

- ▶ Lack of bilateral talks during the G20 meeting and disagreements on various global issues strain diplomatic ties.
- ▶ Opposing viewpoints on Afghanistan, Iran, China, Pakistan, and terrorism contribute to diplomatic complexities.
- ▶ Concerns over the Canadian government prioritizing other regions impact India-Canada relations amid emerging geopolitical dynamics.

#### **Way forward:**

- ▶ The way forward for India-Canada relations involves addressing trade challenges through constructive dialogue and a renewed commitment to bilateral agreements. Collaboration on security, human rights, and geopolitical issues should prioritize shared values and foster diplomatic understanding for a strengthened and resilient partnership.

#### **The Khalistani issue**

- The Khalistani issue involves tensions between India and Canada over the advocacy for Khalistan, an independent Sikh state.
- The movement, fueled by a vocal Sikh diaspora in Canada and online propaganda, has strained diplomatic relations.
- Accusations, such as India's alleged involvement in a Sikh separatist's assassination, escalated tensions, leading to the expulsion of diplomats and a suspension of India's visa processing for Canadians.
- The issue, discussed on the sidelines of the G20 Summit, underscores the complexity of the situation, involving intelligence-sharing networks and posing a significant challenge to bilateral ties.

#### **India's stand on the Khalistani issue:**

- India firmly opposes the Khalistani separatist movement, viewing it as a threat to its sovereignty and territorial integrity.
- The government expresses concern over the growing influence of Khalistani advocacy in Canada, emphasizing the need for stronger actions against sympathizers.
- India vehemently denies allegations, such as its involvement in a Sikh separatist's assassination, considering them unfounded.
- The ongoing diplomatic tensions have prompted India to take measures, including the expulsion of diplomats, suspension of visa processing, and urging Canada to address the presence of Khalistani terrorists and extremists seeking refuge in the country.

## **2) Partners in uncertain times: India and Italy**

### **Context:**

- ▶ In 2023, Italy-India relations flourished with Prime Minister Giorgia Meloni's visit, catalyzing a breakthrough. The joint statement established a collaborative framework, igniting bilateral dialogue in defence, space, connectivity, mobility, and energy transition.

### **About India – Italy Bilateral relations:**

#### **History:**

- ▶ India and Italy, despite achieving statehood relatively recently, share ancient roots through Sanskrit and Latin.
  - Over 2000 years of historical interactions include trade along the spice route, documented by Marco Polo.
  - During WWII, Indian troops, like the Rajputana Rifles and Gurkha Rifles, served in Italy, engaging in the East African campaign against the Italians in Somaliland and Abyssinia.

#### **High level engagements:**

- ▶ India and Italy established political relations in 1947, maintaining a cordial relationship with regular high-level visits.
  - Notable visits include Prime Minister Nehru in 1953, and subsequent leaders.
  - A parliamentary friendship association was formed in 2004, and a virtual summit in 2020 strengthened bilateral ties with 15 MoUs signed.
  - EAM Dr. S. Jaishankar's visit in 2019 and interactions in 2021 further solidified diplomatic cooperation.

#### **Common View on Strategic Challenges:**

- ▶ Italy and India share a common perspective on strategic challenges in the world.
  - Both nations advocate for a free, safe, and open Indo-Pacific.
- ▶ **Indo-Pacific as an "Enlarged Mediterranean":**
- ▶ Italy views the Indo-Pacific as an "enlarged Mediterranean," considering it a geostrategic unit with the Indian Ocean. Italy, at the centre of the Mediterranean, serves as a natural bridge to the Indo-Pacific.
- ▶ **Maritime Security Cooperation:**
- ▶ Maritime security is a priority, demonstrated by the Italian Navy's visit to Mumbai and collaboration on maritime surveillance.
  - Common interest in containing underwater threats, securing pipelines, and digital interconnections.
- ▶ **Defence Sector Collaboration:**
- ▶ Renewal of the cooperation agreement in the defence sector during Defence Minister Rajnath Singh's visit to Italy.
  - Italian companies offer cutting-edge solutions and seek increased presence in India.
- ▶ **Infrastructure Strengthening:**
- ▶ Commitment to strengthening digital and physical infrastructure.
  - Blue-Raman project and IMEC aim to enhance connectivity through a submarine cable system and a new trade route.
- ▶ **Trade and Economic Relations:**
- ▶ Bilateral trade at a record level, with growth in goods and services exchange.
  - Italian expertise in machinery, automotive, and luxury goods finds a market in India, contributing to a positive trade trend.
- ▶ **People-to-People Contact:**
- ▶ Migration and Mobility Agreement signed during External Affairs Minister S Jaishankar's visit to Italy.
  - Focus on enhancing people-to-people contact, considering Italy as a host for a significant Indian community in the EU.
- ▶ **Space Collaboration:**
- ▶ Growing interest in India's space initiatives, particularly the success of the Chandrayaan-3 mission.

- Collaboration between ASI (Italian Space Agency) and ISRO, opening opportunities in earth observation, space exploration, and helio-physics.

#### **Significance:**

- ▶ Italy, presently ranked fourth among India's top 5 EU trading partners, has seen a trade surplus in India's favour since the early 1980s.
  - As an export-focused economy and Europe's second-largest manufacturer, Italy values secure supply chains, maritime routes connecting Asia to Europe, and rules-based trade.
- ▶ Given India's influential position in the Indo-Pacific, it can leverage this strength to its advantage.
  - Moreover, with the current Italian government expressing concerns about China, India can strategically utilize its relationship with Italy to exert influence within the European Union.

#### **Challenges:**

- ▶ India and Italy, long-standing trading partners, face challenges despite historical ties.
- ▶ The Enrica Lexie case strained relations, and Italy's current political instability adds complexity.
- ▶ Internal issues like low growth, high unemployment, and debt affect Italy's role in the EU.
- ▶ The non-implementation of the trilateral partnership and immigration concerns further complicate matters.

#### **Way forward:**

Enhance economic ties, address political and internal challenges collaboratively, implement the trilateral partnership, and promote cultural understanding for a strengthened and mutually beneficial India-Italy relationship.

### **3) Grand gesture, small details**

#### **Introduction:**

- ▶ As India's Modi government approaches the end of its term, evaluating its foreign policy reveals concerns. Recent events, like losing a UNESCO election to Pakistan and handling the Kim Davy case, raise questions about India's effectiveness and image globally. Comprehensive assessment must consider both major actions and responses to smaller issues.

#### **Key Points:**

- ▶ **Active Embrace of Global South:** India actively champions Global South interests, evident in G20 Presidency, hosting "Voice of the Global South" summit, emphasizing commitment in international forums.
- ▶ **UNESCO Election Setback:** India's UNESCO election defeat on November 24, with Pakistan securing 38 votes, prompts questions about potential gaps in diplomatic strategy.
- ▶ **UNESCO Executive Board Dynamics:** UNESCO's notable election for VP occurred as Asia-Pacific failed consensus. Pakistan's substantial win prompts closer evaluation of India's diplomatic strategy.
- ▶ **Kim Davy Extradition Challenge:** India's pursuit of Kim Davy's extradition faced Danish resistance. Diplomatic normalization followed, but recent statements question the strategy's effectiveness.
- ▶ **Lack of Transparency in Davy Extradition:** India's silence on Kim Davy's extradition lacks transparency. Danish Foreign Minister notes judicial issue, but lack of progress questions India's commitment.

#### **UNESCO Executive Board**

- The Executive Board is one of the three constitutional organs of UNESCO (the others being the General Conference and the Secretariat) and it is elected by the General Conference.
- Acting under the authority of the General Conference the Board examines the programme of work for the Organization and corresponding budget estimates submitted to it by the Director-General.
- It consists of 58 Member States each with a four-year term of office.

- ▶ **Italian Marines Case:** India accepted Tribunal's Award for Italian Marines trial in Italy, but questions on Mission's role emphasize attention to cases involving nationals.
- ▶ **Significance of India's Global South Diplomacy:**
  - ▶ **Multilateral Influence and Alliances:**
    - Positions India as a key player in global affairs.
    - Strengthens alliances with developing nations in multilateral organizations.
  - ▶ **Economic Collaboration and Soft Power:**
    - Enhances economic ties and soft power through trade, investment, and cultural exchange.
    - Creates opportunities for collaborative development projects.
  - ▶ **Counterbalance to Western Influence:**
    - Provides a counterbalance to Western powers, contributing to a diverse world order.
    - Strengthens India's diplomatic leverage on the global stage.
  - ▶ **Global Problem-Solving and Strategic Alliances:**
    - Collaborates on global challenges like climate change and poverty.
    - Builds strategic alliances, positioning India for effective geopolitical navigation.
  - ▶ **Promotion of Shared Values and Leadership:**
    - Reinforces the promotion of democratic values and social justice globally.
    - Positions India as a leader among developing nations, shaping global norms and policies.
- ▶ **Challenges for Global South Diplomacy:**
  - ▶ **Economic Disparities and Varied Priorities:**
    - Economic imbalances and diverse priorities among Global South nations impede unified economic strategies and diplomatic coordination.
  - ▶ **Geopolitical Competition and Influence of Major Powers:**
    - Intense geopolitical competition within the Global South, coupled with the influence of major powers, hinders autonomous diplomatic decisions.
  - ▶ **Infrastructure Gaps and Conflict Instabilities:**
    - Varied levels of infrastructure and diplomatic capacity, coupled with ongoing conflicts and instabilities, create disparities in effective participation.
  - ▶ **Climate Change Disparities and Security Concerns:**
    - Divergent impacts of climate change and security challenges pose differing stances on global issues, impacting diplomatic initiatives.
  - ▶ **Coordination Challenges and Resource Constraints:**
    - Limited coordination mechanisms, along with resource constraints in some nations, hinder effective diplomatic outreach and participation.
- ▶ **Measures for Global South Policy:**
  - ▶ **Economic Collaboration and Capacity Building:**
    - Enhance economic collaboration among Global South nations, focusing on trade agreements and capacity-building initiatives to reduce economic disparities.
  - ▶ **Diplomatic Coordination and Alliance Strengthening:**
    - Foster stronger diplomatic coordination and alliances within the Global South to amplify their collective voice on global issues.
  - ▶ **Investment in Infrastructure and Technology:**
    - Invest in infrastructure development and technology to bridge capacity gaps, ensuring all nations can actively participate in diplomatic initiatives.
  - ▶ **Joint Approaches to Global Challenges:**
    - Develop joint approaches to tackle shared challenges such as climate change, emphasizing unified efforts to address global issues.
  - ▶ **Promotion of Inclusive Governance and Security:**

- Promote inclusive governance structures and collaborate on security issues to ensure stability and address conflicts within the Global South.

► **Conclusion:**

- Nations are evaluated not just based on major actions but also on their behaviour in minor matters, especially concerning individual citizens and law enforcement. Conduct in these instances shapes global perceptions.

#### 4) HOUTHİ ATTACK IN RED SEA-IMPACT ON THE WORLD AND INDIAN ECONOMY

**Context:**

- On December 23, the crisis in the Red Sea reached Indian waters as Liberian-flagged merchant vessel Chem Pluto heading to Mangalore port was hit by a projectile about 217 nautical miles from Porbandar in Gujarat, just outside the Indian Exclusive Economic Zone (EEZ).
  - This comes in the backdrop of a sharp rise in missile and drone attacks on commercial shipping in the Red Sea by Houthi rebels in Yemen in the last couple of weeks following Israel's offensive against Hamas in Gaza.

**Potential Impact of the Recent Houthi Attack on world and India:**

► **Trade and Economy:**

- **Disruption of Maritime Traffic:** The Red Sea is a crucial trade route for Indian imports and exports, particularly oil and commodities. Attacks like this could lead to:
  - (1) Increased shipping costs and delays due to rerouting or risk premiums.
  - (2) Potential short-term shortages or price fluctuations for certain goods.
  - (3) Disruption of supply chains impacting Indian businesses and consumers.

► **Energy Security:**

- **Oil Supplies:** India is a major importer of oil, and the Red Sea is a vital transport route. Even minor disruptions could affect energy security, impacting:
  - (1) Fuel prices and costs for transportation, industries, and consumers.
  - (2) Potential for India to diversify its oil import sources in the long term.

► **Geopolitical Landscape:**

- **Regional Instability:** The attack reflects the ongoing conflict in Yemen and raises concerns about regional instability. This could:
  - (1) Impact India's diplomatic relations with countries involved in the conflict.
  - (2) Increase security concerns for Indian maritime interests in the region.
  - (3) Potentially hinder regional cooperation and economic initiatives.

► **Humanitarian Considerations:**

**Who are Houthis?**

- The Houthis, officially known as Ansar Allah ("Supporters of God"), are a complex and powerful political and military organization in Yemen.
- **Origins:**
  - Emerged in the 1990s in Saada province, northern Yemen.
  - Predominantly Zaidi Shias, a distinct branch of Shia Islam with historical political influence in Yemen.
  - Named after their leader, Hussein al-Houthi, who was killed in 2004.
- **Key Characteristics:**
  - Anti-corruption movement initially aimed at the Yemeni government.
  - Grew in opposition to Saudi Arabia's influence in Yemen.
  - Took control of Sanaa, the capital, in 2014.
  - Engaged in a lengthy, devastating civil war with the Saudi-led coalition since 2015.
- **Controversies:**
  - Accused of human rights abuses and sectarian violence against Sunnis.
  - Receive alleged support from Iran, which they deny.
  - Maritime attacks in the Red Sea raise international concerns.
- **Current Situation:**
  - Control large parts of northern Yemen, including Sanaa.
  - Facing a humanitarian crisis exacerbated by the war.

- **Impact on Yemeni People:** The ongoing conflict and instability in Yemen have already caused a severe humanitarian crisis. The attack could worsen the situation for millions of people, potentially impacting Indian humanitarian aid efforts.

### How to address the issue?

#### ▶ Diplomatic Efforts:

- **International Coordination:** Fostering dialogue and cooperation between the Houthis, the Yemeni government, regional powers like Saudi Arabia and Iran, and the international community. This could involve establishing neutral negotiating platforms, de-escalation measures, and confidence-building mechanisms.
- **Humanitarian Aid:** Increasing international humanitarian assistance to address the underlying crisis in Yemen. This can alleviate suffering, build trust, and potentially incentivize conflict resolution.
- **Addressing Grievances:** Exploring ways to address the Houthis' legitimate grievances, such as perceived marginalization and economic hardship. This might involve political reforms, inclusive governance initiatives, and economic development plans.

#### ▶ Maritime Security:

- **Ensuring Safe Passage:** Enhancing international maritime security efforts in the Red Sea to protect commercial vessels and deter attacks. This could involve coordinated patrols, intelligence sharing, and diplomatic pressure on actors threatening maritime security.
- **De-escalation Measures:** Establishing clear communication channels and protocols between all parties operating in the Red Sea to prevent misunderstandings and accidental escalations.
- **Investing in Alternative Routes:** Supporting diversification of trade routes and infrastructure to reduce dependence on the Red Sea, potentially exploring land or alternative sea routes.

#### ▶ Internal Yemeni Factors:

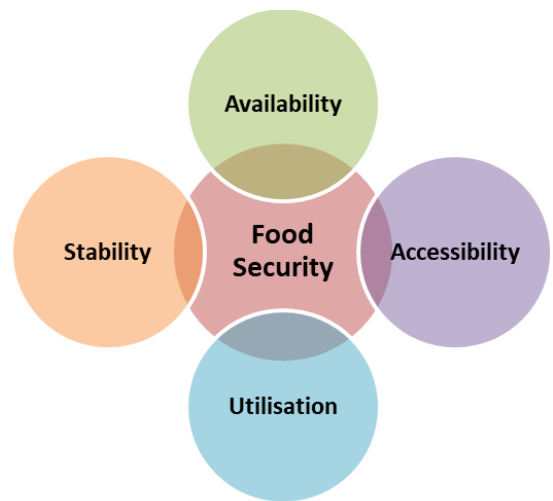
- **Inclusive Peace Process:** Seeking a negotiated and inclusive peace process within Yemen that addresses the root causes of the conflict and incorporates diverse perspectives. This might involve power-sharing arrangements, constitutional reforms, and transitional justice mechanisms.
- **Economic Development and Resource Sharing:** Encouraging equitable distribution of resources and economic opportunities within Yemen to address grievances about marginalization and promote national cohesion.
- **Strengthening Local Governance:** Supporting capacity building and governance structures at the local level to foster stability, address community needs, and potentially mitigate the appeal of armed groups.

