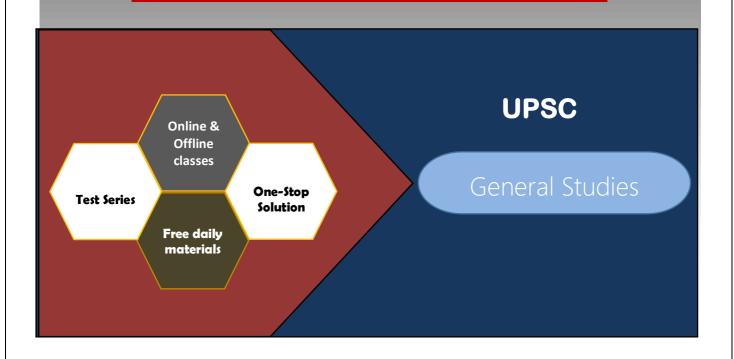# VISHNU IAS
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NOVEMBER 2023
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GS 1 : Heritage, culture ,Geography of the World and Society

1. OECD Report says of Climate Finance ahead of COP 28

- A recent report published by the OECD reveals that economically developed countries failed to fulfill their commitment to jointly mobilize $100 billion per year for climate mitigation and adaptation in developing countries in 2021, missing the 2020 deadline.
- The report's findings have significant implications for the upcoming COP 28 climate talks in the United Arab Emirates, where climate finance is expected to be a contentious issue.

Key Findings of the OECD Report

- **Shortfall in Climate Finance**: Developed countries mobilized $89.6 billion in climate finance in 2021, falling short of the $100 billion target.
- **Decline in Adaptation Finance**: The report highlights a 14% decrease in financing for climate adaptation in 2021 compared to the previous year.

Significance of the OECD Report

- **Representation of Developed Nations**: The OECD consists of affluent countries such as the U.S., the U.K., Germany, France, Switzerland, and Canada, providing insights into their climate finance priorities before the COP 28 talks.
- **COP 26 Pledge**: The report follows a commitment by developed nations at COP 26 in 2020 to double adaptation finance and acknowledges their failure to meet the $100 billion goal on time.

Climate Finance Accountability and Issues

- **Composition of Climate Finance**: The report reveals that a significant portion of public climate financing comes in the form of loans, raising concerns about debt stress in developing countries.
- **Loan Classification**: The report's treatment of loans without considering grant equivalents can exacerbate the burden on poorer nations, as loans may require repayment with interest.
- **'Additionality'**: The UNFCCC mandates that developed countries provide "new and additional" financial resources for climate purposes, preventing the diversion of funds from other essential sectors like healthcare.

- **Lack of Defined Criteria**: Developed countries have resisted efforts to establish a clear definition of climate finance, allowing ambiguity in classifying various types of funding.
- **Double-Counting**: Some developed countries have been accused of double-counting development aid as climate finance, leading to the misallocation of resources.

Climate Finance Needs and Future Projections

- The OECD report suggests that $100 billion was likely met in 2022, but this data remains preliminary and unverified.
- Developing countries are projected to require approximately $1 trillion annually for climate investments by 2025, escalating to $2.4 trillion per year from 2026 to 2030, highlighting the inadequacy of the $100 billion goal.

Role of the Private Sector

- High hopes for private sector involvement in climate finance have been tempered by the OECD report, which shows stagnant private financing for climate action.
- Climate adaptation faces particular challenges in attracting private investment due to lower potential returns compared to mitigation projects like renewable energy.

Conclusion

- The OECD report on climate finance underscores the gap between promises made by developed nations and their actual contributions.
- Issues of loan classification, additionality, and a lack of clear criteria for climate finance need to be addressed for greater transparency and accountability.
- As developing countries face growing climate-related challenges, public funding from governments and multilateral development banks remains crucial to meeting their needs.

2. COP28 in Dubai

The upcoming COP28, scheduled to be held in Dubai from November 30 to December 12, faces the daunting challenge of addressing the urgent climate crisis.

- Despite decades of negotiations, current global commitments to combat climate change are deemed insufficient.
- With temperatures rising at an alarming rate, the need for substantial action has never been more critical.

COP

- The word 'COP' is an acronym for 'Conference of the Parties. The 'parties' are the governments around the world that have signed the UN Framework Convention on Climate Change (UNFCCC), a treaty agreed upon in 1994.
- Every year, the COP is hosted by a different nation and the first such COP meeting – 'COP1' – took place in Germany in 1995.
- The conferences are attended by world leaders, negotiators, and ministers, and also by representatives from civil society, business, international organisations, and the media.
- The last COP-27 edition convened in Sharm el-Sheikh, Egypt with the theme "Together for Implementation" and to renew and extend the agreements reached in the historic Paris Agreement.

Climate Action So Far: Crisis and Inadequate Responses

- **Rising Temperatures**: 2023 is poised to become the warmest year ever recorded, with monthly warming records continually broken.
- **Response Lag**: Global efforts to combat climate change have not kept pace with the rapid temperature increase.
- **Assessment**: Recent reports indicate that current climate action plans, even in an optimistic scenario, would only achieve a 2% reduction in emissions by 2030, far from the 43% reduction recommended by the Intergovernmental Panel on Climate Change (IPCC) to limit warming to 1.5 degrees Celsius.
- **Financial Gap**: Despite increasing climate risks, financial resources allocated for adaptation measures in developing countries are insufficient, with a vast disparity between the required and actual funding.

Expectations from COP28

COP28 aims to address these pressing climate challenges and achieve significant outcomes:

(1) Tripling of Renewable Energy:

- **Objective:** Triple the global installed capacity of renewable energy by 2030, resulting in 70% of electricity generation from renewables.
- **Potential:** This initiative could reduce 7 billion tonnes of carbon dioxide equivalent emissions by 2030, making it a substantial step toward emission reduction.
- **Support:** The proposal has garnered endorsement from G20 countries and explicit support from 60 others.

(2) Delivery of $100 Billion:

- **Background:** Developed countries pledged to mobilize $100 billion annually in climate finance from 2020, a commitment that remains unfulfilled.
- **Progress:** Developed nations are expected to claim fulfillment of this promise at COP28, though it remains inadequate compared to the trillions required for climate action.
- **Challenge:** The greater challenge lies in negotiating additional funding beyond the $100 billion annually, commencing from next year.

(3) Funding for Loss and Damage:

- **Fund Creation:** The establishment of a loss and damage fund, designed to assist countries affected by climate change impacts, was a notable outcome of the previous climate meeting in Egypt.
- **Funding Flow:** COP28 is expected to witness financial contributions to the loss and damage fund, signaling progress in addressing concerns, especially for small island nations.

(4) Global Stocktake:

- **Mandate:** As per the Paris Agreement (2015), COP28 will present findings from the first global stocktake exercise. This assessment evaluates countries' progress in combating climate change and outlines necessary actions for the next five years.
- **Informing Action:** The stocktake findings will inform discussions and actions during the conference, providing a roadmap for more effective climate action.