## F) ECONOMY

### 1) FOOD SECURITY-CHALLENGES-ODISHA MODEL

#### What is Food security?

- ▶ Food security is the ability of all people, at all times, to have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life. (United Nations Committee on World Food Security)



#### Data on Food Security in India:

##### ▶ **Current Status:**

- Prevalence of **Undernutrition**: 16.3% (Global Food Security Index 2022) - categorized as "serious".
- Prevalence of **Stunting** in children: 30.9%
- Prevalence of **Underweight** in children: 33.4%
- Prevalence of **Obesity** in children: 3.8%
- **Human Development Index**: 0.65
- **Per capita availability of food grains**: 507.9 grams per day (2021)

##### ▶ **Positive Developments:**

- **Increased food production**: Six-fold increase from 50 million tonnes in 1950-51 to nearly 300 million tonnes in 2019-20
- **Net food exporter**: Ninth largest exporter of agricultural products in the world
- **Government food subsidy**: Value of 1.67 trillion INR (2020-2023)
- **Share of agriculture in GDP**: 18.8% (2021-2022)

#### Reasons for food insecurity in India:

- ▶ **Poverty and Inequality**: 22% of Indians live below the national poverty line. (World Bank, 2022)
- ▶ **Inadequate Public Distribution System (PDS)**: Only 67% of eligible households receive subsidized food grains through PDS. (NITI Aayog, 2021)
- ▶ **Lack of Rural Infrastructure**: Only 54% of rural households have access to clean drinking water. (National Sample Survey, 2019)
- ▶ **Climate Change**: India experiences extreme weather events like droughts and floods, leading to crop failures and food insecurity. (National Disaster Management Authority, 2023)
- ▶ **Gender Inequality**: Women farmers face limited access to land, credit, and resources, hindering their agricultural productivity. (FAO, 2021)
- ▶ **Food Waste and Loss**: India loses an estimated 12% of its food production due to post-harvest losses and waste. (World Bank, 2019)

#### Indian Government Measures to Ensure Food Security:

- ▶ Public Distribution System (PDS)
- ▶ Minimum Support Price (MSP)
- ▶ POSHAN Abhiyaan
- ▶ Integrated Child Development Services (ICDS)
- ▶ Mid-day Meal Scheme
- ▶ Food Fortification
- ▶ Rashtriya Krishi Vikas Yojana (RKVY)
- ▶ Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)
- ▶ National Rural Employment Guarantee Scheme (NREGA)
- ▶ National Food Security Act (NFSA)

- ▶ **Lack of Nutritional Knowledge:** 42% of children under five suffer from stunting, indicating insufficient dietary intake. (National Family Health Survey, 2019-2021)

#### **Best Practices needed to Ensure Food Security:**

- ▶ **Sustainable Agriculture:** Brazil's Embrapa research institute fosters sustainable agricultural practices like agroforestry and water conservation.
- ▶ **Reducing Food Loss and Waste:** The Food and Agriculture Organization (FAO)'s Save Food initiative.
- ▶ **Empowering Small-Scale Farmers:** The International Institute of Rural Reconstruction's farmer-led irrigation approach
- ▶ **Investing in Nutrition:** Bangladesh's Vitamin A supplementation program
- ▶ **Fostering Resilience to Climate Change:** The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)
- ▶ **Strengthening Social Safety Nets:** Brazil's Bolsa Familia program
- ▶ **Policy and Regulatory Frameworks:** The European Union's Common Agricultural Policy (CAP)
- ▶ **Individual and Community Action:** The "Slow Food" movement

#### **Odisha's Model for Food Security in India:**

- ▶ Transformation of the Public Distribution System: **Automation and digitization.**
- ▶ Paddy Procurement and **Grain ATMs**
- ▶ Focus on **Crop Diversification and Food Banks:** Drought-resistant crops and millets.
- ▶ Mission Shakti: Empowering Women Farmers
- ▶ **Odisha Millet Mission**
- ▶ **Sustainable Agriculture and Climate-Smart Practices:** soil conservation, water management, and organic farming.
- ▶ Community-Based Interventions:
- ▶ **Effective Data Management and Monitoring:** Data-driven decision-making
- ▶ Innovative Partnerships and Collaborations
- ▶ Focus on Nutrition and Food Safety

#### **Global Recognition:**

The World Food Programme (WFP) recognized Odisha's approach as a model for other countries to learn from and adapt.

- ▶ [Source Harvest the Odisha story to ensure food security - The Hindu](#)



## 2) FOOD INFLATION IN INDIA-CAUSES AND MEASURES:

### What is food inflation?

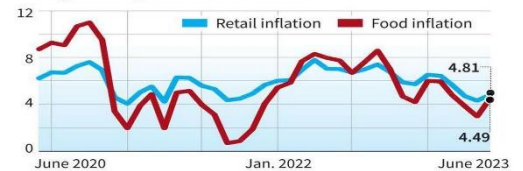
- ▶ Food inflation refers to the **sustained increase in the prices of food commodities** over time. It's essentially a type of inflation that specifically impacts the cost of the things we eat and drink.

### Data on food inflation in India:

- ▶ **Consumer Food Price Index (CFPI):** Tracks the average price changes of a basket of commonly consumed food items across various cities in India. As of November 2023, the CFPI stands at 5.83%, down slightly from its peak of 11.5% in July 2023. This data is compiled by the **Ministry of Statistics and Programme Implementation (MoSPI)**.

#### Rising rates

India's retail inflation accelerated to 4.81% in June from 4.31% in May, driven by a rise in food inflation



### Causes of food inflation in India:

#### ▶ **Supply Chain Disruptions:**

- **Global Crisis:** The ongoing global crisis has disrupted trade, causing shortages of fertilizers and agricultural inputs. This led to a 14% increase in fertilizer prices in FY2023 compared to FY2022, raising overall production costs. **Ministry of Agriculture & Farmer Welfare data** showed domestic wheat production falling by 5% in 2023 due to supply chain disruptions caused by the crisis.

#### ▶ **Increased Input Costs:**

- **Fuel Prices:** Rising fuel prices increase transportation costs for agricultural produce, impacting consumer prices. Diesel prices, used in farm machinery and transportation, increased by 25% between December 2022 and November 2023. **MoSPI data** shows the price of vegetables increasing by 6.8% in November 2023 compared to October 2023, partly attributed to higher transportation costs.

#### ▶ **Demand-Supply Imbalance:**

- **Growing Population:** India's rapidly growing population puts pressure on existing food supplies. The population is projected to reach 1.4 billion by 2030, increasing demand for food commodities. **The National Sample Survey Organisation (NSSO)** reported a 15% increase in per capita meat consumption between 2011 and 2017, leading to higher prices for livestock products.

#### ▶ **Climate Change:**

- **Extreme Weather Events:** Erratic rainfall patterns and droughts can damage crops and reduce harvests, causing scarcity and price hikes. In 2023, severe drought conditions in some regions affected rice production, contributing to a 5% increase in rice prices compared to the previous year. **The Indian Institute of Tropical Meteorology study** found that climate change could reduce wheat yields by up to 25% by 2050, potentially impacting future food inflation.

#### ▶ **Government Policies:**

- **Minimum Support Prices (MSP):** MSPs guarantee farmers a minimum price for their produce, but can sometimes incentivize production of certain crops over others, creating imbalances in supply and demand and affecting prices. In 2023, the government increased the MSP for paddy (rice) by 6%, while the MSP for pulses remained unchanged. This could potentially lead to an oversupply of rice and continued high prices for pulses.

### Reasons for fluctuation in onion prices in India

- ▶ **Supply and Demand:**
  - **Production Variations:** Onion production fluctuates due to various factors like weather conditions (unseasonal rains, droughts), pest attacks, and farmer decisions based on previous market prices. These variations can lead to temporary shortages and price spikes.
  - Demand Fluctuation
  - Storage Challenges
- ▶ **Market Factors:**
  - **Middlemen and Hoarding:**
  - Transportation Costs: Rising fuel prices
- ▶ **Government Policies:** Export restrictions or minimum support prices

### Reasons for fluctuation in tomatoes prices in India

- ▶ **Supply-side factors:**
  - **Seasonal variations:** with peak season typically during the winter months (November to February).
  - Extreme weather events
  - **Plant diseases and pests:** Viral infections like Tomato Mosaic Virus (ToMV) and Cucumber Mosaic Virus (CMV)
- ▶ **Demand-side factors:**
  - Changes in consumption patterns: Growing awareness of the health benefits of tomatoes
  - Festivals and holidays
- ▶ **Market-related factors:**
  - Middlemen and transportation costs
  - Speculation and hoarding
- ▶ **Government policies:**
  - Export and import restrictions.

### Government Policies:

- ▶ **Supply-Side Measures:**
  - Minimum Support Prices (MSP) and operation greens
  - Open Market Operations (OMOs)
  - Atmanirbhar Bharat Scheme (ANBS)
- ▶ **Demand-Side Measures:**
  - Targeted Public Distribution System (TPDS): National Food Security Act (NFSA)
  - Direct Benefit Transfer (DBT) Schemes: PM-Kisan Samman Nidhi and Pradhan Mantri Ujjwala Yojana.
  - Price Stabilization Fund (PSF): perishable commodities like onions and potatoes
  - Integrated Scheme for Oilseeds, Pulses, Oil palm & Maize (ISOPOM):
- ▶ **Fiscal and Monetary Policy Adjustments**
  - Pradhan Mantri Fasal Bima Yojana
  - Kisan Credit Card Scheme: Offers loans to farmers at concessional rates.

### Need of the hour:

- ▶ **Strengthening Supply Chains:**
  - Investing in local storage and processing infrastructure
  - Promoting direct farmer-to-consumer markets: Karnataka's "Raitha Samrudhi" scheme:
- ▶ **Demand Management:**
  - Promoting food diversification: Kerala's "Subhiksha Keralam" program:
  - Targeted support for vulnerable populations
- ▶ **Policy and Regulatory Framework:**
  - Streamlining agricultural marketing regulations:
  - Enhancing market monitoring and enforcement
  - Collaborative efforts with neighbouring states:

### 3) What causes inflation in India: Demand or supply issues?

#### Context:

▶ In India, inflation is typically influenced by supply factors, but demand became significant during the Russia-Ukraine conflict, as per the Reserve Bank of India's December bulletin.

#### ▶ Key points:

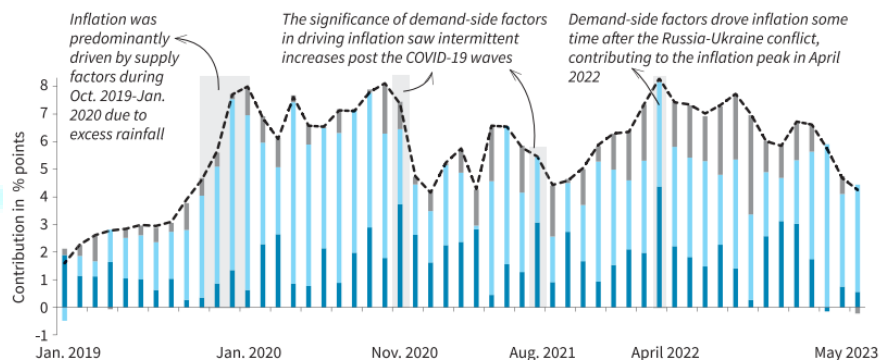
▶ **Pandemic Impact:** Lockdowns caused production and demand decline, sharply reducing economic growth and commodity prices due to weakened demand.

▶ **Recovery Imbalance:** Post-lockdown reopening, vaccine distribution, and pent-up demand recovery outpaced supply, leading to rising pressure on commodity prices.

▶ **Russia-Ukraine Conflict:** The 2022 conflict intensified supply chain challenges, exacerbating commodity price pressures amid an already imbalanced supply-demand scenario.

**Inflation** is the rate at which the general price level of goods and services in an economy is increasing over a period of time. It is usually measured by the Consumer Price Index (CPI) or the Wholesale Price Index (WPI).

**Chart 2:** The chart shows the contribution of demand and supply factors to CPI Inflation excluding housing, each month, between January 2019 and May 2023. — Supply factors — Demand factors — Ambiguous factors - - - CPI Inflation



#### Causes for Inflation:

##### ▶ Demand-Pull Inflation:

- **Increased Consumer Spending:** High consumer demand, especially when it surpasses the available goods and services, can lead to an increase in prices.
- **Government Spending:** Government expenditures, particularly if not supported by sufficient revenue, can contribute to inflation by boosting demand.

##### ▶ Cost-Push Inflation:

- **Rising Production Costs:** An increase in the cost of production, such as higher wages or prices for raw materials, can lead to higher prices for goods and services.
- **Supply Chain Disruptions:** Disruptions in the supply chain, whether due to natural disasters, geopolitical events, or other factors, can reduce the availability of goods and contribute to inflation.

##### ▶ Structural Inflation:

- **Infrastructure Bottlenecks:** Inadequate infrastructure and logistical challenges can limit the supply of goods, leading to higher prices.
- **Administrative Issues:** Administrative inefficiencies, such as complex regulations and bureaucratic hurdles, can impede smooth production and distribution, contributing to inflation.

##### ▶ Monetary Factors:

- **Money Supply Growth:** An excessive increase in the money supply without a corresponding increase in goods and services can lead to more money chasing the same amount of goods, causing inflation.
- **Interest Rates:** Central bank policies, including interest rate adjustments, can impact inflation by influencing borrowing costs and spending patterns.

##### ▶ Global Factors:

- **International Commodity Prices:** Changes in global commodity prices, especially for essential imports like oil, can affect inflation in India.
- **Exchange Rates:** Fluctuations in exchange rates can influence the cost of imported goods, contributing to inflation.

##### ▶ Natural Disasters and Weather Conditions:

- **Crop Failures:** Adverse weather conditions, such as droughts or excessive rainfall, can affect agricultural output and contribute to food inflation.

▶ Geopolitical Events:

- Global Conflicts and Trade Disruptions: Events like geopolitical tensions or trade disruptions can impact the availability and cost of goods in the international market, affecting domestic prices.

**Can inflation have negative effects on the economy?**

- ▶ Inflation, at moderate and predictable levels, is generally considered a normal and even necessary aspect of a growing economy. However, when inflation becomes too high or too volatile, it can have negative consequences for an economy.
- ▶ In India, the responsibility for monetary policy, including setting inflation targets, lies with the Reserve Bank of India (RBI). The RBI operates with the objective of maintaining price stability, which is defined in terms of the Consumer Price Index (CPI). The Monetary Policy Framework Agreement between the Government of India and the RBI outlines the inflation target.

**Measures to be taken to control inflation:**

- ▶ Monetary Policy: Interest Rate Adjustments: The central bank can use tools such as the repo rate to influence borrowing costs and control money supply, thus affecting inflation. Raising interest rates can help reduce spending and curb inflationary pressures.
- ▶ Fiscal Policy: Government Spending Control: The government can adopt measures to control its own spending, especially if excessive government expenditures contribute to inflation.
- ▶ Taxation Policies: Adjustments in taxation policies, such as increasing taxes, can help reduce disposable income and dampen demand.
- ▶ Supply-Side Measures: Infrastructure Development: Investing in infrastructure projects can address bottlenecks in the supply chain, improving the efficiency of production and distribution.
- ▶ Promoting Agriculture: Supporting agriculture through technology, irrigation, and market reforms can enhance productivity and stabilize food prices.
- ▶ Price Control and Monitoring: Anti-Hoarding Measures: Implementing measures to prevent hoarding and speculative practices can help stabilize prices, especially for essential commodities.
- ▶ Exchange Rate Management: Stabilizing Exchange Rates: Ensuring stability in exchange rates can help manage the cost of imports and prevent imported inflation.

**4) A missing industrial policy**

**Introduction:**

- ▶ The **Make in India (MII)**, launched in 2014, campaign marks a departure from India's 1970s self-sufficiency dogma, avoiding interventionist policies. While concerns exist about tariff hikes, MII aims to promote domestic industry without reviving license raj or import substitution.

**Key points:**

- ▶ Protectionist Concerns in MII:
  - Fears of 1970s-like shortages due to protectionism in Make in India (MII).
- ▶ Import Dependency in Mobile Phones:
  - Mobile phones made in India have 80-85% imported content (India Cellular and Electronics Association).
- ▶ Questions on MII's Delivery:
  - MII's promises, especially export competitiveness, raise questions about public presentation and delivery.
- ▶ NMP 2011's Constraints:
  - NMP highlighted physical infrastructure, regulatory complexities, and skilled manpower shortage as manufacturing constraints.
- ▶ NIP '23 Halt and PLI Impact:
  - Temporary halt of NIP '23 raises queries amid ongoing PLI scheme for industrial impact.
- ▶ PLI's Purpose and Industrial Policy:

- PLI aims to attract investments, enhance efficiency, crucial for labour-intensive manufacturing and job creation.

#### Make in India

- Launched in 2014 to transform India into a global manufacturing and investment hub.
- Led by DPIIT, Ministry of Commerce and Industry, Government of India.
- Open invitation to global investors, emphasizing participation in the growth of 'New India.'
- Accomplishments span 27 sectors in Make in India 2.0, covering manufacturing and services, including strategic sectors.

#### Challenges in manufacturing industry:

- ▶ **Protectionist Concerns:**
  - Fear of protectionism impacting sectors. Raised tariff duties for domestic industry protection.
- ▶ **Historical Recklessness:**
  - Reckless protection in the 1970s created shortages, black markets, and rent-seeking.
  - Impact on producers and consumers.
- ▶ **Jobless Growth:**
  - Presence of low-paying, informal jobs in unorganized sectors.
  - Jobless growth due to limited quality jobs and social protection.
- ▶ **PLI Data Gap:**
  - Lack of high-frequency data on PLI impact.
  - Challenges in policymaking without accurate data on value addition and jobs generated

#### **Features of New Industrial Policy**

##### De-reservation of Sectors:

- Reserved only Atomic Energy, Railway operations. Liberalized public sectors in New Industrial Policy.

##### De-licensing Reforms:

- Abolished industrial licensing. Four exceptions: security, environmental concerns.

##### Public Sector Disinvestment:

- Aims at efficiency enhancement. Liberalization allows majority foreign stake in 47 high-priority industries.

##### Technology Agreements:

- New policy facilitates automatic approvals for technology agreements.

##### Competition Act 2002:

- Replaced MRTP Act. Removed threshold limits for assets.

##### FDI Liberalization:

- Numerous sectors allow 100% FDI in the Indian economy today.

- ▶ **Need for Inclusive Policy:**
  - Importance of shaping an industrial policy for mass job creation.
  - Balancing exports with labour-intensive manufacturing for inclusive growth.

#### Measures to be taken:

##### ▶ **Make in India Measures:**

- ▶ Shift from 1970s self-sufficiency to global manufacturing, address protectionist fears, transparent communication, embrace complementary policies, prioritize labor-intensive manufacturing for sustainable job creation.

##### ▶ **National Manufacturing Policy (NMP) 2011:**

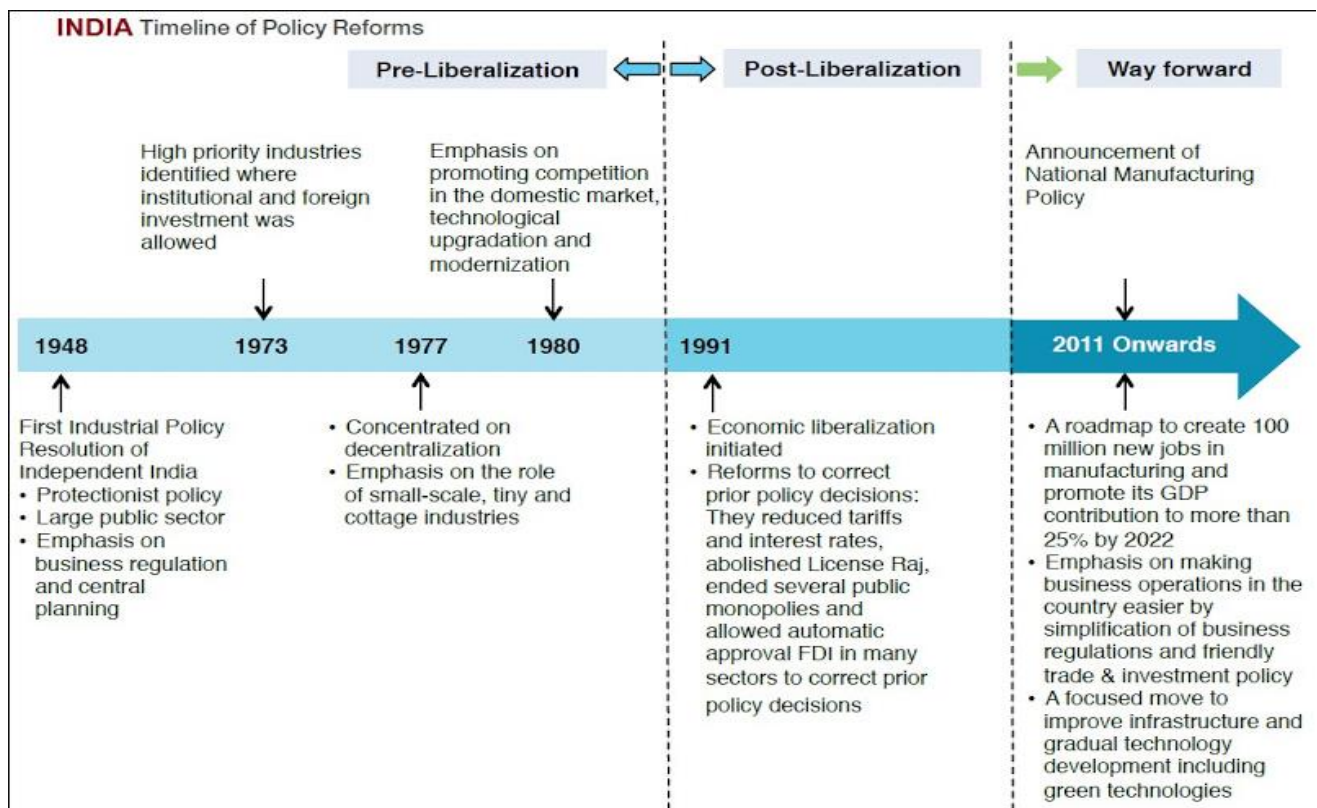
- ▶ Enhance infrastructure, reform regulations, address skilled manpower shortages, elevate manufacturing GDP contribution, align with MII's global export hub objective.

##### ▶ **Production-Linked Incentive (PLI) Scheme:**

- ▶ Attract investments, focus on economies of scale, enhance global competitiveness, diversify PLI to various sectors, prioritize labor-intensive manufacturing for job creation.

##### ▶ **New Industrial Policy (NIP '23):**

- ▶ Clearly articulate policies aligned with labor abundance, prioritize inclusive job growth, balance export focus, enhance data availability, and excel in labor-intensive sectors for economic success.



## 5) VIKSIT BHARAT-HAPPINESS INDUCED MODEL

### Context:

Viksit Bharat has now been formally launched. The idea of making India a developed nation by 2047, the 100th year of its Independence

### What is Viksit Bharat:

Viksit Bharat is a Hindi phrase that means "Developed India". It is a vision of the Government of India to make India a developed nation by the 100th year of its independence, which is in 2047.

- ▶ The vision of Viksit Bharat encompasses four pillars:

- **Economic prosperity:** India should be a leading global economy with a high per capita income and a strong middle class.
- **Social advancement:** India should be a just and equitable society where everyone has equal opportunities and access to basic necessities.
- **Environmental sustainability:** India should be a clean and green country that protects its natural resources.
- **Good governance:** India should have a strong and efficient government that is responsive to the needs of its citizens.

### Challenges for Viksit Bharat:



► **Economic challenges:**

- **Poverty:** According to the World Bank, 22% of Indians lived below the national poverty line in 2022.
- **Inequality:** The richest 1% of Indians control more than 30% of the country's wealth.
- **Unemployment:** India's youth unemployment rate is high, at around 22%.

► **Social challenges:**

- **Gender inequality:** Women face discrimination in education, employment, and healthcare.
- **Discrimination:** India is a diverse country with a wide range of religious and ethnic groups.
- **Insecurity:** terrorism, separatism, and communal violence.

► **Environmental challenges:**

- **Climate change:** India is one of the most vulnerable countries to the effects of climate change.
- **Pollution:** Air pollution is a major health hazard, and water pollution is a threat to the country's water resources.

► **Governance challenges:**

- **Corruption:** It undermines government effectiveness and erodes public trust.
- **Inefficiency:** The Indian government is often inefficient and bureaucratic.
- **Accountability:** The Indian government is not always accountable to the people it serves.

**Strategy needed for Viksit Bharat- Conventional vs. Happiness-Induced Models of Economic Development in India:**

► **Conventional Model:**

- **Focus:** Maximizing Gross Domestic Product (GDP) and per capita income.
- **Means:** Industrialization, urbanization, foreign investment, trade liberalization, export-oriented growth.
- **Benefits:** Rapid economic growth, poverty reduction, creation of jobs and infrastructure.
- **Weaknesses:** Environmental degradation, social inequality, income disparity, social breakdown, mental health issues.
- **Limitations in India:** Overemphasis on GDP neglects human well-being, environmental concerns, and cultural values.

► **Happiness-Induced Model:**

- **Focus:** Improving overall well-being and happiness of citizens.
- **Means:** Investing in education, healthcare, social safety nets, environmental protection, community development, cultural preservation.
- **Benefits:** Improved quality of life increased social cohesion, environmental sustainability, stronger sense of purpose.
- **Weaknesses:** Slower economic growth, potential challenges in attracting investment, difficulty in measuring happiness.
- **Potential in India:** Addresses limitations of conventional model, aligns with India's cultural emphasis on community and spirituality, promotes sustainable development.

► **Considerations for India:**

- **Blending approaches:** Finding a balance between economic growth and human well-being is crucial. Investing in sectors like clean energy and green jobs can achieve both.
- **Contextualization:** India's diverse population and needs require adapting development strategies to local contexts.
- **Data and measurement:** Developing robust metrics for happiness and well-being is essential for monitoring progress and guiding policy.
- **Community participation:** Empowering local communities in decision-making can ensure inclusive and sustainable development.

Ultimately, the choice between conventional and happiness-induced models is not a binary one. India's development path should be guided by a holistic vision that prioritizes both economic progress and the well-being of its citizens. This path requires thoughtful policymaking, data-driven decision-making, and active participation from all stakeholders

## G) SECURITY

### 1) DEFENCE INDIGENIZATION-SIGNIFICANCE AND CHALLENGES:

#### India's Defence Budget: An Overview

- **Total Budget (2023-24):** Rs 5.94 lakh crore (US\$ 73.8 billion) - This represents a 13% increase over the previous year's budget.
- **Share of GDP:** Around 2.15% (including pensions) - This is lower than the global average of around 2.3%, but higher than many developed countries.
- **Rank:** 3rd globally - After the US and China.
- ▶ **Allocation of funds:**
  - **Personnel and Pensions:** Around 53% of the budget is allocated to salaries, pensions, and other expenses related to the armed forces personnel.
  - **Modernization:** Around 28% of the budget is allocated to modernization efforts, including procurement of new weapons and equipment, research and development, and infrastructure development.
  - **Operation and Maintenance:** The remaining 19% is spent on operation and maintenance of existing equipment, training, and other operational expenses.

#### Challenges for Defence Indigenization in India: Hurdles on the Path to Self-Reliance

- ▶ Bureaucratic Hurdles and Complex Acquisition Processes
- ▶ Technological Gaps and Dependence on Foreign Technology
- ▶ Limited Financial Resources and High R&D Costs
- ▶ Fragmented Ecosystem and Lack of Collaboration
- ▶ Inadequate Testing and Certification Infrastructure
- ▶ Skilled Manpower Shortage
- ▶ Intellectual Property Rights Concerns
- ▶ Geopolitical Tensions and External Pressures

#### Measures taken by Indian government for defence indigenization:

- ▶ **Policy and Procurement Reforms:**
  - **Defence Acquisition Procedure (DAP 2020):** "Buy and Make (Indian)" and "Buy & Make - Indigenously Designed, Developed and Manufactured (IDDM),"
  - **Positive Indigenisation Lists:** Identify specific items that must be procured domestically
  - **Streamlined Industrial Licensing process:** Simplifies obtaining licenses
  - **Liberation of FDI Policy:** Allows up to 74% FDI in the defence sector through the automatic route,
- ▶ **Boosting Technological Innovation:**
  - **Innovations for Defence Excellence (iDEX) scheme:** Encourages startups and MSMEs
  - **Mission DefSpace:** Focuses on developing indigenous capabilities in the space domain for military applications.
  - Defence Research and Development Organisation (DRDO)
- ▶ **Building an Ecosystem:**
  - **Defence Industrial Corridors**
  - **SRIJAN Portal:** Facilitates collaboration between the Ministry of Defence (MoD) and Indian industry



## Measures Needed for Defence Indigenization in India: Transforming Challenges into Opportunities

- ▶ **Streamlining Bureaucracy and Acquisition Processes:**
  - Defence Innovation Unit (DIU)
  - Fast-track Procurement Mechanism
  - Transparency and Predictability
- ▶ **Bridging the Technological Gap:**
  - Focused R&D Investments
  - Joint Ventures and Technology Transfer Agreements
  - Academia-Industry Partnerships
  - Example: India's collaboration with Russia on BrahMos missiles and with France on Rafale
- ▶ **Enhancing Financial Resource Allocation:**
  - Public-Private Partnerships
  - Defence Innovation Fund
  - Export Promotion
  - Example: The creation of Defence Industrial Corridors in Uttar Pradesh and Tamil Nadu
- ▶ **Fostering Collaboration and Ecosystem Building:**
  - Single-Window Clearance System
  - Joint Development Programs
  - Knowledge Sharing Platforms
  - Example: The iDEX initiative connects startups and MSMEs with the MoD and DRDO, fostering collaboration and innovation in the defence sector.
- ▶ **Strengthening Testing and Certification Infrastructure:**
  - Invest in Testing Facilities
  - International Collaborations
  - Accreditation of Indian Testing Agencies
  - Example: India collaborated with Israel to establish the Advanced Systems Integration and Test (ASIT) facility, a major step towards building indigenous testing capabilities.
- ▶ **Addressing Skill Gaps and Manpower Development:**
  - Specialized Training Programs
  - Skill Development Partnerships
  - Incentives for Talent Acquisition
  - Example: The Skill India initiative can be tailored to meet the specific skill needs of the defence sector
- ▶ **Strengthening Intellectual Property Rights Protection:**
  - Amend IP Laws
  - Fast-track IP Applications
  - Awareness Campaigns
- ▶ **Navigating Geopolitical Tensions:**
  - Diversify Supplier Base
  - Strategic Partnerships
  - Focus on Indigenous Alternatives

## Need for Defence indigenization:

- ▶ **Enhancing Technological Prowess:** This spills over into other sectors
- ▶ **Reducing Dependence on Foreign Imports:** India currently imports around 53% of its military equipment
- ▶ **Boosting the Economy and Job Creation:** For example, the Indian government aims to achieve a 70% share of domestic procurement in defence manufacturing by 2025, creating millions of jobs in the process.
- ▶ **Strategic Autonomy and Security**

## 2) Safety and cybersecurity

### Introduction:

- ▶ In October, US company RESECURITY revealed Indians' personal data, including Aadhaar and passport numbers, for sale on the dark web, affecting 815 million citizens. Data breaches persist, raising global concerns.

### Cyber-Security Challenges:

- ▶ Stolen personal data exposes Indians to identity theft, financial scams, and cyber fraud. India's rapid economic growth amplifies risks, necessitating robust security measures against potential threats
- ▶ According to the World Bank, "India is among the world's fastest-growing economies of the worlds and is poised to continue on this path, with aspirations to achieve high-middle-income status by 2047".
- ▶ Global cyber threats persist. The US, under Biden, addresses breaches with strong cybersecurity measures. In contrast, India lacks transparency and strategic cyber defence.
- ▶ Aadhaar misuse persists despite Supreme Court prohibition, as government mandates registration, exposing citizens to unmanaged digital risks and cybersecurity challenges.
- ▶ Data breaches, from Comcast to UIDAI, normalize personal data losses. UIDAI faces criticism for lax regulation, security flaws, and transparency issues.
- ▶ India's Data Protection Act lacks safeguards for health data, exempting the government and limiting rights for correction, completion, and updating.

As per the **World Economic Forum**, a **cyber-attack** is defined as "an attempt by hackers to damage or destroy a computer network or system. Cyber-attacks **aim to disable, disrupt, destroy or control computer systems or to alter, steal or destroy the data they contain**".

### Types of Cyber attacks

**Phishing:** A type of social engineering attack where the attacker sends fraudulent emails or messages to trick the victim into revealing sensitive information such as passwords, credit card numbers, etc.

**Ransomware:** A type of malware that encrypts the victim's data and demands a ransom in exchange for the decryption key.

**Trojan horse:** A type of malware that disguises itself as legitimate software.

**MITM Attacks:** A type of attack where the attacker intercepts the communication between two parties to steal sensitive information.

**Whale-phishing Attacks:** A type of phishing attack that targets high-value individuals such as CEOs, CFOs, etc.

**SQL Injection Attack:** A type of attack where the attacker injects malicious SQL code into a web application to steal sensitive information.

**Web Attacks:** A type of attack that exploits vulnerabilities in web applications to steal sensitive information or take control of the system.

**Malware Attack:** A type of attack where the attacker infects the victim's system with malware.

### India's Cyber Security Infrastructure:

- ▶ CERT-In (Indian Computer Emergency Response Team):
  - Mandates reporting cyberattacks promptly.
  - Designates a point person with domain knowledge for interaction.
- ▶ Digital Personal Protection Bill, 2022:
  - Proposes hefty penalties, up to ₹500 crore, for data breaches.
- ▶ Defence Cyber Agency (DCyA):
  - Armed forces' agency for offensive and defensive cyber operations.
- ▶ Cybercrime Co-ordination Centre (I4C):
  - Nodal point for coordinating responses against cybercrime.

- Facilitates coordination with state police forces and implements MLATs with other countries.
- ▶ Other Initiatives:
  - Cyber Surakshit Bharat
  - Cyber Swachhta Kendra
  - National Cyber Security Coordination Centre (NCCC)
  - National Cyber Security Policy 2013

#### **Measures:**

- ▶ Prioritize cybersecurity with a focus on prevention, detection, assessment, and remediation of cyber incidents for national security.
- ▶ Recognize digital infrastructure's vital role and ensure transparency and accountability to enhance trustworthiness.
- ▶ Establish a cyber security board with government and private sector collaboration to analyse incidents and recommend improvements.
- ▶ Implement a zero-trust architecture and mandate standardized playbooks for responding to cybersecurity vulnerabilities and incidents.
- ▶ Urgently defend and modernize state networks, updating incident response policies to address evolving cyber threats effectively.

#### **Global efforts:**

- ▶ The UN General Assembly initiated two parallel efforts on cybersecurity: the Open-ended Working Group (OEWG) and the Group of Governmental Experts (GGE).
- ▶ International Cybersecurity Treaties: India has signed cybersecurity treaties with countries including the United States, Russia, the United Kingdom, South Korea, and the European Union.
- ▶ Global Cybersecurity Cooperation Challenges: While multinational frameworks like the Quad and I2U2 aim to boost collaboration in cyber incident responses and technology, a truly global framework is lacking, leading to fragmented efforts and siloed approaches.

#### **Conclusion:**

- ▶ Addressing India's cybersecurity challenges requires a comprehensive approach. Strengthening domestic measures, collaborating globally through treaties and frameworks, and prioritizing innovative solutions are crucial to safeguarding digital infrastructure and personal data in an increasingly interconnected world.

### 3) INS IMPHAL-PROJECT 15B-SIGNIFICANCE

#### Context:

- ▶ INS Imphal (Pennant D68), the third of four warships of Project 15B that together form the Visakhapatnam class stealth-guided missile destroyers, is set to be commissioned into the Indian Navy on Tuesday (December 26).

#### What is project 15B and its features?

Project 15B refers to the construction of a class of four stealth guided-missile destroyers for the Indian Navy. These destroyers are officially known as the Visakhapatnam class, also sometimes called the P-15 Bravo class.