(5) Phase-down of Fossil Fuels:

- **Challenge:** Controversial debates on the scheduled phase-down or phase-out of fossil fuels, particularly coal, persist among nations.
- **Contentious Issue:** Resolving the disagreement over fossil fuel reduction is expected to be a complex and unresolved matter at COP28.

Conclusion

- COP28, set to be held in Dubai, represents a critical opportunity to address the climate crisis.
- With expectations of tripling renewable energy, fulfillment of $100 billion climate finance commitments, funding for loss and damage, and global stocktake findings, the conference aims to push climate action forward.
- However, the contentious issue of fossil fuel phase-down remains a challenge for the conference.
- The world eagerly anticipates the outcomes and progress toward mitigating climate change.

3. Kazi Nazrul Islam and his Iconic Song

- A movie-maker has issued an apology for the unintended distress caused by its rendition of the iconic song "Karar Oi Louho Kopat" penned by Bengali poet Kazi Nazrul Islam in 1922.

Kazi Nazrul Islam (1899-1976)

- Kazi Nazrul Islam was born on May 24, 1899, in Churulia, a village in the Burdwan district of West Bengal, India.
- He was a famous poet, writer, and musician from Bengal.
- He is well-known for his songs, which are called "**Nazrulgeeti.**"
- These songs are very popular and loved by in West Bengal, Bangladesh, almost as much as **Rabindrasangeet** of Rabindranath Tagore.
- Nazrul is often called the "**Vidrohi Kavi (Rebel Poet)**" because he wrote more than 4,000 songs, and many of them were about protesting and fighting against unfair rules and powerful rulers.
- These songs inspired the freedom fighters of Bengal who were fighting against the British colonial rule.
- He is celebrated as the national poet of Bangladesh and is also revered in West Bengal, India.

Understanding "Karar Oi Louho Kopat"

- Nazrul was an ardent supporter of India's struggle for independence from British colonial rule. He used his poetry and writings to inspire and mobilize people against British oppression.
- Published in 1922 in "Banglar Katha" and later included in Nazrul's "**Bhangar Gaan**," the song was penned as a call to break down the iron gates of prison, symbolizing resistance against British oppression.
- He wrote the song of revolution after the British threw **Deshbandhu Chittaranjan Das** (1870-1925) in prison in 1922.

4. Maratha community's demand for reservation

- The Maratha community's demand for reservation in education and employment stems from a crisis of dominance, influenced by urban and rural challenges.

Urban Crisis:

- Well-paid jobs in urban areas, historically held by Marathas, have rapidly disappeared since the late 1990s.
- Large-scale manufacturing industries and establishments providing such jobs have closed or downsized, leading to increased competition for fewer opportunities.
- Marathas, historically socially superior, used their dominant caste position to secure a significant share of jobs, particularly in the public sector.
- Economic liberalization and the shrinkage of public sector jobs have intensified competition among Marathas for limited opportunities.

Rural Crisis:

- Closure of factories has led to the return of workers to villages, disrupting the pattern of workers retiring in villages and their offspring working in cities.
- Rural youth face challenges migrating to urban areas for better-paying jobs, impacting the financial support they traditionally provided to family members in villages.
- Informal sector jobs become the primary option for rural Maratha youth, diminishing their social standing and pride in rural settings.
- The focus on secure public sector jobs, which have also decreased, becomes crucial for rural Maratha youth.

Education Challenges:

- Increased aspirations for higher education among Marathas face a decline in government institutions and a rise in private unaided colleges with exorbitant fees.
- Marathas, with limited financial resources, compete for a limited number of open-category seats in public institutions.
- Decrease in government-run educational institutions exacerbates the challenges faced by Maratha aspirants.

Crisis of Dominance:

- The combination of urban and rural crises contributes to a crisis of dominance for the Marathas.
- Disturbance of caste hierarchy norms due to Dalit mobility and OBC economic and political assertion adds to Marathas' anxiety.
- The demand for reservation reflects the need for increased formal sector jobs and the expansion of public educational institutions to address the crisis.

Key Highlights:

- Maratha community demands reservation in education and public employment, intensifying since 2016.
- Historically, Marathas dominated well-paid jobs, but recent urban and rural crises have led to increased competition and challenges.
- Closure of manufacturing industries, decreasing public sector jobs, and rural youth's struggles contribute to the crisis.
- Educational aspirations face challenges with a decline in government institutions and increased private college fees.

Key Challenges:

- Disappearance of well-paid urban jobs, increased competition, and shrinking public sector employment.
- Rural crisis disrupts the traditional pattern of workers retiring in villages and offspring working in cities.
- Decline in government-run educational institutions, limited open-category seats, and rising private college fees.

Key Terms and Phrases:

- Urban crisis, rural crisis, crisis of dominance, economic liberalization, formal sector jobs.
- Reservation, Maratha mobilization, well-paid jobs, private unaided colleges, public sector employment.

Key Examples and References:

- Maratha protests since 2016, closure of manufacturing industries, decreased public sector jobs.
- Disturbance in traditional caste hierarchies due to Dalit mobility and OBC economic and political assertion.

Key Facts and Data:

- Marathas historically occupied over 29% of open-category jobs in government.
- Jobs in the private formal sector increased from 2% to 3.5%.
- Contractual government jobs increased from 0.7 million to 15.9 million in 2017-18.
- Only 22.2% of colleges are managed by the government as of 2019.

Critical Analysis:

- Maratha crisis stems from economic shifts, urban-rural dynamics, and disturbance in caste hierarchies.
- Limited opportunities, competition, and declining public sector jobs contribute to the community's mobilization.
- Educational challenges add to the complexity, demanding a comprehensive solution.

Way Forward:

- Address urban and rural crises by creating more formal sector jobs.
- Expand public educational institutions and implement large-scale scholarship programs.
- Focus on inclusive policies to reduce competition and restore traditional patterns of employment.

Conclusion:

- The Maratha mobilization for reservation is rooted in the challenges posed by the disappearance of well-paid jobs, urban-rural dynamics, and the disruption of traditional caste hierarchies. Addressing these challenges requires a focus on creating more opportunities in the formal sector and expanding accessible public education.

GS 2 : Polity, Governance, International Relations

1. The stance of the Maldives President-elect on India

President-elect Muizzu of the Maldives aims to remove Indian military presence, aligning with the opposition's 'India Out' campaign, while emphasising Chinese assistance.

- President-elect Mohamed Muizzu of the Maldives, who won the September 2023 election, has emphasised his intention to remove Indian troops from the country.
- His stance aligns with the 'India Out' campaign by the main opposition bloc, opposing the pro-India foreign policy of the outgoing President Ibrahim Mohamed Solih.