- ▶ **Stealth:** Designed with reduced radar cross-section for improved survivability in combat.
- ▶ **Armament:** Equipped with a potent arsenal of missiles, guns, torpedoes, and other weapons for anti-ship, anti-air, and anti-submarine warfare.
- ▶ **Sensors:** Advanced radar, sonar, and electronic warfare systems for comprehensive situational awareness.
- ▶ **Propulsion:** Powered by gas turbines for high speed and manoeuvrability.
- ▶ **Indigenous content:** Around 75% of the ships are built using Indian materials and technology, signifying a major step towards self-reliance in shipbuilding.

#### Challenges in Maritime Security for India:

- ▶ **Traditional Threats:**
  - **Piracy:** particularly off Somalia.
  - **Smuggling:** Illegal activities like drug trafficking, arms smuggling, and human trafficking
  - **Territorial Disputes:** Maritime border disputes with Pakistan, Bangladesh, and Sri Lanka
- ▶ **Emerging Threats:**
  - **Non-State Actors:** Terrorist groups and armed insurgent groups
  - **Cybersecurity**
  - **Environmental Threats:** Piracy of resources, illegal fishing, and marine pollution
- ▶ **Internal Challenges:**
  - **Resource Constraints:** the Indian Navy and Coast Guard face limitations in manpower, equipment, and infrastructure, necessitating efficient resource allocation and strategic partnerships.
  - **Coordination gaps:** Multiple agencies are involved in maritime security
  - **Technological Advancement:** underwater drones and autonomous vessels necessitate continuous adaptation and investment in research and development.
- ▶ **Additional Concerns:**
  - **Climate Change:** Rising sea levels, extreme weather events, and ocean acidification
  - **Pandemics and health crises:** Maritime transport can be a vector for disease outbreaks.

#### key features of INS Imphal:

- ▶ **Stealth:**
  - This makes it difficult for enemy radars to detect, giving it a tactical advantage in combat.
- ▶ **Armament:**
  - 48 Vertical Launch System (VLS) cells, capable of launching BrahMos supersonic anti-ship missiles and Barak 8 surface-to-air missiles.
  - 4 × 533 mm (21 in) torpedo tubes for attacking submarines.
  - 2 × RBU-6000 anti-submarine rocket launchers.
  - 1 × OTO Melara 76 mm naval gun.
  - 4 × AK-630M CIWS for close-in defence against aircraft and missiles.
  - 2 × OFT 12.7 mm M2 Stabilized Remote Controlled Gun.
- ▶ **Sensors:**
  - Advanced radars for air and surface surveillance.
  - Sonar for underwater detection.
  - Electronic warfare systems for jamming enemy radars and communications.
- ▶ **Propulsion:**
  - The ship is powered by four gas turbines, which give it a maximum speed of over 30 knots.
- ▶ **Indigenous content:**
  - 75% of the ship being built using indigenous materials and technology

### Project 15B: A Pivotal Leap for India's Maritime Might: Significance

- ▶ **Strategic Strength**
- ▶ **Technological Advancement:** around 75% indigenous content
- ▶ **Economic Impact:** The project translates into economic benefits, creating jobs in the shipbuilding industry and fostering ancillary industries. It also reduces dependence on foreign imports, strengthening the national economy.
- ▶ **National Security:** Project 15B sends a clear message of India's commitment to safeguarding its maritime borders and ensuring secure sea lanes for trade and commerce. This contributes to regional stability and fosters confidence in India's role as a responsible maritime power.
- ▶ **International Recognition:** These modern destroyers showcase India's growing technological prowess on the global stage.

### Other projects

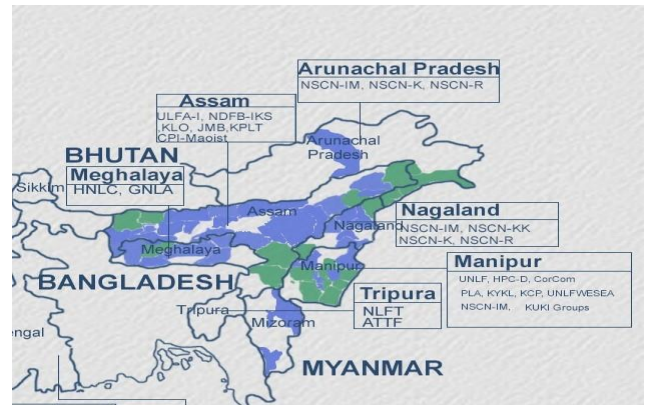
- ▶ Project 75I (India's Indigenous Aircraft Carrier Program)
- ▶ Project 28 (Multi-Role Stealth Frigates)
- ▶ Project 15A (Kolkata-class Destroyers)
- ▶ Project 17A (Nilgiri-class) Stealth Frigates
- ▶ Project 25A (Next-Generation Offshore Patrol Vessels)
- ▶ Project 11B DDG (Delhi-class Destroyers)
- ▶ Project 70 (Ocean-class Landing Platform Docks)
- ▶ Project 26 (Multi-Role Patrol Boats)
- ▶ Project 12A (Offshore Patrol Vessels)

#### 4) NE INSURGENCY-REASONS-MEASURES

##### What is NE insurgency?

The term "NE insurgency" refers to the ongoing armed conflicts in the Northeastern region of India, primarily involving various separatist militant groups operating in the region. **These groups have been fighting for various goals, including:**

- ▶ **Secession from India:** Some groups, such as the United Liberation Front of Asom (ULFA) and the National Socialist Council of Nagaland (NSCN), have demanded complete independence from India.
- ▶ **Greater autonomy:** Other groups, such as the Garo National Liberation Front (GNLF) and the Tripura National Liberation Front (NLFT), have demanded greater autonomy within India.
- ▶ **Protection of ethnic identity and rights:** Many groups are fighting to protect the unique cultures and traditions of the various ethnic groups in the Northeast, which they feel are threatened by the dominant Indian culture.



##### Reasons for NE insurgency:

- ▶ **Historical grievances:**
  - Annexation by the British
  - Feeling of neglect by post-independence India
  - Cultural identity and discrimination
- ▶ **Political factors:**
  - Demand for autonomy or secession: fueled by feeling of discrimination and under-representation in the political system.
  - Porous borders and external support: Bangladesh
  - Failures of political governance
- ▶ **Social and economic factors:**
  - Economic underdevelopment and poverty
  - Alienation and lack of development
  - Youth unemployment and lack of opportunity

##### Impact of NE insurgency

- ▶ **Human and social cost:**
  - Loss of life
  - Internal displacement
  - Trauma and psychological impact
  - Disruption of education and healthcare.
  - Social division and distrust
- ▶ **Economic impact:**
  - Hindered development
  - Limited livelihood opportunities
  - Increased security expenditure
  - Tourism decline
- ▶ **Environmental impact:**
  - Deforestation and resource exploitation
  - Landmines and unexploded ordnance
- ▶ **Political and security impact:**
  - Instability and insecurity
  - Increased militarization
  - Human rights concerns

##### Government of India Measures to Reduce NE Insurgency: Schemes and State-Specific Initiatives

- ▶ **Security Measures:**
  - Counter-insurgency operations
  - **Border protection:** Strengthening border security along Bangladesh, Myanmar, and Bhutan to curtail arms smuggling and movement of insurgents.
  - Modernization of security forces
  - Surrender and rehabilitation programs
- ▶ **Development Initiatives:**
  - Northeast Region Development Council (NERDC)

- Northeast Special Infrastructure and Development Zone (NESIDZ)

► **Political Dialogue:**

- **Peace accords:** Shillong Accord (1975), Mizoram Accord (1986), Assam Accord (1985), Tripura Accord (2020), Naga Peace Process

► **State-Specific Measures:**

- **Assam:** Focus on addressing ethnic tensions, infrastructure development, and economic revival through schemes like "Sarva Gunotsav" for education and "Aatma Nirbhar Krishi Yojana" for agriculture.
- **Nagaland:** Ongoing peace process with Naga insurgent groups, along with schemes like "Skill Development Mission" and "Rural Livelihood Mission" for empowering youth and communities.
- **Manipur:** Initiatives include conflict resolution mechanisms, tribal development programs like "Manipur Hill Areas Development Authority," and promoting tourism through projects like "Heritage Villages."
- **Meghalaya:** Focus on environmental protection, sustainable development through "Meghalaya Basin Development Authority," and fostering entrepreneurship with schemes like "Meghalaya Youth Entrepreneurship Development Programme."



## E) ENVIRONMENT

### 1) LOSS AND DAMAGE FUND-CHALLENGES AND INDIA'S ROLE:

#### Context:

- ▶ On the opening day of the COP28 climate conference in Dubai, a loss and damage fund to help vulnerable countries cope with the impact of climate change has been officially launched.
  - The **initial funding is estimated to be \$475 million** – host UAE pledged \$100 million, the European Union promised \$275 million, \$17.5 million from the US, and \$10 million from Japan.

#### What is the loss and damage fund?

- ▶ The loss and damage fund is a **global financial package to ensure the rescue and rehabilitation of countries facing the cascading effects of climate change.**
  - The term refers to the compensation that rich nations, whose industrial growth has resulted in global warming and driven the planet into a climate crisis, must pay to poor nations, whose carbon footprint is low but are facing the brunt of rising sea levels, floods, crippling droughts, and intense cyclones, among others.
  - The changing climate has impacted lives, livelihoods, biodiversity, cultural traditions, and identities.

#### How much damage has been caused by industrialisation?

- ▶ **The Industrial Era started in 1850**, disrupting Earth's natural mechanism for the production and absorption of greenhouse gases.
  - **Today, the US, the UK and the EU are considered to be responsible for 50% of all emissions.** Bring Russia, Canada, Japan, and Australia into the picture and it jumps to 65%, i.e. two-thirds of all emissions.
  - Compared to them, **India is responsible for only 4% of historical emissions.** Meanwhile China, the world's biggest emitter in the last 15 years, is responsible for 30% of global emissions every year.
- ▶ **Greenhouse gases** comprise methane, nitrous oxide, water vapour, and carbon dioxide (CO<sub>2</sub>) – with CO<sub>2</sub> responsible for most of the global heating. Carbon particles are being released in extremely large quantities and they have the ability to linger in Earth's atmosphere seemingly endlessly, at least for a millennium or more, and warm it.

#### How much loss and damage is the world facing?

- ▶ Research shows that 55 vulnerable countries have suffered **\$ 525 billion combined climate crisis-fuelled losses in the last 20 years.**
  - **The number is estimated to reach \$ 580 billion per year by 2030.** Global warming has changed the way the world lives, with vulnerable communities being the worst affected.

#### Timeline of the Loss and Damage Fund:

1. **1991:** The concept of a "Loss and Damage" fund is introduced at the United Nations Framework Convention on Climate Change (UNFCCC) in Geneva. The Loss and Damage Fund was **first suggested by Vanuatu in 1991**
2. **1987 - 2022:** The Alliance of Small Island States (AOSIS) and other developing countries continue to call for the establishment of a dedicated fund to address loss and damage, but developed countries resist.
3. **2021:** At COP26 in Glasgow, the G77 and China formally call for a "Loss and Damage Finance Facility," but the proposal is not adopted.
4. **November 2022:** At COP27 in Sharm El-Sheikh, a historic breakthrough occurs. Countries agree to establish a "Loss and Damage Fund" to assist developing countries in responding to climate impacts.
5. **November 2022 - November 2023:** A Transitional Committee is established to design the fund, including its structure, governance, and funding sources.
6. **November 2023 (COP28):** The Transitional Committee presents its recommendations for the Loss and Damage Fund to the UNFCCC parties for consideration and adoption.
7. **November 2023 (COP28):** Adoption of the Loss and Damage Fund structure and governance.



### Importance of loss and damage:

#### ► Addressing climate injustice:

- **Historical responsibility:** The fund acknowledges the historical responsibility of developed nations for climate change, which has disproportionately affected developing countries.
- **Financial support:** It provides financial resources to help these countries recover from climate disasters and build resilience for the future.
- **Equity and justice:** It promotes equity and justice by ensuring that the costs of climate change are not borne solely by those who have contributed the least to it.

#### ► Addressing unavoidable losses and damages:

- **Beyond mitigation and adaptation:** While mitigation and adaptation are crucial, they cannot prevent all climate impacts. The fund addresses the unavoidable losses and damages that communities are already experiencing.
- **Supporting recovery and reconstruction:** It provides resources for recovery, reconstruction, and relocation of communities displaced by climate disasters.
- **Protecting livelihoods and ecosystems:** It helps communities protect their livelihoods and ecosystems from the devastating impacts of climate change.

#### ► Building resilience for the future:

- **Investing in adaptation:** The fund can be used to invest in long-term adaptation strategies, such as early warning systems, climate-resilient infrastructure, and sustainable agriculture.
- **Building capacity:** It can help developing countries build their capacity to manage climate risks and implement effective adaptation measures.
- **Promoting a global response:** It encourages international cooperation and solidarity in addressing the global challenge of climate change.

#### ► Enhancing international cooperation:

- **Building trust:** The establishment of the fund is a significant step in building trust between developed and developing countries on climate change.
- **Shared responsibility:** It acknowledges the shared responsibility for addressing climate change and encourages collective action.
- **Strengthening global climate governance:** It strengthens the global climate governance architecture by providing a mechanism for addressing the impacts of climate change.

#### ► A moral imperative:

- **Humanitarian concern:** The fund represents a moral imperative to help communities suffering from the impacts of climate change.
- **Protecting human rights:** It contributes to the protection of human rights by ensuring that people have the resources they need to survive and thrive in the face of climate change.
- **Building a sustainable future:** Addressing loss and damage is essential for building a sustainable and equitable future for all.

### Challenges in the Loss and Damage Fund:

#### ► Funding:

- **Developed countries' reluctance:** Several developed nations, particularly the US, are reluctant to contribute significantly to the fund, raising concerns about its long-term sustainability.
- **Voluntary contributions:** The current design relies on voluntary contributions from countries, creating uncertainty about the fund's future financial strength.
- **Additionality:** Ensuring that the fund's resources are "additional" to existing climate finance commitments remains a challenge.

#### ► Operationalization:

- **Defining "loss and damage":** Reaching a universally accepted definition of "loss and damage" will be crucial for determining eligibility and allocating resources.
- **Governance structure:** Establishing a fair and transparent governance structure for the fund, ensuring equitable representation of developed and developing countries.
- **Eligibility criteria:** Defining clear and objective criteria for determining which countries and communities are eligible for assistance.

- **Differentiation:** Recognizing the different vulnerabilities and capacities of developing countries in accessing and managing funds.

► **Implementation:**

- **Delivery mechanisms:** Establishing efficient and effective mechanisms for delivering resources to communities in need.
- **Capacity building:** Building the capacity of developing countries to manage and utilize the funds effectively.
- **Monitoring and evaluation:** Developing robust systems for monitoring the impact of the fund and ensuring accountability.

► **Addressing existing and future losses:**

- **Retroactive compensation:** Addressing historical losses and damages caused by climate change, which can be a major demand from developing countries.
- **Rapid response:** Developing mechanisms for swift and responsive assistance to communities affected by extreme weather events.
- **Long-term adaptation:** Supporting long-term adaptation strategies in developing countries to build resilience to climate change impacts.

► **Political will:**

- **Maintaining the political will** and commitment of all countries, particularly developed nations, to support the Loss and Damage Fund is crucial for its success.
- **Overcoming historical tensions:** Addressing historical responsibility for climate change and building trust between developed and developing countries remains a challenge.

**India's role in the loss and damage:**

India has played a crucial role in the establishment and ongoing development of the Loss and Damage Fund. Here are some key aspects of India's involvement:

► **Championing the cause:**

- India has been a **vocal advocate** for the establishment of a Loss and Damage Fund since the early days of climate change negotiations.
- Indian leaders have consistently **highlighted the disproportionate impact of climate change** on developing countries and the need for financial support to address loss and damage.
- India played a key role in securing the **breakthrough at COP27**, leading to the fund's establishment.

► **Shaping the fund's design:**

- India **actively participated in the Transitional Committee** responsible for designing the Loss and Damage Fund.
- India's representatives pushed for a fund that is accessible, responsive, and meets the needs of vulnerable countries.
- India emphasized the importance of clear eligibility criteria, effective governance structures, and robust monitoring and evaluation mechanisms.

► **Contributing to the fund:**

- While the fund's final structure and funding sources are still under discussion, **India has expressed its commitment to contributing to the fund.**
- India's contributions will be crucial to ensuring the fund's long-term sustainability and effectiveness.
- India is also likely to encourage other developing countries to contribute to the fund.

► **Leading by example:**

- India is actively implementing climate adaptation measures at home, demonstrating its commitment to building resilience to climate change.
- By sharing its **experiences and best practices**, India can help other developing countries prepare for and respond to the impacts of climate change.
- India's leadership in this area can inspire other countries to take bolder action on climate change.

► **Building alliances:**

- India is working **with other developing countries to build a strong united front** for Loss and Damage.

- Collaboration among developing countries ensures their voices are heard and their needs are addressed in international climate negotiations.
- This collective action is essential for securing a **fair and equitable global response to climate change**.

Source :

[COP28 climate summit just approved a 'loss and damage' fund. What does this mean? - The Hindu](#)

[Loss and damage fund approved at COP28 summit: All you need to know | Explained News - The Indian Express](#)

<https://www.unep.org/news-and-stories/story/what-you-need-know-about-cop27-loss-and-damage-fund>

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[teriin.org/sites/default/files/2023-11/Loss-and-Damage-Discussion-Paper.pdf](https://www.teriin.org/sites/default/files/2023-11/Loss-and-Damage-Discussion-Paper.pdf)

[Documents - Loss and Damage | UNFCCC](#)

## 2) COP-28: THE FOSSIL FUEL QUESTION:

### Context:

- ▶ The furor created by the remarks of Sultan Al Jaber, who is presiding over the ongoing **COP28 climate** meeting in Dubai, may force countries to include, for the first time, a reference to a fossil fuel phase-down in the final outcome of a climate conference.

### Fossil fuels as the elephant in the room:

- ▶ **Phasing out:** Many countries and organizations are pushing for a strong commitment to phasing out fossil fuels at COP28. This is seen as essential to limiting global warming to 1.5°C.
- ▶ **Resistance from producers:** However, major fossil fuel producers like Saudi Arabia (the COP28 host) and Russia are resisting this, fearing economic damage.
- ▶ **Mixed signals:** The UAE, while hosting the summit, is simultaneously expanding its own oil production. This inconsistency fuels frustration among climate activists.

### Data:

- ▶ **Global CO<sub>2</sub> emissions from fossil fuels:** Since the Industrial Revolution, global CO<sub>2</sub> emissions from fossil fuels have increased exponentially. In 2020, they reached a record high of 36.3 GtCO<sub>2</sub>, according to the **Global Carbon Project**.
- ▶ **Fossil fuel share of greenhouse gas emissions:** Fossil fuels contribute roughly 75% of total greenhouse gas emissions, with CO<sub>2</sub> being the primary driver.
- ▶ **Observed warming trends:** Global average temperatures have risen by about 1°C since pre-industrial times.

### Fossil fuel impacts:

- ▶ **Melting glaciers and sea ice:** Rising temperatures are causing glaciers and sea ice to melt at alarming rates, contributing to sea level rise and coastal flooding.
- ▶ **Extreme weather events:** Heatwaves, droughts, wildfires, floods, and hurricanes are becoming more frequent and intense due to climate change, fueled by fossil fuel emissions.
- ▶ **Ocean acidification:** As CO<sub>2</sub> dissolves in the oceans, they become more acidic, harming marine ecosystems, and disrupting the food chain.

### India's role in fossil fuel reduction:

- ▶ **Data on India's fossil fuel**
  - India's CO<sub>2</sub> emissions from fossil fuels in 2020: **2.44 GtCO<sub>2</sub>** (Global Carbon Project)
  - India's renewable energy target for 2030: **500 GW** (Ministry of New and Renewable Energy)
  - Investment needed for India's clean energy transition by 2030: **\$500 billion** (International Energy Agency)
- ▶ **Progress and commitments:**

- **Ambitious goals:** India set a net-zero emissions target by 2070 and pledged 50% of its electricity from renewables by 2030.
- **Renewable energy boom:** Renewable energy capacity has seen a 10-fold increase in the last decade, reaching over 172 GW. India ranks **4th globally in renewable energy capacity**.
- **Phasing out coal:** While still heavily reliant on coal, India is gradually retiring old coal plants and investing heavily in clean coal technologies like carbon capture and storage.
- **Energy efficiency push:** Programs promoting energy-efficient appliances and buildings are reducing energy consumption and emissions.
- **Green hydrogen ambitions:** India aims to become a global hub for green hydrogen production, potentially replacing fossil fuels in sectors like refineries and fertilizer.
- ▶ **Challenges and concerns:**
  - **Coal dependence:** Coal still dominates India's energy mix, accounting for about **70% of electricity** generation. Reducing this dependence rapidly is crucial.
  - **Emission trajectory:** Despite progress, India's current policies are projected to increase emissions by over **40% by 2030**, falling short of the Paris Agreement goals.
  - **Economic constraints:** Transitioning away from fossil fuels requires **massive investments**, which can be challenging for a developing economy like India.
  - **Equity and access:** **Ensuring a just transition** that protects the livelihoods of those dependent on fossil fuel industries is crucial.

#### Measures needed by countries to reduce fossil fuel consumption post-COP28:

- ▶ **Carbon Pricing:** EU's Emissions Trading System (ETS), China's pilot carbon trading programs.
- ▶ **Invest in Renewable Energy:** India's goal to triple renewable capacity by 2030, Kenya's geothermal energy development.
- ▶ **Phase Out Fossil Fuel Subsidies:** Indonesia's recent phase-out of subsidized gasoline.
- ▶ **Improve Energy Efficiency:** Japan's promotion of heat pumps and LED lighting.
- ▶ **Promote Electric Vehicles (EVs):** US tax credits for EVs.
- ▶ **Carbon Capture and Storage (CCS):** Canada's carbon capture hubs.
- ▶ **Invest in Climate-Resilient Infrastructure:** Bangladesh's cyclone shelters and flood defences.

### 3) PLASTIC POLLUTION- CAUSES-EFFECTS-MEASURES:

#### Context:

- ▶ The Intergovernmental Negotiating Committee (INC), under the **United Nations Environment Programme, met in Nairobi on November 13-19** for its third round of negotiations to develop an international legally binding instrument to end plastic pollution worldwide. **Under the UNEA Resolution 5/14, the INC is responsible for delivering a global plastics treaty by 2025.**

#### What is plastic pollution?

- ▶ Plastic pollution is the **accumulation of plastic objects and particles in the Earth's environment** that adversely affects humans, wildlife, and their habitat. Plastics that act as pollutants are **categorized by size** into micro-, meso-, or macro debris.
  - **Microplastic** is less than **5 millimetres** in diameter. It can be found in water, soil, and air.
  - **Mesoplastic** is between **5 and 25 millimetres** in diameter. It is often found in marine environments.
  - **Macroplastic** is larger than **25 millimetres** in diameter. It includes plastic bags, bottles, and other large plastic items.

#### Data on plastic pollution:

- ▶ **Global Plastic Pollution Statistics**
  - **Plastic production:** Global plastic production reached 448 million tonnes in 2019, up from 359 million tonnes in 2015. (Plastics Europe Market Research Group)

- **Plastic waste generation:** An estimated 380 million tonnes of plastic waste were generated worldwide in 2019, with only 9% recycled. (Our World in Data)
- **Plastic pollution in oceans:** An estimated 11 million tonnes of plastic waste enter the ocean every year. (United Nations Environment Programme)
- ▶ **Plastic Pollution in India**
  - **Plastic waste generation:** India generates an estimated 3.3 million tonnes of plastic waste annually. (Central Pollution Control Board)
  - **Plastic waste management:** Only 12% of plastic waste in India is recycled, while the rest is either landfilled, burned, or leaks into the environment. (Centre for Science and Environment)
  - **Plastic pollution in rivers:** Indian rivers are among the most polluted in the world with plastic waste, with the Ganges River carrying an estimated 15,000 tonnes of plastic waste into the ocean each year. (World Resources Institute)

#### Factors that contribute to the plastic pollution:

- ▶ Rapid Urbanization and Economic Growth
- ▶ Inadequate Waste Management Infrastructure
- ▶ Public Awareness and Behavioural Patterns
- ▶ Lack of Extended Producer Responsibility (EPR)
- ▶ Informal Recycling Sector
- ▶ Inadequate Packaging Regulations
- ▶ Limited Availability of Sustainable Alternatives
- ▶ Lack of Incentives for Plastic Reduction

#### Significant impacts of plastic pollution in India and around the world:

- ▶ **Environmental Impacts**
  - **Degradation of Ecosystems:** Plastic Pollution in the Ganges, Ghost Gear Entanglement in Whales
  - **Habitat Destruction:** Plastic Pollution in the Great Pacific Garbage Patch
  - **Microplastic Contamination:** Microplastics have been detected in shellfish, fish, and even table salt.
- ▶ **Human Health Impacts**
  - Ingestion Hazards
  - Chemical Exposure
  - Water Contamination
- ▶ **Economic Impacts**
  - Tourism Decline
  - Fishing Industry Losses
  - Waste Management Costs

#### Measures needed:

- ▶ **Policy and Regulatory Interventions:**
  - Enact Extended Producer Responsibility (EPR): Chile has a comprehensive Extended Producer Responsibility (EPR) policy.
  - Ban Single-Use Plastics: **Rwanda's Plastic Bag Ban**
  - Implement Plastic Waste Management Regulations: **Germany's Packaging Law**
- ▶ **Technological Advancements and Innovations:**
  - Develop Sustainable Packaging Alternatives
  - Enhance Plastic Recycling Technologies
  - Design Plastic Capture Systems

### Initiatives to Tackle Plastic Pollution:

#### ▶ **India's Initiatives to Tackle Plastic Pollution**

- Ban on Single-Use Plastics
- Extended Producer Responsibility (EPR)
- Plastic Waste Management Rules, 2016
- Swachh Bharat Abhiyan
- **Promotion of Alternatives:** such as bioplastics, plant-based materials, and reusable containers,

#### ▶ **Global Efforts to Combat Plastic Pollution**

- United Nations Environment Programme (UNEP): **UNEP launched the Clean Seas campaign.**
- **Basel Convention:** has adopted amendments to regulate the transboundary movement of plastic waste.
- European Union's Single-Use Plastics Directive
- **G20 Osaka Blue Ocean Vision**
- G7 Plastic Pollution Commitment
- **New Plastics Economy Initiative:** The Ellen MacArthur Foundation's New Plastics Economy Initiative

#### ▶ **Technological Advancements**

- **Bioplastics:** made from renewable resources like plant-based materials.
- **Advanced Recycling Technologies:** such as chemical recycling and enzyme-based recycling.
- **Plastic Capture Systems**

#### ▶ **Public Awareness and Behavioural Change:**

- Promote Environmental Education
- Encourage Sustainable Consumer Choices
- Empower Local Communities

#### ▶ **Economic Incentives and Market Mechanisms:**

- Introduce Plastic Taxes: **Kenya's Plastic Waste Buyback Program**
- Provide Subsidies for Sustainable Alternatives

▶ [Source What's the status of the UN treaty to end plastic pollution? | Explained - The Hindu](#)

### 4) CCS AND CDR-RELEVANCE AND CHALLENGES:

#### What is CCS (Carbon Capture and Storage)?

- ▶ Carbon Capture and Storage (CCS) refers to technologies that capture carbon dioxide (CO<sub>2</sub>) at the source of emission, before it is released into the atmosphere. This captured CO<sub>2</sub> is then transported and stored underground in geological formations, such as depleted oil and gas wells or saline aquifers.

#### What is CDR (Carbon Dioxide Removal)?

- ▶ Carbon Dioxide Removal (CDR) refers to a wider range of technologies and approaches that aim to remove CO<sub>2</sub> from the atmosphere itself. This is in contrast to CCS, which focuses on capturing CO<sub>2</sub> from point sources of emission.

#### Benefits of CCS and CDR:

#### Main types of CCS technologies:

- ▶ Pre-combustion capture
- ▶ Post-combustion capture
- ▶ Oxyfuel combustion

#### Types of CDR technologies

- ▶ Direct air capture (DAC)
- ▶ Bioenergy with carbon capture and storage (BECCS)
- ▶ Enhanced weathering

CCS:

- ▶ **Reduces emissions from major sources:** The Petra Nova project in Texas captures 90% of CO2 emissions from a coal-fired power plant.
- ▶ **Enables cleaner fossil fuel use.**
- ▶ **Boosts oil and gas recovery:** The Sleipner project in Norway captures CO2 from a natural gas processing plant and injects it into the North Sea, both reducing emissions and enhancing oil recovery. Creates jobs and economic opportunities: The International Energy Agency estimates that CCS could create millions of jobs globally by 2050.



The Petra Nova project in Texas

CDR:

- ▶ **Addresses hard-to-decarbonize sectors:** like aviation and agriculture.
- ▶ **Removes historical CO2:** Climeworks' Orca plant in Iceland, which captures CO2 directly from the air and mineralizes it permanently underground.
- ▶ **Enhances natural CO2 sinks:** For example, the Bonn Challenge aims to restore 350 million hectares of degraded land by 2030, which could remove billions of tons of CO2 from the atmosphere.
- ▶ **Provides valuable co-products:** Some CDR technologies, like bioenergy with carbon capture and storage (BECCS), produce **biofuels** alongside capturing CO2.



Climeworks' Orca plant in Iceland,

Key differences between CCS and CDR:

- ▶ **Target:** CCS focuses on capturing emissions at the source, while CDR removes CO2 directly from the atmosphere.
- ▶ **Maturity:** CCS is a more mature technology with several operating projects worldwide, while most CDR technologies are still in the early stages of development.
- ▶ **Cost:** CCS is generally cheaper than most CDR technologies currently, but costs are expected to decrease as CDR technologies mature.

Challenges in CCS and CDR: Overcoming Hurdles for Climate Action:CCS:

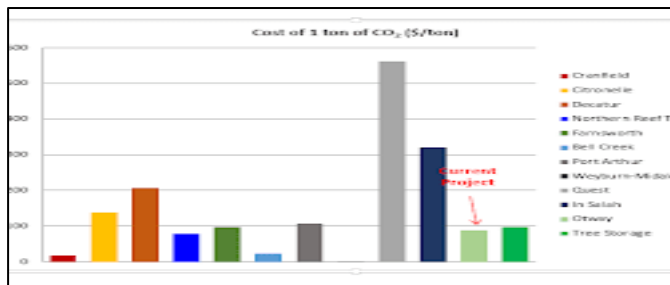
- ▶ **Cost:** The National Academies of Sciences, Engineering, and Medicine estimates that the cost of capturing CO2 from a typical coal-fired power plant ranges from \$40 to \$80 per tonne.
- ▶ **Storage security**
- ▶ **Public acceptance**

India's measures to CCS and CDR:**Carbon Capture and Storage (CCS):**

- ▶ Draft 2030 Roadmap for CCUS for Upstream E&P Companies:

**Carbon Dioxide Removal (CDR):**

- ▶ The Bonn Challenge India aims to restore 5 million hectares of degraded land by 2030, contributing to carbon sequestration.



### CDR:

- ▶ **Technological maturity:** For example, direct air capture (DAC) currently captures CO<sub>2</sub> at a much slower rate and higher cost than traditional industrial emission sources.
- ▶ **Energy requirements:** Relying on fossil fuels for this energy would negate the climate benefits of CO<sub>2</sub> removal.
- ▶ **Limited financial support:** Current levels of funding remain insufficient to fully unlock the potential of these technologies.

### Global Measures for CCS and CDR: Accelerating Climate Action International Policy Frameworks:

- ▶ Paris Agreement
- ▶ Clean Development Mechanism (CDM) of Kyoto protocol.
- ▶ Mission Innovation
- ▶ **Governmental Initiatives:**
  - **United States:** Advanced Research Projects Agency-Energy (ARPA-E) and the Carbon Capture Demonstration Projects program
  - **European Union:** The EU Innovation Fund allocates funding for large-scale demonstration projects for CCS and CDR technologies.

**China:** China is increasingly investing in CCS technologies, aiming to capture and store up to 100 million tonnes of CO<sub>2</sub> annually by 2060.

## 5) COP-28: ROLE OF CITIES IN CLIMATE CHANGE

### Context:

Rafal Trzaskowski, ENVE chair and Mayor of Warsaw, leading member of the mayor's delegation for COP-28, argued for formally recognising the role of subnational governments in global climate change negotiations, accelerating and scaling up climate action by working across all levels of governance and sectors, and providing direct financing and technical assistance to cities and regions. This will require an 'out of the box' imagination as it would mean transgressing the authorities of federal governments. Nevertheless, the moot point is that cities and regions are key actors in driving climate ambition forward and in creating green jobs, reducing air pollution, and improving human health and well-being. The efforts of city governments should be formally recognised in COP decision documents.



### Importance of cities in climate change?

- ▶ **Major emitters:** While cities occupy just 2% of the Earth's surface, they are responsible for a whopping 75% of global CO<sub>2</sub> emissions. This stems from activities like transportation, energy use in buildings, and waste management. Therefore, reducing emissions in cities has a substantial impact on mitigating climate change.
- ▶ **Innovation hubs:** For example, **Copenhagen** aims to be carbon-neutral by 2025 with initiatives like green roofs, solar panels, and electric bike infrastructure.
- ▶ **Policy powerhouses:** **Mexico City's "Hoy No Circula"** program, restricting certain vehicles from driving on specific days, significantly reduced air pollution.



- ▶ **Influencing behaviour:** Amsterdam's extensive cycling infrastructure and promotion of car-free zones have made it a global leader in sustainable urban mobility.
- ▶ **Building resilience:** Rotterdam's "Room for the River" project uses dikes and canals to control flooding during high tides.

#### Role of Indian cities in tackling climate change:

- ▶ **Green Energy Revolution:**
  - **Ahmedabad:** This city is leading the rooftop solar charge, aiming for 1 GW of solar power by 2025.
  - **Chennai:** The "Chennai Solar Mission" aims to make the city carbon-neutral by 2040.
- ▶ **Sustainable Mobility:**
  - **Pune:** The city boasts India's first fully electric bus fleet.
  - **Chandigarh:** Known for its cycling infrastructure and car-free zones.
- ▶ **Resilience and Urban Planning:**
  - **Surat:** After facing devastating floods in 2013, Surat revamped its drainage system and built embankments to mitigate future impact.
  - **Jaipur:** The "Jaipur Development Plan 2030" prioritizes green spaces and urban forests.
- ▶ **Community Engagement and Awareness:**
  - **Bengaluru:** The city's "Saahas Zero Waste" campaign
  - **Delhi:** The "Green Diwali" initiative

#### The Crucial Role of the Global South in Climate Change Negotiations:

- ▶ **Leading by Vulnerability**
  - **Frontline of Impacts:** Nations like Bangladesh, Mozambique, and Fiji are on the frontlines of climate change,
  - **Moral Compass:** The Global South often champions the principle of climate justice; The Paris Agreement incorporated the principle of climate justice.
- ▶ **Drivers of Innovation:**
  - **Low-carbon Development Paths:** Many Southern nations, like Costa Rica and Bhutan have plans.
  - **Indigenous Knowledge:** Traditional knowledge systems held by Indigenous communities.
- ▶ **Champions of Equity and Collaboration:**
  - **Advocating for Fairness:** The Global South pushes for differentiated responsibilities in climate action, The International Solar Alliance, led by India.
  - **Building South-South Cooperation:** Platforms like the African Group of Negotiators and the Climate Vulnerable Forum

#### The Vulnerability of Cities to Climate Change:

- ▶ **Sea Level Rise and Coastal Cities:** Low-lying Island nations like Tuvalu and Kiribati and coastal cities like Jakarta and Venice experiencing increasing flooding and erosion.
- ▶ **Extreme Weather Events:** Heatwaves in Delhi, India, and Phoenix, USA. Superstorms like Hurricane Harvey in Houston, USA
- ▶ **Urban Heat Island Effect:** Densely built cities like Tokyo and Los Angeles experience amplified heat due to lack of green spaces and heat-absorbing materials.
- ▶ **Water Scarcity and Droughts:** Cape Town, South Africa,
- ▶ **Air Pollution and Public Health:**

#### Measures needed to reduce vulnerability of cities:

- ▶ Investing in green infrastructure
- ▶ Adapting infrastructure
- ▶ Promoting sustainable transportation
- ▶ Building energy-efficient buildings
- ▶ Strengthening early warning systems and emergency preparedness

## 6) India's ethanol conundrum

### Introduction:

- ▶ India grapples with meeting its 20% ethanol blending target by 2025 amid low sugar stocks and sugarcane shortfall, prompting a shift to grain-based ethanol, particularly maize, raising concerns for the economy.