Indian Military Presence

- As per the Maldives National Defence Force (MNDF), 75 Indian military personnel operate Indian-gifted Dornier aircraft and helicopters in the Maldives.
- These assets are used for various functions, including medical evacuation, search and rescue, training, surveillance, and patrol.

Why President-Elect Muizzu Opposes Indian Troops

- The previous administration under President Yameen leaned toward China, straining Maldives-India relations.
- Muizzu, aligned with this political camp, seeks to emphasize the benefits of Chinese assistance while refraining from discussing Maldives' debt obligations, including to China.
- His frequent pledge to remove Indian military presence appears linked to the international media's framing of the election as a referendum on India and China, in addition to maintaining consistency with pre-election promises.

Challenges for President-Elect Muizzu

- While President-elect Muizzu intends to remove Indian troops, he faces significant economic challenges. The Maldives is dealing with a substantial

debt burden, making cooperation with India and China, major lenders and development partners, crucial for addressing the debt crisis.

India's Interests

- In recent years, India has become the Maldives' primary security and economic partner, committing substantial funds for socio-economic development.
- India's interests in the Maldives are closely linked to its security concerns in the Indian Ocean region, particularly regarding China's growing presence.

2. India- Saudi Arabia Relation

Crown Prince of Saudi Arabia visited India for participating in G20 summit and also co-chaired the 1st meeting of India- Saudi Arabia Strategic Partnership along with Indian PM.

What are the pillars of India- Saudi Arabia relationship?

- **Historical ties -** The two countries established diplomatic relations in 1947 and 2021-22 marked 75 years of establishment of diplomatic relations.
- **Delhi Declaration** in 2006 was a watershed moment in India – Saudi Arabia relationship.
- **Riyadh Declaration** in 2010 elevated bilateral ties to a strategic partnership.
- **Diplomatic relationship** - Saudi Arabia's highest civilian honour, **the King Abdulaziz Sash** was awarded to Indian PM Narendra Modi.
- The visit of Crown Prince to India in February 2019 allowed investment of approximately 100 billion dollars in India and enabled the kingdom to join in **International Solar Alliance (ISA).**

The International Solar Alliance (ISA) was a joint effort by India and France to mobilize efforts against climate change through deployment of solar energy solutions. It is guided by its 'Towards 1000' strategy.

- *Strategic Partnership Council (SPC) Agreement*, signed in 2019 established a high-level council to steer the Indo-Saudi relationship.
- **Economic Ties –** India is Saudi Arabia's *2nd largest* trade partner and Saudi Arabia is India's *4th largest* trade partner.
- As of January 2022, there were *2,783 Indian companies* registered as joint ventures/ 100% owned entities with investments worth approximately $2 billion in the kingdom.

- Among the major proposed investments is the $44 billion *West Coast Refinery & Petrochemicals Project* in Maharashtra, which is being jointly built by Saudi Aramco and an Indian consortium.
- **Energy cooperation –** Saudi Arabia is a key partner for ensuring India's energy security.
- Saudi Arabia was *India's* **3rd largest** *crude and petroleum products source* for FY23.
- India also imports LPG from Saudi Arabia.
- **Defence Partnership** - Two editions of the bilateral naval exercise, *Al Mohed al Hindi,* have been concluded so far.
- **Diaspora –** The Indian community is more than 2.4 million and is the *largest expatriate community* in the Kingdom.
- India's *e-Migrate system* integrated with the Kingdom's **e-Thawtheeq system** to streamline the migration process for workers.
- Saudi Arabia supported in evacuation of Indian nationals stranded in Sudan through Jeddah under *Operation Kaveri.*
- **Cultural Relationship –** *Indian Cultural Week* was organized in Riyadh in collaboration with the Saudi Ministry of Culture in 2012.
- India participated as the 'Guest of Honour' at the prestigious Saudi National Festival of Heritage and Culture – *Janadriyah* in 2018.
- **Counter terrorism –** Both nations stressed the importance of combating terrorism and it's financing.
- They emphasized that terrorism, in all its forms, remains one of the gravest threats to humanity.

What about the recent developments?

The two sides signed 8 agreements aftermath of G20 Summit in 2023.

- **Diplomatic Ties –** 1st meeting of the India-Saudi Arabia Strategic Partnership Council.
- **Energy Ties –** Both agreed upon upgrading their hydrocarbon energy partnership to a *comprehensive energy partnership* for renewable, petroleum and strategic reserves.
- **Investment promotion –** Both agreed to create a joint task force for *$100 billion in Saudi investment*.
- **Currency convertibility –** Discussion for possibility of trading in local currencies.
- **Trade agreements –** Both were expediting negotiations for a *free trade agreement between India and the Gulf Cooperation Council (GCC)* of which Saudi Arabia is a member.

GCC is a regional political and economic alliance of 6 countries in the Gulf region - Saudi Arabia, the UAE, Qatar, Kuwait, Oman and Bahrain.

- **Economic corridors –** India, Saudi Arabia, UAE and USA jointly announced the India-Middle East-Europe Economic Corridor (IMEC).

IMEC is a massive infrastructure project that would connect India to Europe via West Asia, and could rival China's Belt and Road Initiative.

- **Global peace and stability –** Both nations stressed the importance of achieving security and stability in Afghanistan.
- **Cooperation Agreements –** Cooperation between
  o India's Central Vigilance Commission and Saudi's anti-corruption unit,
  o Investment entities, small and medium enterprises banks,
  o National Archives of the two countries, and on
  o Desalination and renewable energy

What are the concerns?

- The political scenario of the West Asia or Middle East are complex and multidimensional.
  o Example: Saudi Arabia is rival with Iran and Turkey.
- India has close ties with both Saudi Arabia and Iran and thereby straining the relationship at times.
- Increased engagement of kingdom with China as it is their biggest trading partner.
- Riyadh still helps Pakistan with economic aid.

What lies ahead?

- India should frame a dedicated policy for west Asia on similar lines of Act East Policy.
- Saudi Arabia is consolidating its partnership with the US, India, and Europe which need be encouraged.
- India should use every opportunity to engage with Saudi Arabia for energy security and for maintaining peace in the neighbourhood.

3. Maratha reservation: Why everyone wants a 'sarkari naukri' in New India

The article explores the paradox of a "New India" emphasizing private enterprise while various communities express a strong desire for state involvement. It delves into caste-based demands, the significance of the state as a safe haven, and the challenges arising from unchecked markets and weakened labour laws.

Key Highlights:

- **Caste-based Demands:** Yadav men in Gurugram seek the creation of an "Ahir regiment," while Marathas in Maharashtra demand reservations.
- **Skill Development:** Skill development programs aim to prepare youth for private sector jobs, but a Dalit youth in Ranchi desires government jobs for the respect they offer.
- **State's Significance:** Despite the emphasis on private enterprise in "New India," many still seek social and economic mobility facilitated by the state.
- **Arbitrary State Action:** The perception of an overweening state, especially in curbing perceived enemies, leads people to consider the state as a safe haven.
- **Regulation and Market:** Expansion of private enterprise is accompanied by the state's neglect of regulating the market, exposing vulnerabilities of the less privileged.
- **Labour Laws:** Weakening labour laws favors private sector employers, making state jobs more appealing due to higher respectability and security.