### Key Points:

- ▶ **Ethanol Blending Dynamics:** Ethanol blending's competitiveness varies with crude oil prices, being subsidized and competitive at high prices but less so at low prices.
- ▶ **Sugarcane vs. Corn Conflict:** Sugarcane processing minimally impacts sugar, while corn-based ethanol reduces food and livestock feed availability, creating conflicts.
- ▶ **Impact of High Crude Oil Prices:** High crude oil prices (2004-2014) raised ethanol and corn prices, affecting global food prices and redirecting soft grains to livestock.
- ▶ **Crude-Food Price Link in Crisis:** The U.S.'s corn-based ethanol program intensified the crude-food price link, contributing significantly to the 2006-2014 global food crisis

**Ethanol** is a type of alcohol that is produced through the fermentation of sugars, typically derived from plants such as corn, sugarcane, or other crops rich in carbohydrates. It is a **renewable biofuel** that can be used as an **alternative to traditional fossil fuels**.

### Measures taken by Government of India:

- ▶ **Expansion of Feedstock for Ethanol Production:** The government has taken measures to diversify the feedstock used for ethanol production, potentially incorporating a variety of crops or biomass sources beyond traditional feedstocks.
- ▶ **Administered Price Mechanism for Ethanol Procurement:** The implementation of an administered price mechanism ensures a structured and regulated pricing system for the procurement of ethanol under the Ethanol Blended Petrol (EBP) Programme, providing stability and incentives for producers.
- ▶ **Lowered GST Rate on Ethanol:** To encourage ethanol blending, the government has lowered the Goods and Services Tax (GST) rate on ethanol used in the EBP Programme to 5%, reducing the financial burden on stakeholders involved in ethanol production and distribution.
- ▶ **Amendment in Industries (Development & Regulation) Act:** Amendments to the Industries (Development & Regulation) Act facilitate the free movement of ethanol across states for blending, removing regulatory barriers and streamlining the logistics of ethanol distribution.
- ▶ **Interest Subvention Scheme for Ethanol Production Capacity:** The government has introduced an interest subvention scheme to provide financial support for the enhancement and augmentation of ethanol production capacity in the country, promoting increased investment in ethanol infrastructure.

### **Uses of Ethanol**

**Fuel Additive:** Ethanol is commonly blended with gasoline to create ethanol-blended fuels. For example, E10 refers to gasoline containing 10% ethanol.

**Biofuel:** Ethanol is used as a renewable and environmentally friendly alternative to conventional fuels in the transportation sector.

**Industrial Applications:** Industrial ethanol is utilized in the production of a wide range of products, including pharmaceuticals, cosmetics, solvents, and chemicals.

**Alcoholic Beverages:** Ethanol is the type of alcohol found in alcoholic beverages. It is produced through the fermentation of sugars in grains or fruits.

- ▶ **Regular Expression of Interest (EoI) by Oil Marketing Companies (OMCs):** Public Sector Oil Marketing Companies (OMCs) regularly float Expressions of Interest (EoI) to procure ethanol, creating a transparent and competitive procurement process to ensure a steady supply for the EBP Programme.

#### United States

- The United States is one of the largest producers and consumers of ethanol in the world.
- Corn is the primary feedstock for ethanol production in the U.S.
- The country has implemented ethanol blending mandates, and E10 (a blend of 10% ethanol and 90% gasoline) is commonly available at gas stations across the country.
- The use of ethanol as a biofuel in the U.S. has been driven by efforts to reduce dependence on fossil fuels and promote renewable energy sources.

#### Brazil

Brazil is a global leader in ethanol production and consumption.

Sugarcane is the predominant feedstock for ethanol production in Brazil.

The country has a well-established bioethanol program, with a significant portion of its transportation fuel coming from ethanol.

Brazil has been successful in using sugarcane-derived ethanol as a renewable and cleaner alternative to gasoline.

Flex-fuel vehicles, capable of running on ethanol or gasoline, are widely popular in Brazil, providing consumers with flexibility in fuel choices.

#### Measures to be taken:

- ▶ **Research and Development Investments:** Allocate resources to enhance ethanol production, explore new feedstocks, and boost efficiency through innovative solutions, fostering sustainable practices.
- ▶ **Stable and Supportive Policy Environment:** Maintain clear regulations, consistent incentives, and long-term planning, ensuring investor confidence and policy adaptability with industry expert input.
- ▶ **Infrastructure Development:** Invest in upgrading and building infrastructure for the entire ethanol supply chain, optimizing production, storage, and distribution processes nationwide.
- ▶ **Public Awareness Campaigns:** Educate consumers on ethanol-blended fuels, emphasizing environmental and economic benefits, addressing misconceptions, and garnering support for the transition.
- ▶ **International Collaboration and Best Practices:** Collaborate globally, sharing best practices, technological innovations, and experiences in ethanol production. Learn from successful models to shape effective domestic strategies and policies.

## SCIENCE AND TECHNOLOGY & HEALTH

### 1) Understanding how the Global Positioning System (GPS) works

#### Introduction:

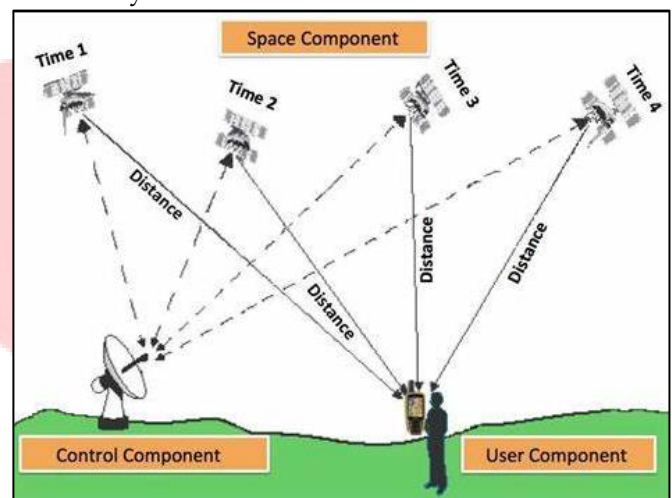
- ▶ Global Positioning System (GPS) revolutionized daily life, impacting civilians, the military, scientific studies, urban planning, and disaster risk estimation. It transformed our sense of place and location, reshaping expectations worldwide.

#### About GPS Programme:

- ▶ The U.S. Department of Defence initiated the GPS program in 1973, launching the first satellite in 1978. The GPS system comprises 24 satellites in six orbits, providing global coverage.
- ▶ It has three parts: space (satellites), control (ground-based stations), and user (applications).
  - The GPS space segment includes 24 satellites distributed in six orbits, each 20,200 km above Earth, ensuring global visibility with four satellites visible at any location.
  - The control segment oversees 24 satellites, ensuring their performance adheres to standards. Global stations, including master and monitoring sites, maintain GPS functionality worldwide.
  - The user segment utilizes GPS across sectors like agriculture, construction, logistics, and military. In 2021, 6.5 billion GNSS devices were installed globally, projected to reach 10 billion by 2031.

#### What is GPS?

The Global Positioning System (GPS) is a utility owned by the United States, offering positioning, navigation, and timing (PNT) services.



#### How does GPS work?

- ▶ GPS satellites transmit signals at L1 and L2 frequencies, encoded with code-division multiple access. Receivers calculate distance using signal travel time, enabling precise triangulation. Adjustments, considering relativity, ensure accurate location information.

#### How do the satellites keep time?

- ▶ GPS satellites maintain precise timekeeping with atomic clocks synchronized to within 10 nanoseconds of each other and ground reference clocks. Atomic clocks rely on electrons' energy states to ensure accurate time measurement.

#### Do other countries have GNSS?

- ▶ The U.S. GPS system collaborates with other Global Navigation Satellite Systems (GNSS) worldwide. Notable systems include Russia's GLONASS, the EU's Galileo, and China's BeiDou. Regular meetings and an International Committee on GNSS, under the UN, ensure compatibility and cooperation.

#### Application of GPS in various fields

- ▶ **Navigation:** It is widely used for navigation in vehicles, ships, and aircraft. It helps users determine their precise location, plan routes, and receive real-time navigation instructions.
- ▶ **Agriculture:** In precision agriculture, GPS aids farmers in optimizing field-level management with tasks such as planting, harvesting, and soil sampling. It enhances efficiency and reduces resource use.
- ▶ **Surveying and Mapping:** Surveyors use GPS for accurate mapping and land surveying.

▶

**India's NavIC:**

India introduced its Navigation with Indian Constellation (NavIC) in 2006, comprising seven satellites for ground-based navigation. Master control centers in Karnataka and Madhya Pradesh oversee the system. NavIC satellites use rubidium atomic clocks and transmit on multiple frequency bands, with added messaging capabilities for specific alerts. GAGAN, another system by ISRO, enhances GPS for civil aviation safety in Indian airspace.

- ▶ **Weather Forecasting:** Meteorologists use GPS data to improve weather forecasting. It provides valuable information about atmospheric conditions, contributing to more accurate predictions.
- ▶ **Wildlife Tracking:** Researchers use GPS to track the movement of wildlife, studying migration patterns, habitats, and behaviour. This information aids in wildlife conservation efforts.
- ▶ **Military and Defence:** GPS is crucial for military operations, guiding troops, vehicles, and missiles. It enhances situational awareness and precision in targeting.

**2) TUBERCULOSIS-CAUSES-PREVALENCE-MESURES:****What is Tuberculosis (TB)?**

- ▶ Tuberculosis (TB) is a serious contagious disease caused by bacteria called Mycobacterium tuberculosis. It mainly affects the lungs but can also spread to other parts of the body, including the brain, kidneys, and spine.

**Types of TB:**

- ▶ **Pulmonary TB:** This is the most common type of TB, affecting the lungs.
- ▶ **Extrapulmonary TB:** This type of TB affects other parts of the body, such as the lymph nodes, brain, kidneys, bones, and joints.
- ▶ **Latent TB:** People with latent TB have the TB bacteria in their bodies but are not sick and cannot spread the bacteria to others.
- ▶ **Active TB:** People with active TB are sick and can spread the bacteria to others.

**Causes of TB:**

- ▶ **Inhalation of bacteria:** through air droplets when a person with active TB coughs, sneezes, or talks.
- ▶ **Weakened immune system:** This includes people with HIV/AIDS, diabetes, malnutrition, and cancer.

**Drug-resistant TB:** This type of TB is resistant to one or more of the drugs used to treat it. data on TB

**Data on TB prevalence in India:**

- ▶ **India TB Report 2022:**
  - Reports 2,135,830 notified TB cases in India in 2021.
  - Shows a decline in TB cases compared to 2019 (2,404,815 cases) but higher than 2020 (1,805,670 cases).
- ▶ Highlights the presence of 40% undiagnosed TB cases in India

**Reasons for High TB Prevalence in India:**

- ▶ **Socioeconomic factors:**
  - **Poverty:** Limited access to nutritious food, clean water, and sanitation
  - **Overcrowding:** Living in crowded and poorly ventilated conditions
- ▶ **Limited access to healthcare:** Many people in India lacks access to timely diagnosis and treatment

**International initiatives working to control TB:**

- ▶ **World Health Organization (WHO) End TB Strategy:** This global strategy aims to reduce the incidence of TB by 80% and TB deaths by 90% by 2030 compared to 2015.
- ▶ Stop TB Partnership
- ▶ Global Plan to End TB
- ▶ Global Drug-resistant TB Initiative (GDI)
- ▶ The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund)

**Measures taken by India to end TB by 2025:**

- ▶ **National Strategic Plan to End TB in India 2020-25:**
  - Early detection and diagnosis
  - Effective treatment
  - Preventing TB
  - Building strong systems and capacities
  - Engaging communities and stakeholders
- ▶ **Pradhan Mantri TB Mukh Bharat Abhiyaan**
  - Adopting a patient-centric approach
  - Leveraging technology
  - Strengthening community engagement
  - Public-private partnerships
- ▶ Ni-kshay Mitra campaign
- ▶ TB-Mukt Panchayat initiative

▶ **Health system challenges:**

- **Weak healthcare infrastructure:** Shortage of healthcare workers, diagnostic equipment, Drugs
- **Lack of awareness:** about TB symptoms and transmission, leading to late diagnosis and treatment.
- **Stigma associated with TB:** Stigma discourages individuals.

▶ **Drug-resistant TB (DR-TB):**

- **India has the highest burden of DR-TB globally.**
- Factors like poor treatment adherence and inadequate access to quality diagnostics

▶ **Environmental factors:**

- **Air pollution:** India's high air pollution levels contribute to respiratory problems.
- **Undernutrition:** Malnutrition weakens the immune system

▶ **Other factors:**

- **Comorbidities:** HIV/ AIDS, diabetes, and other chronic illnesses weaken the immune system
- **Smoking:** Smoking is a major risk factor for TB
- **Alcohol abuse:** Alcohol abuse weakens the immune system.

**Measures needed to Reduce TB in India by 2025:**▶ **Early Detection and Diagnosis:**

- Expand access to rapid diagnostics: Utilize technology like GeneXpert and mobile X-ray vans.
- Promote community engagement: encourage timely testing.
- Strengthen laboratory infrastructure.

▶ **Effective Treatment:**

- Universal access to free, high-quality TB treatment
- Nutritional support
- Address treatment adherence

▶ **Preventing TB:**

- Scale-up BCG vaccination coverage:
- Promote healthy living.

- Implement infection control measures.
- ▶ **Building Strong Systems and Capacities:**
  - Strengthen health infrastructure.
  - Enhance surveillance and data management.
  - Promote research and development.
- ▶ **Engaging Communities and Stakeholders:**
  - Build partnerships with NGOs and the private sector.
  - Engage community leaders and religious leaders.
- ▶ **Leveraging Technology:**
  - Utilize digital platforms.
  - Invest in telemedicine and remote monitoring.
- ▶ **Addressing Social Determinants of Health:**
  - Focus on poverty alleviation.
  - Promote education and awareness.
  - Strengthen healthcare access.
- ▶ **Combatting Drug-Resistant TB:**
  - Implement effective treatment protocols.
  - Strengthen laboratory capacity for DR-TB diagnosis:

### Drugs and Vaccination for TB:

- ▶ **Drugs for TB:**
- ▶ **Standard First-Line Drugs:**
  - Isoniazid (INH)
  - Rifampicin (RIF)
  - Ethambutol (EMB)
- ▶ **Second-Line Drugs:**
  - Bedaquiline (BDQ)
  - Delamanid (DLM)
- ▶ **Vaccination for TB**
  - **BCG (Bacille Calmette-Guérin)** vaccine: Only vaccine available for TB prevention.
- ▶ **Treatment Regimens:**
  - **DOTS (Directly Observed Treatment Short course):** Standard treatment regimen for TB.
  - **Regimens for Drug-Resistant TB (DR-TB):**
    - (1) More complex and lengthy than DOTS.
    - (2) May involve multiple drugs and longer treatment duration.
    - (3) Require specialized management and close monitoring.

### 3) India's first winter of Arctic research: why it matters

#### Context:

- ▶ India's Arctic research station, HIMADRI, in Ny-Ålesund, Svalbard, will operate year-round. The first winter expedition, with four scientists from different institutions, departed on Monday for research at HIMADRI.

#### Key points:

##### ▶ **Bases in the Arctic:**

- Ny-Ålesund, located above the 78th parallel N, hosts an International Arctic Research base with facilities from at least 10 countries.
- Situated 1,200 km from the North Pole, it is the closest human habitation.
- The challenging climate includes a February temperature of -14°C and a July temperature of 5°C.
- Extreme cold typically limits scientific activities to the summer, but India's HIMADRI station is breaking this trend, joining a select group of nations operating Arctic research bases year-round.
- This move allows for expanded scientific observations and sampling even in winter conditions.

##### ▶ **Arctic Research:**

- The polar regions, Arctic and Antarctica, provide pristine environments for diverse scientific studies in atmospheric, oceanic, biological, geological, glaciological, and earth sciences.
- Climate change research has particularly drawn scientists to the Arctic region.
- The area above the Arctic Circle, belonging to eight countries (Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the US), along with the Arctic Ocean, is collectively governed by the Arctic Council.
- This intergovernmental forum addresses various issues, including sustainable development and environmental protection.
- Scientific research in the Arctic is regulated by international legal instruments such as the Svalbard Treaty of 1920, which grants certain rights to signatory nations for non-military activities on the Svalbard archipelago, and the UN Convention on the Law of the Sea.
- Additionally, individual Arctic countries exercise jurisdiction over specific territories. These legal frameworks help facilitate collaborative research efforts, ensuring responsible and coordinated exploration of the unique and sensitive Arctic environment.

##### ▶ **Impact of warming:**

- Arctic temperatures have risen by about 4°C in the past century, with 2023 being the warmest recorded year.
- Declining sea ice at 13%/decade suggests potential ice-free Arctic conditions in less than 20 years, impacting global climate, sea levels, and weather patterns.
- Melting ice may make the Arctic more habitable, leading to increased exploration, resource exploitation, and strategic interests by nations.

##### ▶ **India in the arctic:**

- India signed the Svalbard Treaty in 1920, but it wasn't until 2007 that the first Indian expedition, comprising five scientists, initiated studies in Arctic microbiology, atmospheric sciences, and geology at Ny-Ålesund.

#### **Arctic Council**

The Arctic Council is the leading intergovernmental forum promoting cooperation, coordination and interaction among the Arctic States, Arctic Indigenous Peoples and other Arctic inhabitants on common Arctic issues, in particular on issues of sustainable development and environmental protection in the Arctic. It was formally established in 1996.

#### **Arctic Council Members**

- Canada
- The Kingdom of Denmark
- Finland
- Iceland
- Norway
- The Russian Federation
- Sweden
- The United States



- The permanent research station, Himadri, operational since July 2008, hosts Indian researchers and facilitates studies, with a recent winter expedition focusing on atmospheric sciences, astronomy, astrophysics, and climate studies.
- Himadri, manned for about 180 days annually, collaborates with Norwegian agencies for specialized equipment, winter gear, and logistics support, demonstrating India's commitment to Arctic exploration and research.

### **Importance of the Arctic for India:**

#### ▶ **Abundant Hydrocarbon Reserves:**

- ▶ The Arctic region holds the largest untapped hydrocarbon reserves globally, potentially containing over 40% of current oil and gas reserves, addressing India's energy security needs.

#### ▶ **Resource-Rich Territory:**

- ▶ Rich in coal, gypsum, diamonds, zinc, lead, placer gold, and quartz, the Arctic presents an opportunity to fulfill India's strategic and rare earth mineral deficiencies.

#### ▶ **Arctic Policy Aligned with Sustainability:**

- ▶ India's 2022 Arctic Policy aligns with UN Sustainable Development Goals, guiding the economic development of the region while addressing environmental concerns.



#### ▶ **Historical Arctic Engagement:**

- ▶ India's Arctic engagement began with the 1920 Svalbard Treaty. Scientific studies, research initiatives, and becoming an Arctic Council observer since 2013 demonstrate India's commitment to the region.

#### ▶ **Geopolitical Significance:**

- ▶ As an observer-state, India's Arctic presence strengthens its geopolitical standing. The Arctic's role in global ocean currents and temperature regulation underscores its geopolitical importance.

#### ▶ **Environmental Connection:**

- ▶ The Arctic's environmental significance extends to the Himalayas, influencing glacial melt. India's scientific expeditions and research in the Arctic contribute to understanding Himalayan glacial dynamics.

#### ▶ **Arctic-Himalaya Interconnection:**

- ▶ The Arctic's role in ocean circulation and ice reflectivity impacts the Himalayas. India's Arctic studies, initiated in 2007, aid understanding the interconnected environmental concerns of these distant regions.

#### 4) Will SLIM revolutionise lunar landings?

##### Context:

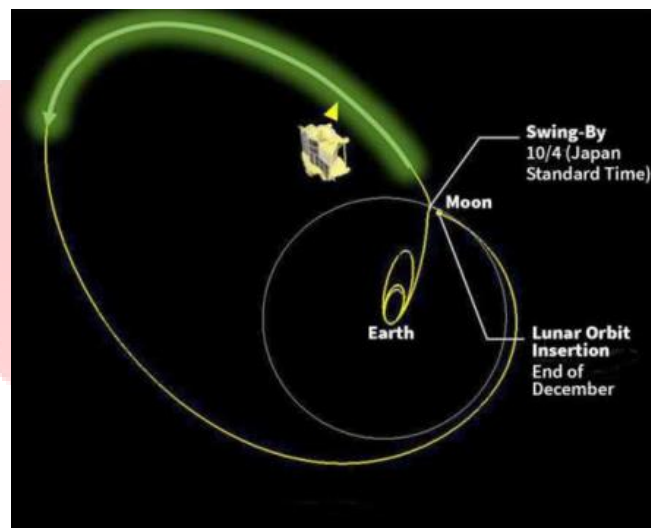
- ▶ On December 25 at 1:21 pm IST, Japan's SLIM spacecraft entered lunar orbit, anticipating a January 19 moon landing. If successful, Japan will be the fifth country to achieve this feat, impacting India's upcoming Chandrayaan-4 mission.

##### What is SLIM?

- ▶ SLIM stands for "Smart Lander for Investigating Moon," and it is a spacecraft developed and launched by the Japan Aerospace Exploration Agency (JAXA). SLIM is designed for lunar exploration, and its primary objective is to perform a soft landing on the Moon's surface to conduct scientific investigations.

##### Significant features of SLIM:

- ▶ **Fuel Efficiency and Travel Time:** SLIM is lighter due to minimized fuel, allowing a fuel-thrifty route over four months, in contrast to Chandrayaan-3's one-month journey.
- ▶ **Orbital Manoeuvring Strategy:** SLIM employs a unique orbital manoeuvring strategy, accumulating kinetic energy around Earth before a lunar deflection, akin to JAXA's 'Hiten' mission in the late 1980s.
- ▶ **Orbital Path:** SLIM follows an elongated path, optimizing fuel efficiency before achieving orbital capture near the moon on Christmas Day.
- ▶ **Precision Landing Goal:** SLIM targets an exceptionally precise lunar landing, aiming within 100 meters of its designated site near the "Shioli Crater" on January 19.
- ▶ **Comparative Moon-Landing Accuracy:** SLIM's precision landing goal surpasses previous missions, exceeding China's Chang'e 3 record by targeting within 100 meters.
- ▶ **Mission Equipment and Support:** With a mass of 120 kg (excluding fuel), SLIM utilizes data from JAXA's SELENE orbiter for guidance, showcasing an economical design in its compact size.
- ▶ **Lunar Rovers and Scientific Goals:** SLIM deploys small rovers, LEV-1 and LEV-2, for lunar surface study, collecting temperature, radiation data, and exploring the moon's mantle before landing.
- ▶ **Chandrayan-3 vs SLIM**



Features	Chandrayan-3	SLIM
<b>Space Agency</b>	Chandrayaan-3 is an Indian lunar exploration mission conducted by the Indian Space Research Organisation (ISRO).	SLIM is a Japanese lunar exploration mission conducted by the Japan Aerospace Exploration Agency (JAXA).
<b>Mission Type</b>	Chandrayaan-3 was a robotic mission, involving a lander and rover designed for lunar surface exploration.	SLIM is a robotic mission with a focus on lunar surface exploration and precision landing.
<b>Weight</b>	Chandrayaan-3 had a significant weight at launch, weighing 3,900 kg.	SLIM has a lighter weight at launch, weighing only 590 kg, emphasizing fuel efficiency.
<b>Landing Site</b>	The mission's landing site was situated on the lunar surface, with the Vikram lander successfully executing a soft landing.	SLIM aims for a precision landing near the Shioli Crater, with a goal of landing within 100 meters of the chosen site.

<b>Precision Landing</b>	Chandrayaan-3 aimed for precision in landing but operated with a broader landing area tolerance.	SLIM sets a remarkable goal for precision landing, attempting to soft-land within the smallest-ever area tolerance on the moon.
<b>Scientific Instruments</b>	Chandrayaan-3 carried a suite of scientific instruments for lunar exploration and analysis.	SLIM carries instruments for lunar surface study, and it plans to deploy small rovers (LEV-1 and LEV-2) to collect data before landing.

#### **How will SLIM affect Chandrayaan-4?**

- ▶ **Technological Insights:** SLIM's successful testing of technologies like feature-matching algorithms and navigation systems could influence Chandrayaan-4, guiding ISRO in technology adoption and refinement.
- ▶ **Precision Landing Strategies:** SLIM's precise landing attempt near the *Shioli Crater* provides valuable lessons for Chandrayaan-4, aiding in strategy development through challenges and successes.
- ▶ **Scientific Collaboration:** Successful experiments and data collection by SLIM on the lunar surface may shape Chandrayaan-4's scientific objectives, enriching overall lunar exploration goals and outcomes.
- ▶ **Joint Indian-Japanese Enterprise:** SLIM and Chandrayaan-4's joint Indian-Japan enterprise could benefit from SLIM's success, fostering stronger collaboration and a positive environment for lunar exploration.
- ▶ **Landing Site Considerations:** SLIM's landing site challenges near the moon's South Pole could shape Chandrayaan-4's considerations, applying lessons for optimized landing success.
- ▶ **Launch Vehicle and Rover Collaboration:** JAXA supplying LUPEX components for Chandrayaan-4 fosters confidence in Japanese contributions' reliability, enhancing collaboration prospects for successful lunar exploration.

**International Recognition:** SLIM's success could boost JAXA and ISRO's global standing, potentially benefiting Chandrayaan-4 with increased collaboration.

## ETHICS INTEGRITY AND APTITUDE

### 1) Ethics and Human Interface - Sources of Ethics

#### ▶ What is Ethics?

▶ Ethics is a branch of philosophy or a **system of moral principles** that **governs the conduct of individuals and groups**. It involves the study of **what is morally right or wrong**, and the development of principles and standards that help individuals make ethical decisions and choices in their personal and professional lives. Ethics seeks to address **questions of morality, virtue, duty, and justice**, and it plays a crucial role in shaping individual character and societal norms.

▶ **According to Aristotle**, ethics is a branch of practical philosophy that deals with how individuals should live their lives. He is concerned with the moral character of individuals and the virtues that lead to a flourishing and well-lived life. According to him, the ultimate goal or end for human beings is *eudaimonia*, often translated as "flourishing" or "living well."

#### ▶ Sources of Ethics:

▶ **Family:** it plays a significant role in the development of ethical values and moral principles for individuals.

- For example, Telling the truth is an important ethical act in a family. It helps to build trust and respect among family members.

▶ **Society:** Ethical standards within a society are shaped by cultural norms, legal systems, social institutions, and collective beliefs.

- For example, the concept of *seva*, or selfless service, is present in various Indian societies. Acts of compassion towards weaker sections are often seen as a form of *seva*, contributing to the welfare of society.

▶ **Religion:** Many people derive their ethical principles from religious beliefs and teachings. Different religions provide moral guidelines and commandments that followers are expected to adhere to.

- For example, Indian religious traditions, including those found in Hindu philosophy, often emphasize the concept of Dharma (Righteous Duty).

▶ **Legal Ethics:** Laws and legal systems often reflect a society's ethical standards. While not all legal actions are necessarily ethical, the legal framework provides a baseline for acceptable behaviour.

- For example, the **Preamble of the Indian Constitution** begins with the commitment to secure "**justice – social, economic, and political**." This reflects an ethical philosophy that seeks to establish a just and equitable society, addressing social inequalities and ensuring the well-being of all citizens.

▶ **Professional Ethics:** Various professions have their own codes of ethics that guide the conduct of individuals within those fields.

- For example, medical professionals follow medical ethics, and journalists adhere to journalistic ethics.

▶ **Natural Law:** these principles are believed to be discoverable through reason and are not dependent on human-made laws.

- For example, natural law recognizes the principle of self-defence as a means to protect one's own life when faced with a direct and imminent threat. This principle is derived from the inherent right to life.

▶ **Environmental Ethics:** it explores ethical principles regarding the treatment of the natural world and the impact of human activities on the environment.

- **Sustainable Agriculture Practices:** Imagine a farmer who owns a piece of land and is faced with decisions about how to manage agricultural practices. In this scenario, the farmer is influenced by environmental ethics and chooses to implement sustainable agriculture practices.

▶ **Secular Ethics:** In a secular context, ethical principles are developed without reliance on religious or divine authority.

- For example, Humanism, emphasizes human values and reason as the basis for ethical decision-making.

## 2) Importance of Ethics

### ▶ At Individual Level

- ▶ **Moral Integrity:** Individuals practicing ethical behaviour contribute to the moral fabric of society.
  - For example, Raju Narayana Swamy is a 1991-batch IAS officer of the Kerala-cadre. He is known for exposing corruption, even in the government, and has been transferred 20 times.
- ▶ **Personal Growth:** Maslow's Hierarchy of Needs places self-actualization at the pinnacle, achievable only when individuals uphold ethics and remain true to themselves.
- ▶ **Social Harmony:** Ethical behaviour promotes social harmony by respecting diversity and avoiding discrimination.
  - In Sendhwa town in Barwani district of Madhya Pradesh, Hindu and Muslim residents came together to cremate 75-year-old Sitaram who had no family member left behind. People from both the communities attended his funeral ceremony and cremated him with full honour.
- ▶ **Civic Responsibility:** Individuals adhering to ethical values fulfil their civic responsibilities, such as following laws and participating in community activities. For instance, responsible voting and obeying traffic rules.
- ▶ **Family Values:** Ethics play a crucial role in upholding family values.
  - An example is prioritizing family needs over personal desires and maintaining loyalty and trust within the family unit.
- ▶ **Honesty:** Honesty is the quality of being truthful, transparent, and sincere in actions and communication, fostering trust and integrity.
  - For example, Ashok Khemka, a 1991-batch IAS officer, is one of the most senior and honest civil servants. The dedicated officer is known and respected for his fight against corruption.
- ▶ **Health and Well-being:** Ethical choices contribute to physical and mental well-being.
  - For instance, avoiding harmful habits and making choices that prioritize overall health.
- ▶ **Personal Satisfaction:** Individuals find personal satisfaction and peace of mind through ethical actions.
  - For example, choosing to help others in need without expecting anything in return.
- ▶ At Societal Level:
- ▶ **Social Cohesion:** Ethical practices strengthen social bonds, fostering a sense of belonging and unity.
  - An example is communities coming together for social causes like environmental conservation.
- ▶ **Justice and Fairness:** Ethics underpin the principles of justice and fairness in society.
  - An example is legal systems ensuring equal treatment for all citizens, irrespective of background.
- ▶ **Cultural Preservation:** Ethical behaviour helps preserve cultural values and traditions.
  - For example, respecting cultural diversity and heritage ensures the continuation of rich cultural practices.
- ▶ **Community Development:** Ethical actions contribute to community development.
  - For instance, individuals and organizations supporting educational initiatives or healthcare projects for societal welfare.
  - A 2012 batch IAS officer from Odisha, Poma Tudu is an inspiration for many. She has been helping villagers in Odisha by visiting Naxal affected hostile zones to hear and counsel their grievances. She is currently working towards providing fast-track connectivity and medical services to these villagers.
- ▶ **Environmental Responsibility:** Ethical considerations are crucial in addressing environmental challenges.
  - An example is sustainable practices that protect natural resources and reduce ecological harm.

- Mir Mohammad Ali is a 2011 IAS cadre officer from Kerala, who has been making a change in society through his ban on plastic initiatives. He has been instrumental in making Kerala's Kannur district plastic-free. He ensures that no restaurants in the districts use plastic cups or plates.
- ▶ **Social Welfare Programs:** Ethical behaviour supports the implementation of social welfare programs.
  - For example, contributing to initiatives that uplift underprivileged sections of society.
- ▶ **Media Ethics:** Upholding ethical standards in media ensures responsible reporting and unbiased information dissemination, contributing to an informed and aware society.
- ▶ **At Organizational Level:**
- ▶ **Corporate Governance:** Ethical practices in corporate governance build trust among stakeholders.
  - An example is transparent financial reporting and accountability in decision-making.
- ▶ **Employee Morale:** Ethical organizations foster a positive work environment, enhancing employee morale.
  - An example is fair treatment, equal opportunities, and a commitment to employee well-being.
- ▶ **Customer Trust:** Ethical conduct is vital for building and maintaining customer trust.
  - For instance, delivering quality products and services, and honest marketing practices.
- ▶ **Social Responsibility:** Ethical organizations engage in social responsibility initiatives.
  - An example is corporate philanthropy, supporting social causes, and contributing to community development.
- ▶ **Legal Compliance:** Adhering to ethical standards ensures legal compliance.
  - For example, organizations following labour laws and environmental regulations contribute to societal well-being.
- ▶ **Innovation and Creativity:** Ethical climates foster innovation and creativity.
  - An example is encouraging employees to propose new ideas and solutions without fear of unethical repercussions.
- ▶ **Stakeholder Relations:** Ethical behaviour enhances relationships with stakeholders.
  - For instance, maintaining transparency in communication and addressing concerns responsibly.

## ESSAY

**Topic: "Change is never painful, only the resistance to change is painful."**

### **Introduction:**

Change is never painful, only the resistance to change is painful. While the accuracy of this quote is debatable, it beautifully captures the essence of navigating through the constant flux of life.

**Throughout history**, across different periods, cultures, and walks of life, change has played a pivotal role in shaping our world. From **ancient civilizations to modern metropolises, from political revolutions to technological advancements**, change has been the driving force behind progress and evolution.

### **Body:**

#### ► **The Nature of Change and its Neutrality**

Change is an inherent property of the universe. Everything around us, from the **cosmic dance of stars to the evolution of life on Earth**, is in a constant state of flux. Change can be gradual or sudden, predictable or unexpected, but it is ever-present. Recognizing this fundamental reality is crucial to understanding the statement's core message.

Change itself is **neither inherently positive nor negative**. It is simply a transition from one state to another. What determines the painfulness of change is not the change itself, but our attitude towards it. When we resist change, we cling to the familiar, fearing the unknown. This resistance often manifests as anxiety, stress, and negativity, ultimately making the process of change more difficult and painful than necessary.