Challenges and Concerns:

- **Arbitrary State Actions:** Fear of arbitrary state actions undermines the idea of a free and open society.
- **Market Unchecked:** Lack of market regulation exposes vulnerable individuals to the excesses of the private sector.
- **Weakened Labour Laws:** Dilution of labour laws jeopardizes decent working conditions and job security.

Analysis:

- **Desire for State Involvement:** Despite the push for a market-led society, people prefer the state for security and protection against arbitrary actions.
- **State's Responsibility:** The state's retreat from regulating the market has shifted the balance, making state jobs more attractive.
- **Contradictions in New India:** The narrative of private enterprise coexists with a strong desire for state involvement, indicating contradictions in the idea of "New India."

Key Data:

- **Skill India Programme:** Launched in 2015 with the aim to train 402 million people by 2022.
- **2015 Budget Allocation:** Rs 5,040 crore allocated for skill development.
- **11th Five Year Plan:** (2007-2012) Witnessed the formulation of programs for skill development.

Key Terms:

- **Ahir Regiment:** Demands for a caste-specific army regiment by the Yadav community in Gurugram.
- **Skill Development Centres (SDCs):** Private-run centers providing training in various domains.
- **Maratha Reservations:** Ongoing demand for reservations by the Maratha community in Maharashtra.
- **New India:** Characterized by the emphasis on private enterprise and entrepreneurial spirit.

Way Forward:

- **Balanced State Involvement:** Find a balance where the state ensures security without impinging on individual freedoms.
- **Market Regulation:** Reinstate appropriate regulations to protect vulnerable individuals from market excesses.
- **Labour Laws:** Reevaluate and strengthen labour laws to ensure decent working conditions and job security.
- **Public Awareness:** Educate the public about the importance of a balanced relationship between the state and private enterprise.
- **Inclusive Policies:** Implement inclusive policies that address the concerns of different communities and promote social and economic mobility.

4. **Road Accidents and Fatalities in India in 2022**

- A recent government report titled 'Road Accidents in India – 2022' has revealed a concerning surge in road accidents, fatalities, and injuries.
- The report sheds light on the grim statistics of road safety in the country.

Road Accidents in India

- The report is based on information provided by police departments of States and Union Territories collected on a calendar year basis.
- Standardized formats from the UN Economic and Social Commission for Asia and the Pacific (UNESCAP) were used for data collection under the Asia Pacific Road Accident Data (APRAD) base project.

Statistical Overview:

- In 2022, India witnessed a total of 4,61,312 road accidents. It resulted in a tragic loss of 1,68,491 lives.
- Additionally, 4,43,366 individuals sustained injuries.

State-Specific Data

- **Tamil Nadu recorded the highest** number of road accidents on National Highways in 2022 (64,105 accidents or 13.9%).
- **Madhya Pradesh** followed closely with 54,432 accidents (11.8%).
- **Uttar Pradesh** reported the highest number of fatalities (22,595 or 13.4%) due to road accidents.
- **TN** came second with 17,884 fatalities (10.6%).

Why discuss this?

(1) Year-on-Year Increase:

- The report disclosed an alarming year-on-year increase of 11.9% in road accidents.
- Fatalities also rose by 9.4% in the same period.
- The number of injuries surged by a staggering 15.3% compared to the previous year.

(2) Accident Distribution:

- The accidents were distributed across different types of roads as follows:

1. National Highways, including Expressways: 32.9% (Fatalities: 36.2%)
2. State Highways: 23.1% (Fatalities: 24.3%)
3. Other roads: 43.9% (Fatalities: 39.4%)

(3) Demographic Impact:

- **Young adults:** Mostly between 18 and 45 years old comprised a significant portion, accounting for 66.5% of road accident victims in 2022.
- **Working People:** Within the working age group of 18 to 60 years represented 83.4% of total road accident fatalities.

(4) Rural vs. Urban Accidents:

- Approximately 68% of road accident fatalities occurred in rural areas.
- Urban areas accounted for 32% of total accident deaths in the country.

(5) Vehicle Categories

- Two-wheelers remained the most prominent vehicle category involved in road accidents and fatalities for the second consecutive year.
- Light vehicles, including cars, jeeps, and taxis, ranked a distant second.

What global reports have to say?

- A recent analytical series published by The Lancet highlights the potential to reduce road accident-related deaths in India and other countries by 25 to 40%.
- This reduction is achievable through preventive interventions that target four key risk factors.

Major issues identified

In developing countries like India, several structural problems persist:

- **High Speed**: Excessive speed contributes to accidents.
- **Driving Under the Influence**: Alcohol-impaired driving poses a substantial risk.
- **Unplanned Motorization**: Rapid motorization and urbanization create challenges.
- **Highway Development**: Speedy highway construction often lacks accommodation for diverse traffic speeds.
- **Vehicle Conditions**: Ramshackle vehicles, wrong-side driving, and inadequate traffic policing are widespread issues.

India-specific Problems

- **Weak Law Enforcement**: Inconsistent enforcement of traffic laws, often resolved through bribery.
- **Speeding**: Higher vehicle speeds and increased traffic volume on highways.
- **Engineering Challenges**: Gaps in highway medians, untreated intersections, and missing crash barriers.
- **Behavioural Issues**: Violations such as wrong-side driving, lane misuse, and traffic light disobedience.
- **Lack of Immediate Trauma Care**: Insufficient trauma care on highways leading to higher fatalities.

Steps Taken by India

India has undertaken various measures to address road safety concerns:

- **Sundar Committee (2007):** India lacks competent investigation units to determine accident causes.
- **Amendment to Motor Vehicles Act (2019)**: Legislative changes, though not uniformly implemented across states.
- **National Road Safety Board**: Establishment with advisory powers for safety reforms.
- **World Bank Support**: Approval of a $250 million loan for the India State Support Programme for Road Safety.

Challenges in Implementation

Despite efforts, the focus remains conventional, with limited emphasis on structural changes:

- **User Behavior Focus**: States prioritize user behavior and education over structural improvements.
- **Low Emphasis on Engineering Standards**: Inadequate attention to raising engineering standards for roads, signage, signals, and accident investigation training.
- **Responsibility Fixation**: Neglect in assigning responsibility to government departments for road infrastructure design, creation, and maintenance.

Way forward

- Promoting awareness and responsible behaviour.
- Better road design, maintenance, and signage.
- Strictly enforcing traffic rules and penalties.
- Ensuring vehicle safety and roadworthiness.
- Enhancing first aid and paramedic care in Golden Hour.