#### ► **The Pain of Resistance**

The pain associated with resistance to change manifests in various forms. **Fear of the unknown, discomfort with uncertainty, and the loss of familiar routines** can all contribute to emotional distress. This resistance can lead to stagnation, hindering individual and societal development. For instance, the Luddites in early 19th century **England resisted the introduction of new technologies that threatened their traditional jobs**, ultimately leading to their own unemployment and economic hardship. Their resistance to change, while understandable, ultimately caused them pain and suffering.

#### ► **Embracing Change: The Path to Growth**

On the other hand, embracing change can open doors to new opportunities and positive growth. As **Winston Churchill once stated, "To improve is to change; to be perfect is to change often."** History is filled with examples of individuals and societies who have thrived by adapting to change. **The Renaissance, for example**, witnessed a dramatic shift in European culture and society due to the rediscovery of classical learning and scientific advancements. This period of **intellectual and artistic flourishing** would not have been possible without the willingness to embrace change and challenge existing norms.

#### ► **Relevance to India: A Nation in Transition**

### **Quotes and Examples:**

**1. Quote:** "The only way to do great work is to love what you do. If you haven't found it yet, keep looking. Don't settle." - Steve Jobs

► **Example:** **The rise of the personal computer revolutionized the way we work**, communicate and entertain ourselves. It was a transformative change that brought immense benefits, but also caused disruption and discomfort for those who resisted it.

**2. Quote:** "The journey of a thousand miles begins with a single step." - Lao Tzu

► **Example:** **Mahatma Gandhi's non-violent movement** for Indian independence started with a single act of defiance against a seemingly insurmountable power. His courage and determination to embrace change inspired millions and ultimately led to India's freedom.

India, a nation with a rich and diverse history, is no stranger to change. From the **ancient Indus Valley Civilization to the modern-day Republic, India** has constantly evolved, adapting to **new challenges and opportunities**. In the modern era, India is experiencing rapid economic growth, technological advancement, and social change. This dynamic environment presents both challenges and opportunities, demanding a willingness to embrace change and adapt to new realities.

One of the most **significant challenges facing India is the need to address issues of inequality and social injustice. The persistence of caste-based discrimination, gender inequality, and poverty** demands a fundamental shift in social attitudes and a commitment to systemic change. Embracing change can be a powerful tool for tackling these challenges, paving the way for a more equitable and just society. Furthermore, **India's ambition to become a global leader necessitates embracing technological advancements and fostering a culture of innovation.** This requires overcoming resistance to change, investing in education and research, and creating an environment that encourages creativity and entrepreneurship. By embracing change, India can harness the potential of technology to drive economic growth, social development, and global competitiveness.

The **Indian government's initiatives like "Digital India" and "Make in India"** are prime examples of embracing change to drive progress. These initiatives have spurred innovation, attracted foreign investment, and created new opportunities for millions of Indians. Similarly, India's efforts to combat climate change through renewable energy initiatives demonstrate its commitment to adapting to the changing global landscape.

► **Conclusion:**

Embracing change, **while not always easy**, is essential for individual and societal growth. History has shown that those who resist change often suffer the consequences of stagnation, while those who embrace it reap the rewards of progress. **As Heraclitus, the ancient Greek philosopher, famously said, "The only constant is change."** By recognizing the inevitability and potential benefits of change, we can navigate the challenges it presents and emerge stronger, more resilient, and better equipped to face the future.

**Personalities that can be used:**

- **Mahatma Gandhi:** His non-violent movement for India's independence challenged colonial rule and inspired millions to embrace change.
- **Indira Gandhi:** Her leadership during the Bangladesh Liberation War and the Green Revolution brought about significant social and economic shifts.
- **Dr. Verghese Kurien:** The "Milkman of India" revolutionized the dairy industry, empowering farmers and transforming rural economies.
- **Satyajit Ray:** His cinematic masterpieces redefined Indian cinema, earning international acclaim and inspiring generations of filmmakers.

**Case Studies:**

- **Case study 1: The fall of the Soviet Union:** The Soviet Union's failure to adapt to the changing political and economic realities of the late 20th century ultimately led to its collapse. Their rigid adherence to outdated ideologies and their resistance to necessary reforms ultimately proved detrimental.
- **Case study 2: The rise of China:** China's rapid economic growth in recent decades is a testament to the benefits of embracing change. By adopting market reforms and integrating with the global economy, China has lifted millions out of poverty and become a major economic power.



## Topic: "You Never Lose. Either you win, or you learn".

### Introduction:

#### Start with a personal anecdote:

Every child stumble before they walk, every painter faces a blank canvas, and every dream encounters hurdles. It is easy, amidst these falls and frustrations, to feel like a loser. Yet, nestled within the sting of defeat lies a powerful truth: in every experience, victory or defeat, lies the potential for learning. This transformative potential is beautifully captured in the adage, "You never lose. Either you win, or you learn." This essay delves into the depths of this profound statement, exploring how embracing a growth mindset can redefine our perception of failure and turn every moment, even the seemingly negative, into a stepping stone towards progress.

At its core, this philosophy celebrates the inherent value of every endeavour. When we chase a dream, regardless of the final score, we cultivate resilience, develop new skills, and refine our understanding of ourselves and the world around us. Even in the face of failure, the very act of striving hones our ability to navigate uncertainty, cope with disappointment, and **rise again, stronger and wiser**. Each "loss" becomes a crucible, forging within us the grit and determination necessary for future triumphs.

### Body:

#### ► The Invaluable Essence of Learning from Every Experience

History is replete with such transformative journeys. **Michael Jordan**, arguably the greatest basketball player ever, was famously cut from his high school team. This "defeat," instead of crushing him, **fueled his fire**. He honed his skills with relentless dedication, ultimately becoming a global icon whose very name is synonymous with excellence. Similarly, **J.K. Rowling's journey** to literary stardom was paved with rejections and financial constraints. Yet, she channelled these setbacks into the magic of her words, gifting the world the beloved Harry Potter saga, a testament to the transformative power of perseverance.

However, the alchemy of learning from "losses" goes beyond individual successes. At a societal level, setbacks can serve as catalysts for progress. The **Civil Rights Movement in the United States**, for instance, faced countless setbacks before achieving its monumental victories. Each protest met with resistance, each act of discrimination fueled the movement's resolve, ultimately leading to groundbreaking legislation and a shift in national consciousness.

Of course, this philosophy does not negate the sting of failure. **Disappointment is a natural human emotion**, and acknowledging it is crucial for emotional well-being. The key lies in not dwelling on the loss but harnessing the energy of disappointment to fuel the fires of learning and growth. Therefore, as we navigate the inevitable ups and downs of life, let us remember this profound truth: every experience, every challenge, holds the potential for growth. **Every "loss" can be a stepping stone, an opportunity to learn, reinvent, and emerge stronger**. By embracing this growth mindset, we transform the very definition of success, shifting it from a binary win-or-lose equation to a continuous journey of self-discovery and evolution. In this light, it becomes clear: we never truly lose. We either win, or we

### Quotes that can be used:

1. **Nelson Mandela:** "The greatest glory in living lies not in never falling, but in rising every time we fall."
2. **Winston Churchill:** "Success is going from failure to failure without loss of enthusiasm."
3. **A.P.J. Abdul Kalam:** "Failure will never overtake me if my determination to succeed is strong enough."
4. **Dalai Lama:** "If you lose, don't lose the lesson."
5. **Thomas Edison:** "I have not failed. I've just found 10,000 ways that won't work."
6. **Mikhail Lermontov:** "A defeat is only a temporary setback in the race to victory."

### Historical Examples:

- Socrates and the Socratic Method:
- Fall of the Roman Empire
- American Revolution
- 1857 revolt of India

learn, and ultimately, it is the sum of these experiences that shapes the magnificent tapestry of our lives.

**Consider the story of Thomas Edison**, who famously declared, "I haven't failed. I've just found 10,000 ways that won't work." Each unsuccessful attempt at inventing the light bulb wasn't a loss, but a lesson learned, a stepping stone towards his eventual success. His ability to reframe failure as a learning opportunity propelled him to become one of history's greatest innovators.

**Similarly, Mahatma Gandhi's non-violent resistance movement against British colonialism** faced numerous setbacks and rejections. Yet, each act of defiance, each instance of peaceful protest, each encounter with injustice, became a potent lesson in resilience, strategy, and the power of collective action. Through these "losses," Gandhi's movement evolved, adapted, and ultimately triumphed, ushering in an era of independence for India.

### Conclusion:

The adage "You never lose. Either you win, or you learn" serves as a powerful reminder that every experience, be it a success or a setback, offers an opportunity for growth. By embracing this mindset, we can **transform challenges into catalysts for personal and collective advancement**. As we navigate the complexities of life, let us strive to learn from every encounter, fostering a spirit of resilience, adaptability, and continuous learning.

### Personalities that can be used:

- 1) Mahatma Gandhi and Satyagraha:** Mahatma Gandhi's philosophy of non-violent resistance, Satyagraha, emphasizes the transformative power of learning from adversity. His imprisonment and struggles against British colonialism became opportunities to educate and inspire others, demonstrating that defeat can be a powerful tool for social change.
- 2) Elon Musk and Space X:** Elon Musk's entrepreneurial ventures, like Space X, have often faced setbacks and failures. However, Musk's approach of embracing these experiences as learning opportunities has enabled him to overcome challenges and achieve seemingly impossible goals, highlighting the value of learning from failures.
- 3) Greta Thunberg and Climate Activism:** Greta Thunberg's rise to prominence as a climate activist began with her individual school strike for climate action. Despite facing criticism and ridicule, she persevered and became a global leader, demonstrating that even seemingly insignificant actions, when driven by a growth mindset, can lead to significant learning and impact.
- 4) Malala Yousafzai's fight for education:**
- 5) ISRO's Chandrayaan missions:** Though the first Moon landing attempt did not achieve all objectives, it provided crucial data and experience for future missions. The learning process continues to propel India's space program forward.



**SCAP – MAINS PRACTICE QUESTIONS**



**WEEKLY TEST 1**

1. Disability inclusion must be by the persons with disability but not for them. Comment (GS I)  
(10 Marks, 150 words)
2. Cyclone Michaung, formed in the Bay of Bengal has shown a unique characteristic of Tropical cyclones. Analyze (GS I)  
(10 Marks, 150 Words)
3. "Building bridges of commerce and culture, India and Italy forge a timeless partnership, navigating challenges and embracing opportunities together." Explain. (GS II)  
(10 Marks, 150 words)
4. How does the Global Positioning System (GPS) benefit the Society in enhancing the daily life? (GS III)  
(10 Marks, 150 words)
5. What are the factors responsible for the prevalence of Tuberculosis in India? Discuss the measures taken to control TB in India? (GS III)  
(10 Marks, 250 words)
6. Highlight the differences in the approach of B R Ambedkar and Mahatma Gandhi in the struggle for freedom. (GS I)  
(15 Marks, 250 words)
7. " Considering the escalating backlog of court cases, Establishing the All-India Judicial Service (AIJS) seems imperative. "In this context explain the issues associated with the establishment of AIJS.(GS II)  
(15 Marks, 250 words)
8. The recent legislations (Jammu and Kashmir Reorganisation (Amendment) Bill, 2023 and the Jammu and Kashmir Reservation (Amendment) Bill, 2023) ensures inclusivity, liberty and security. Examine. (GSII)  
(15 Marks, 250 words)
9. India is facing the tussle between phasing out and phasing down coal. In this light discuss the role of India in phasing out fossil fuel consumption. (GS III)  
(15 Marks, 250 words)
10. Plastic pollution is becoming a major threat to the human and marine ecosystem. Discuss the causes of plastic pollution in India with the potential solutions to eradicate the menace. (GS III)  
(15 Marks, 250 words)

**WEEKLY TEST 2**

1. "Change is never painful, only the resistance to change is painful." (General Essay) (Paper I) - (125 Marks, 1000 - 1200 Words) **(Optional)**
2. What is meant by 'Ethics'? Discuss various sources of ethics with examples. **(GS-IV)**  
**(10 Marks, 150 words)**
3. "Reservation in India addresses historical injustices by allocating quotas in jobs and education to marginalized communities for social and economic upliftment". Comment.  
**(10 Marks, 150 words)**
4. How does UNESCO Intangible cultural heritage promote the cultural diplomacy of India?  
**(10 Marks, 150 words)**
5. "Recent amendments to the new three Bills (Bharatiya Nyaya Sanhita (BNS) Bill, 2023; Bharatiya Nagarik Suraksha Sanhita (BNSS) Bill, 2023; Bharatiya Sakshya (BS) Bill, 2023) will have significant impact on the criminal justice system in India". Discuss.  
**(10 Marks, 150 words)**
6. "The government has implemented key strategies to pave the way for a casteless society in India especially in the past decade". Comment.  
**(10 Marks, 150 words)**
7. What are the present challenges faced to promote food security in India? How does the Odisha model provide an opportunity to promote food security in India?  
**(15 Marks, 250 words)**
8. The frequency of urban floods due to high intensity rainfall is increasing over the years. Highlight the mechanisms for preparedness to reduce the risk during such events.  
**(15 Marks, 250 words)**
9. What are CCS (Carbon capture storage) and CDR (Carbon dioxide removal) Technologies? How does they help in the climate change mitigation.  
**(15 Marks, 250 words)**
10. What is food inflation? Discuss the causes and effects of food inflation in India and suggest measures to reduce food inflation.  
**(15 Marks, 250 words)**

**WEEKLY TEST 3**

1. Explain the significance of Arctic research for India. **(10 Marks, 150 words)**
  
2. Write a short note on India's efforts to boost bioethanol production and promote sustainable energy. **(10 marks, 150 words)**
  
3. "Inflation can have negative effect on the economy". Discuss. **(10 marks, 150 words)**
  
4. Mention the recent occurrence of volcanic eruptions in Iceland and their impact on regional environment. **(10 marks, 150 words)**
  
5. Explain the Importance of ethics at the societal and the organizational level with suitable examples. **(10 Marks, 150 Words)**
  
6. How are cities important in tackling climate change? Discuss the role of cities in climate change negotiations with major focus on the global south. **(15Marks,250 words)**
  
7. Critically analyse the role of tribal revolts in the Indian independence movement, highlighting their diverse motivations, strategies, and contributions to the struggle against British colonialism. **(15 Marks,250 words)**
  
8. Critically examine the progress and challenges of defence indigenization in India. Suggest concrete measures to accelerate and deepen this process, keeping in mind strategic, economic, and technological considerations. **(15 Marks,250 words)**
  
9. Critically examine the provisions of the Indian Postal Bill 2023, highlighting its potential impact on the Indian postal sector, its stakeholders, and the overall development of the country. **(15 Marks,250 words)**
  
10. Discuss India's Global South Diplomacy, focusing on its emphasis, challenges, and measures undertaken. Evaluate the effectiveness of these strategies in promoting India's interests on the international stage. **(15 marks, 250 words)**

**WEEKLY TEST 4**

1. Analyze the recent spate of attacks on doctors in India, examining their underlying causes, impact on the healthcare sector, and potential mitigation strategies.  
**(10 Marks,150 words)**
2. Considering India's internal security, evaluate the consequences of cross-border cyber-attacks and examine defensive strategies against these advanced threats. **(15 marks, 250 words)**
3. The Indian Navy recently commissioned the indigenous guided missile destroyer INS Imphal. Critically analyse the strategic significance of this warship, considering its capabilities, regional security dynamics, and India's maritime aspirations.  
**(10 Marks,150 words)**
4. "The industrial growth rate has not kept pace with the overall Gross Domestic Product (GDP) growth in the post-reform era." How far the recent changes in Industrial Policy can increase the industrial growth rate?  
**(15 marks, 250 words)**
5. Critically examine the convergence and divergence between the conventional economic development model and the happiness-induced model in the context of achieving Viksit Bharat. Suggest a balanced approach that leverages the strengths of both models.  
**(10 Marks,150 words)**
6. Smart Lander for Investigating Moon (SLIM) has been much in the news since its launch. What are its unique features and how it will impact the future moon missions? **(15 marks, 250 words)**
7. Analyze the potential economic consequences of the recent Houthi attack on a merchant vessel near India's Exclusive Economic Zone (EEZ) for the global economy. Focus on disruptions to trade, energy security, and maritime insurance costs.  
**(15 Marks, 250 words)**
8. How does illicit transborder migration pose a security threat to India? Discuss strategies to counter this by addressing underlying factors and implementing effective measures.  
**(10 marks, 150 words)**
9. Critically analyze the historical, political, and economic factors that have fuelled the NE insurgency in India. Discuss the challenges and limitations of the government's measures to address the insurgency and suggest specific recommendations for achieving lasting peace and development in the region. **(15 Marks,250 words)**
10. Discuss the challenges in India's disaster relief fund allocation and suggest measures. **(10 marks, 150 words)**

# Sarat Chandra IAS Academy

## 109 UPSC Civils Ranks



Yogesh

14



GVS Pavan Datta

22



P. Sahitya

24



Chaitanya

42



HS Bhavana

55



Arnav Mishra

56



M. Sri Pranav

60



M. Nikhil

80



Deepesh Kumari

93



Sai Karthik

103



Nidhi Pai

110



Ruhani

159



Prem Sagar

170



B. Apoorva

191



Ankur Kumar

257



G. Sai Krishna

293



Lakshmi Sujitha

311



N. Ashritha

315



Venkatesh

315



Gauthami

317



G. Kunal

320



S.V. Ashok

350



K. Sonia

376



Akansha Gupta

408



D. Revaiah

410



S. Sai Murali

425



Ch. Shravan Kumar

426



P. Sreelekha

427



Thirupathi Rao

441

and many more.

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