5. The revenge of old West Asia

- In 1967, Israel gained control over historical Palestine during the Six-Day War.
- This control included the West Bank, East Jerusalem, the Gaza Strip, the Sinai Peninsula, and the Golan Heights.
- The Palestinian territories have been under Israeli military occupation since then.

Israeli Narrative:

- Israel justifies its actions by claiming the right to respond to attacks, like those from Hamas.

- Israel is known for using disproportionate force and targeting civilians (the Dahiya doctrine).
- Israeli leaders argue that there are no innocent civilians in Gaza, considering the entire population responsible for attacks.

Historical Perspective:

- Hamas, considered a major obstacle to peace, was founded in 1988, 21 years after Israel's occupation began.
- In the past, Israel recognized and worked with groups like the Islamic Centre, a precursor to Hamas, while viewing secular nationalist movements like Fatah and the PLO as rivals.
- The PLO eventually recognized Israel and accepted a state within the 1967 borders, but peace efforts faltered, leading to Hamas's rise.

The Iran Factor:

- Iran has become a major rival to Israel in the region and supports groups like Hamas.
- However, Iran's hostility toward Israel began after the Islamic Revolution in 1979.
- Iran's influence among Palestinians grew as the peace process stalled and Hamas gained prominence.

Hostile Neighborhood:

- Israel argues it faces threats in a hostile neighbourhood.
- While Arab countries initially opposed Israel's existence, the last major Arab attack was in 1973.
- Over the years, some Arab nations normalized ties with Israel.
- Israel is now a powerful regional player with support from the United States.

The Unresolved Palestine Issue:

- Despite regional changes, the Israel-Palestine conflict persists.
- Israel's approach has been to ignore the occupation issue and focus on peace plans with Arab nations.
- Recent events, like Hamas's attacks and Israel's response, highlight that the Palestinian problem remains a source of instability in the region.

Conclusion:

- The ongoing Israel-Palestine conflict continues to impact the region.

- It's a complex issue with historical roots and geopolitical dimensions that contribute to the cycle of violence in West Asia.

6. Pradhan Mantri Matru Vandana Yojana (PMMVY)

Recently, the National Event on **Pradhan Mantri Matru Vandana Yojana (PMMVY)** was held in Mumbai.

Pradhan Mantri Matru Vandana Yojana (PMMVY) Scheme:

- PMMVY is a **Maternity Benefit Programme** that is implemented in all the districts of the country in accordance with the provision of the National Food Security Act, 2013.

Objectives:

- Providing **partial compensation** for the **wage loss** in terms of **cash incentives** so that the woman can take adequate rest before and after delivery of the first living child.
- This would lead to **improved health seeking behaviour** amongst the **Pregnant Women** and **Lactating Mothers** (PW& LM).
- It aims to promote **timely immunisation**, **childbirth registrations** and **registrations** for **institutional births**.

Target beneficiaries:

- This program covers all **pregnant women** and **lactating mothers**, with the exception of those already **employed by the Central Government**, State Governments, or Public Sector Undertakings (PSUs), or those receiving similar benefits under existing laws.
- **Case of Miscarriage/Still Birth:**
  - A beneficiary is **eligible to receive benefits** under the **scheme only once**.
  - Thus, **after receiving the 1st instalment,** if the beneficiary has a **miscarriage**, she would only be eligible for receiving **2nd and 3rd instalment** in event of **future pregnancy**.

- **Case of Infant Mortality**:
  - A beneficiary is entitled to receive benefits under the scheme only once.
  - If she has already received all the installments of the maternity benefit under PMMVY and there is an infant mortality, she will not be eligible to claim benefits under the scheme.

- Pregnant and lactating **Anganwadi Workers** (AWWs), **Anganwadi Helpers** (AWHs), and **Accredited Social Health Activists** (ASHAs) may also access the benefits of PMMVY, provided they meet the scheme's conditions.

Benefits under PMMVY:

- Beneficiaries will receive a **cash incentive of Rs 5,000** in **3 installments**:
  - The **1st installment** of Rs 1,000 upon early pregnancy registration at the Anganwadi Centre or an approved Health facility.
  - The **2nd installment** of Rs 2,000 after 6 months of pregnancy following at least one ante-natal check-up.
  - The **3rd installment** of Rs 2,000 after the child's birth is registered and the child has received the first cycle of BCG, OPV, DPT, and Hepatitis-B vaccines or their equivalents.
- The incentive received under the **Janani Suraksha Yojana (JSY)** for **institutional delivery** will be considered as part of the **maternity benefits**, ensuring that, on average, a woman receives a total of Rs 6,000.

About PMMVY 2.0:

- PMMVY 2.0 is committed to promote a more positive societal attitude towards the **girl child** by **offering incentives** for the **birth of girl child.**
- **PMMVY's benefits** have been extended to include **support for a second child**, provided that the **second child is a girl**.
- In this revised framework, mothers are eligible to receive an **incentive amount of ₹6,000** in a **single instalment** following the **birth of the second girl child.**

PMMVY Portal:

- In line with the Prime Minister's vision to promote Digital India, Make in India, Atma Nirbhar Bharat, **PMMVYsoft MIS** has been developed.
- It includes new features such as **online and face authentication technology** by **UIDAI** for **proper verification of eligible beneficiaries**.
- It incorporates **NPCI Verification of beneficiary bank accounts** to ensure smooth fund transfers through **Direct Benefit Transfer** (DBT).
- It introduces a **paperless online registration system** for beneficiaries and Anganwadi/ASHA workers to register directly through the portal.

7. S Y Quraishi writes: On electoral bonds, Supreme Court must uphold Right to Information

The Supreme Court's delayed review of electoral bonds probes the tension between voter information rights and donor confidentiality in a scheme initiated by Arun Jaitley in 2017. Despite its aim to enhance political funding transparency, electoral bonds are criticized for facilitating substantial anonymous donations, prompting a reassessment.

Key Highlights:

- **Long Overdue Scrutiny**: The Supreme Court belatedly addresses the electoral bonds case, underscoring the clash between voters' right to information and donors' right to confidentiality.
- **Judicial Focus:** Chief Justice DY Chandrachud leads a Constitution Bench, signaling a renewed focus on resolving the inherent tensions within the electoral bonds scheme.
- **Intent vs. Reality**: Arun Jaitley's 2017 introduction aimed at enhancing transparency in political funding, yet it paradoxically raised concerns about anonymity in substantial donations.
- **Unintended Consequences:** The unexpected fallout prompts a reassessment of the electoral bonds' actual impact on the transparency landscape.

Challenges:

- **Unmasking Anonymity Issues**: Electoral bonds permit significant anonymous donations, opening avenues for potential quid pro quo transactions.
- **Transparency Dilemma**: The challenge lies in striking a balance between protecting donor identities and ensuring transparency in political contributions.
- **Commission's Conundrum**: The Election Commission's reversal from initial skepticism to support introduces a new layer of complexity and skepticism.
- **Trust Deficit**: The sudden shift erodes trust in the consistency and impartiality of regulatory bodies, complicating the ongoing discourse on political funding transparency.

Concerns:

- **Unraveling Legal Changes**: The Finance Act of 2017's amendments, while enabling electoral bonds, raise concerns about potential misuse and their overall impact on transparency.
- **Legislative Tightrope**: Striking a balance between facilitating political funding and safeguarding against misuse becomes a critical concern.

- **International Implications**: Changes in legislation raise apprehensions about unchecked foreign contributions, bringing to light potential implications for the integrity of Indian elections.
- **National Security** Nexus: The secrecy surrounding foreign funding raises concerns not just about transparency but also the broader national security landscape.

Analysis:

- **Paradoxical Outcome**: Electoral bonds, designed to enhance transparency, face criticism for paradoxically diminishing it by facilitating undisclosed, large-scale donations.
- **Reassessing Intentions**: An in-depth analysis of how the scheme's intentions align with its real-world impact on political funding transparency.
- **Reimagining Funding Landscape**: Urgent calls for reconsideration of private funding advocate exploring alternatives like public funding or a National Election Fund.
- **Navigating Change**: The urgency lies in navigating a transformed funding landscape that prioritizes fairness, accountability, and public trust.

.**Way Forward:**

- **Disclosing Donor Identities**: A reevaluation of the use of electoral bonds, emphasizing transparency through the disclosure of donor identities.
- **Stakeholder Collaboration**: Collaborative efforts between regulatory bodies, political stakeholders, and the public to shape more transparent political funding mechanisms.
- **Alternatives to Private Funding**: Advocating for a shift towards public funding or the establishment of a National Election Fund to address concerns about donor reprisals.
- **Balancing Act**: Striking a balance between the need for funding and the imperative of transparency in reshaping the political funding landscape.

8. A leaf out of New Zealand's voting system

The article explores split voting trends in Odisha and the mixed member proportional (MMP) system in New Zealand. It highlights the benefits of MMP, such as local accountability and improved representation, suggesting that a similar system could address concerns in India's electoral framework, allowing for nuanced and diverse choices in a mature democracy.

What is mixed member proportional (MMP) system?

- The Mixed Member Proportional (MMP) system is a voting method where voters have two choices. First, they pick their preferred political party, indicating their overall preference for the Parliament's composition.
- Second, they choose a local representative from their specific area. This system aims to ensure a fair and balanced representation in the Parliament by combining both local and overall preferences of the voters.

Key Terms:

- **Split Voting:** Voters choosing different parties for different elections.
- **MMP System:** Mixed member proportional system used in New Zealand.
- **Tactical Voting**: Supporting a party strategically rather than based on genuine preferences.
- **Compulsive Voting**: Hesitation to vote outside preferred party or perceived winnable contenders.
- **Nuanced Choices**: Distinguishing between candidate and party preferences for a mature democracy.
- **Switch Seats**: Constituencies where voters pick a candidate from one party but give their party vote to another.

Key Data and Facts for mains value addition

- **Odisha 2019 Elections**: BJD led in Lok Sabha votes in 88 out of 146 Assembly Constituencies but won 113 out of 146 in Assembly votes, showcasing split voting.
- **New Zealand MMP System**: In the 2020 Auckland Central parliamentary election, 31.86% of votes were split votes, and 13 "switch seats" were created.

Key Highlights:

- **Split Voting in Odisha**: Despite socio-economic differences, Odisha exhibits split voting, where voters choose different parties for Lok Sabha and State Assembly elections.
- **MMP System in New Zealand**: New Zealand uses the mixed member proportional (MMP) system, allowing voters to cast separate votes for a party and a local MP. This results in diverse and mindful voting patterns.
- **Benefits of MMP:** The MMP system provides local accountability, policy focus, improved representation for various groups, enhanced democracy, flexibility, and lower entry barriers for young politicians.

Advantages of the Mixed Member Proportional (MMP) electoral system:

- **Local and Overall Representation:** MMP allows voters to choose both a local representative and a preferred political party, ensuring representation at both local and national levels.
- **Proportional Representation**: It provides a more accurate reflection of the public's overall preferences by allocating seats in proportion to the parties' share of the total vote.
- **Flexibility and Voter Choice**: Voters have the flexibility to support a party they believe in while also selecting a local representative, promoting a diverse range of political choices.
- **Reduced Wasted Votes**: Fewer votes go to waste as the proportional representation aspect ensures that even parties with smaller followings receive some representation in the legislature.
- **Coalition Building**: Encourages coalition governments, fostering cooperation and compromise among different parties for effective governance.

Challenges and concerns

- **Tactical Voting:** Critics worry that MMP might encourage tactical voting, where voters strategically support a party not because it aligns with their true preferences, but to influence the outcome.
- **Example:** In MMP, a voter might vote for a larger party, not because they truly support it, but to prevent another party they strongly dislike from gaining power. This strategic voting can distort the true reflection of public preferences.

Limited Accountability in MMP:

- **Explanation:** Some argue that the MMP system might lead to less direct accountability of elected representatives to their local constituents, as they also rely on a party list for their position.
- **Example**: If a local representative is assured a seat through the party list, they might be less motivated to address the specific concerns of their local voters, as their position is not solely dependent on local support.

Complexity for Voters:

- **Explanation:** The two-vote system in MMP may be confusing for some voters, leading to potential errors or unintentional consequences in the voting process.
- **Example:** Voters may find it challenging to understand the strategic implications of splitting their votes between a party and a local candidate, leading to unintended outcomes that don't align with their true preferences.

Possibility of Minority Governments:

- **Explanation:** MMP may result in coalition governments, and some argue that this can lead to instability and challenges in decision-making.
- **Example:** If no party gains a clear majority, parties may need to form coalitions to govern. While this ensures representation, it may also lead to compromises and difficulties in implementing policies.

Way Forward:

- **Consideration of Split Voting in India:** The article suggests that a split voting system in India could address concerns about compulsive voting, allowing voters to choose candidates based on merit while ensuring party preferences impact legislative composition.
- **Democracy Enhancement**: Emphasizes the essence of democracy in offering diverse and nuanced choices, with split voting seen as a way to achieve this.
- **Public Awareness and Education**: Emphasize the importance of public awareness and education campaigns to familiarize voters with the MMP system. This includes explaining the two-vote process and the impact of split voting, ensuring an informed electorate.
- **Continuous Evaluation and Adaptation**: Implement a system of continuous evaluation and adaptation to address any challenges or shortcomings in the MMP system. This involves periodically reviewing the system's functioning and making necessary adjustments to enhance its effectiveness.

9. Maratha Quota Demand

Recently, an activist Manoj Jarange Patil has been demanding a blanket reservation in education and government jobs for all Marathas in the State.

Marathas

- The Marathas comprise mainly peasant and landowning groups who make up almost a *third of the population of Maharashtra*.
- Most Marathas speak Marathi, though not all Marathi-speaking people are Marathas.
- The Marathas have been the *politically dominant* community in Maharashtra, 12 of its 20 Chief Ministers have been Marathas.
- The division of holdings and problems in the farm sector over the years have led to a decline in the prosperity of middle- and lower middle-class Marathas.

Currently, Maharashtra provides 52% reservation for different communities.

What is the issue with demand of Maratha quota?

- **Reservation demand**- Marathas have been demanding reservation in jobs and education under OBC category for decades.
- **Legal challenges**- Supreme Court struck down the State's *Socially and Economically Backward Classes Act 2018* which granted 16% quota to the Marathas.
- **State's response**- Maharashtra government has filed a curative petition and plans to conduct a backwardness survey of the community.
- **Issue -** Marathas want to be identified as Kunbis a sub caste that already gets OBC reservation.
- *Justice Sandeep Shinde Committee* was appointed to decide the procedure for granting Kunbi caste certificates to Marathas.
- The government has also accepted the first report of the committee and issued a Government Resolution.
- **Counter-protests**- The OBC community and the Dhangar community have opposed the Maratha quota demand and threatened to launch their own agitations.

Why Supreme Court struck down the SEBC Act 2018?

- **Unconstitutional-** The Act exceeds the 50% ceiling limit imposed on reservations in *Indra Sawhney v. Union of India*.
- **Lacks data**- The Act provides reservation on the basis of the *Justice Gaikwad Commission report*, which lacks reliable, scientific, and adequate data to justify either the backwardness of Marathas or the extraordinary condition of increasing reservations in Maharashtra from 52% to 68%.
- **Violates fundamental rights**- The Act establishes a separate reservation category for Marathas outside the OBC category, *infringing* on *Articles 14, 16, and 19* of the Constitution by bestowing special benefits on them.
- **Violates 102nd Constitution (Amendment) Act**- The Act was passed without adhering to the procedures outlined in this Act.
    o *President* alone is empowered to identify SEBCs and include them in a list to be published under *Article 342A (1).*
    o The *States can only make suggestions* to the President of the Commission under *Article 338B* (National Commission for Backward Commission).

10. Advocate-on-Record (AoR)

- In a recent development, the Supreme Court of India dismissed a public interest litigation filed by an Advocate-on-Record (AoR), emphasizing that an AoR cannot be a mere "signing authority."
- This incident has sparked discussions on the role and significance of AoRs in the Indian legal system.

Advocate-on-Record (AoR)

- Historical Roots: The AoR system is influenced by British legal practices, distinguishing between barristers who argue cases and solicitors who handle client matters. In India, senior advocates are designated by the Court, akin to barristers, and cannot solicit clients but are briefed by other lawyers, including AoRs.
- Exclusive Right to File Cases: Only an AoR is authorized to file cases before the Supreme Court of India. They serve as a vital link between litigants and the highest judicial authority in the country.
- Elite Legal Practitioners: AoRs are a select group of elite lawyers, primarily based in Delhi, whose legal practice predominantly revolves around the Supreme Court. They may also represent clients in other courts.
- Court of Last Opportunity: The concept behind the AoR system is to ensure that a litigant is represented by a highly qualified lawyer because the Supreme Court is often considered the last resort for legal remedies.

Becoming an AoR

- Eligibility Criteria: To qualify as an AoR, an advocate must meet specific criteria set by the Supreme Court Rules, 2013.
- Examination: Aspiring AoRs must clear an examination conducted by the Supreme Court, which includes subjects like Practice and Procedure, Drafting, Professional Ethics, and Leading Cases.
- Training Requirement: Before taking the exam, an advocate must undergo training with a court-approved AoR for at least one year. This training is preceded by a minimum of four years of legal practice.

Responsibilities and Rules Governing AoRs

- Geographical Presence: AoRs must maintain an office in Delhi within a 16-kilometer radius of the Supreme Court.
- Employment of Registered Clerk: Upon registration as an AoR, an undertaking is required to employ a registered clerk within one month.
- Regulatory Authority: While Section 30 of the Advocates Act grants lawyers the right to practice law nationwide, it explicitly acknowledges the Supreme Court's authority to establish rules under Article 145 of the Constitution for regulating its own procedure.

11. In troubled waters in Qatar

- On October 26, a court in Qatar sentenced eight Indian Navy veterans to death for breaching local security laws.
- The veterans, who worked for a local company providing training and support services to the Qatari Navy, were accused of espionage.
- The case has caused shock waves in India, with the Ministry of External Affairs promising to provide "absolute support" to the veterans and work towards bringing them back home.

Importance of Qatar

- Qatar is India's largest supplier of LNG, accounting for 54% of India's total LNG imports. India's total imports from Qatar were valued at $16.81 billion in FY2022-23, of which LNG imports alone were worth $8.32 billion, or 49.5%.
- Natural gas is important for India's energy transition, as it is considered a cleaner alternative to conventional petroleum fuels and is relatively cheaper than crude oil.
- Negotiations are also underway for an extension of the Government-owned Petronet LNG term contract, which runs out in 2028.

Espionage angle and impact on relations

- It is the first time that Indians who moved to the Gulf have been accused of such serious crimes and given harsh punishments.
- Claims and Speculations:
    - Reports suggest that the officials may have disclosed information about an Italian submarine that Qatar was planning to purchase to Israel.
    - However, these claims have been disputed, and there is no confirmation of an ongoing submarine contract or any Israeli involvement.
    - Some Indian commentators believe that the naval officials were framed by Pakistani agencies.
    - An Indian writer has also suggested that the sentence is aimed at derailing India's growing closeness to the Israel-UAE-Saudi axis, but there is no concrete evidence for this claim.
    - Another theory is that Qatar may be sending a warning message to India to limit its assertiveness in global affairs.

- o A retired Indian Army officer has speculated that India's hostility towards Hamas may have contributed to the harsh sentence.
  - o Some commentators view the sentence as a challenge to the strong relationship between India and Qatar, but this perspective is not supported by facts.
- Diplomatic Relationships and Regional Dynamics:
  - o Qatar has close relationships with many powerful nations, including the US, Iran, and Turkey, and has a history of successful regional diplomacy.
  - o Ambassador Talmiz Ahmad feels that Qatar's leaders approach diplomatic challenges in a thoughtful and informed manner.
  - o The espionage case and the involvement of Indian naval veterans would have been thoroughly investigated before the sentences were handed down.
  - o All countries take national security seriously, and they typically don't reveal the full details of investigations and legal processes to the public.
  - o The diplomat also feels that it is a separate security issue and not related to India's relationships with other countries or current events in the region.

Conclusion

- In light of the current situation, it is crucial for media outlets to exercise restraint and maintain a level head.
- Refraining from name-calling, speculative reporting, and hate speech not only helps to avoid increasing tensions but also allows for a more conducive environment for diplomatic efforts aimed at securing the safe release of the veterans.
- India should focus on diplomatic efforts to free the veterans while publicly emphasizing the significance of the positive relationship with Qatar.

12. Law Commission proposes e-FIR registration

The Law Commission proposes e-FIR registration for unknown accused in cognizable offenses, combining electronic submission with physical signing within three days. Despite ensuring swift crime registration, concerns arise over limited efficacy, emphasizing the importance of human intervention, especially in cases requiring immediate police involvement. The article suggests exploring e-authentication techniques for enhanced verification.

e-FIR

- **Definition:** Digital system for reporting crimes to the police.

- **Process:** Information submitted online through a national portal. Complainant required to physically sign the report within a specified timeframe (usually three days).
- **Objective:** Streamline crime registration with initial electronic submission.

Key provisions of law commissions report

- **e-FIR Recommendation**: Proposal for e-FIR registration in all cognizable offenses with unknown accused. Verification through OTP and Aadhaar ID proof suggested by the Law Commission.
- **Verification Process**: Complainant verification through OTP for authenticity. Aadhaar ID proof mandated to confirm the complainant's identity.
- **Information Deletion**: Automatic deletion of unverified information within two weeks. Complainant's failure to sign the e-FIR within the prescribed time leads to deletion.
- **Timeframe for Physical Signing**: Complainants given three days to physically sign the e-FIR for formal registration. Failure to sign within the stipulated time results in non-registration.
- **Human Intervention**: The article emphasizes the importance of human interaction in certain cases, suggesting that electronic registration may be suitable only for offenses where immediate police interaction is not crucial.

What are cognisable offences?

- **Cognizable Offenses Definition:** Offenses for which police can make an arrest without a warrant. Immediate police action is permissible upon receiving information or a complaint.
- **Serious Nature:** Generally involves more severe crimes. Examples include murder, robbery, kidnapping, and certain types of fraud.
- **No Court Permission Needed:** Law enforcement can initiate an investigation without court authorization. Immediate action can be taken by the police upon learning about the offense.
- **Jurisdictional Variations:** Classification as cognizable or non-cognizable may vary in different legal systems. The severity and nature of offenses determine their categorization.

Challenges:

- **Limited Efficacy**: The concept of e-FIR relies on obtaining information electronically but requires physical signatures within a prescribed time, limiting the effectiveness of the online process.

- **Lack of Discussion**: The article notes that the Law Commission did not discuss models adopted by states currently lodging e-FIRs, leading to potential gaps in understanding the practical implementation.

Key Phrases:

- **Cognizable Offenses**: Offenses for which police can make an arrest without a warrant.
- **E-authentication Technique**: The use of digital signatures or e-authentication techniques, not extensively discussed in the Law Commission's recommendations.
- **Human Interaction**: Highlighted as crucial, especially in cases like kidnapping, where immediate police involvement is essential for both medical examinations and crime scene visits.

Key Facts/Data:

- **Verification Methods**: OTP and Aadhaar are suggested as methods for verifying the complainant's identity in the e-FIR process.
- **Three-Day Timeframe**: Complainants have three days to physically sign the e-FIR; otherwise, the information is automatically deleted from the portal.

Way Forward:

- **Mandating E-authentication**: The article suggests considering the use of e-authentication techniques, such as digital signatures, to enhance the verification process and facilitate immediate e-FIR registration.
- **Clarification on Models**: The Law Commission and states should provide clearer insights into the practical models adopted for e-FIR registration, addressing potential gaps in the recommendations.

13. Taiwan, a Malacca blockade and India's options

With increasing Chinese activities intimidating Taiwan and the possibility of a US-China conflict over Taiwan, questions arise regarding India's potential role in the Strait of Malacca and the Andaman Sea.

Complex Constraints in the Strait of Malacca:

- **International Legal Challenges:** Distant blockades, especially far from a belligerent nation's territory, face legal challenges under international law.
- **Trade Implications:** The Strait of Malacca is not just China's lifeline but also crucial for Japan, South Korea, and India. Disrupting its trade has far-reaching consequences.

- **Sovereign Nations' Sovereignty:** The strait's passage involves the sovereignty of Indonesia, Malaysia, Thailand, and Singapore. A naval blockade would adversely affect these nations, making their support unlikely.
- **Complexities of Commercial Shipping:** Commercial shipping involves intricate factors such as vessel sovereignty, flag, registration, insurance, and cargo ownership. Transshipment in Southeast Asian ports adds to the complexity.
- **Detour Options:** Even if the Strait of Malacca were obstructed, shipping could detour through the Sunda or Lombok Straits. Very large crude carriers prefer the Sunda Strait over the shallower Malacca Strait.
- **Strategic Petroleum Reserves (SPR):** China's significant onshore and floating SPR, along with overland energy supplies, provide resilience against disruptions.

Implications of Naval Blockade or Unilateral Action:

- **Declaration of War:** Implementing a naval blockade or taking unilateral action against an adversary's naval vessels is a de facto declaration of war and could lead to broader conflicts.
- **Lack of Regional Endorsement:** Regional nations adversely affected by the Strait's disruption are unlikely to endorse such actions. China's influence in international forums would complicate matters.

Historical Lessons:

- **First World War:** The British blockade of Germany during WWI led to retaliation with deadly U-boat attacks, eventually drawing the U.S. into the war.
- **Second World War:** The U.S. embargo on Japan's energy supplies through maritime routes contributed to Japan's decision to attack Pearl Harbor.
- **Strait of Hormuz Tensions:** Ongoing tensions between Iran and the U.S. in the Strait of Hormuz illustrate how interdiction of commercial shipping can escalate to military confrontations.

Conflict Scenarios:

- **U.S. Support:** The question remains whether India's strategic partners, particularly the U.S., would support interdicting Chinese vessels in a conflict between India and China unless the U.S. is directly involved in a kinetic conflict with China.
- **Indian Ocean Focus:** In a full-scale U.S.-China conflict over Taiwan, India's primary role may focus on defending its territorial interests and securing sea lines of communication in the Indian Ocean.

- **Primary Focus on Continental Borders:** India traditionally faces Chinese threats on its land borders, and its priority may remain the defence of its continental borders in any such scenario.

Conclusion:

- India's role in the U.S.-China conflict over Taiwan would primarily centre on defending its interests and the security of its sea lines of communication.
- India's partnership with the U.S. aims to strengthen its position in the Indo-Pacific and contribute to regional stability.

14. Reducing Non-Communicable Disease Mortality

The National Centre for Disease Informatics and Research (**NCDIR**) has recently stated that India would not meet United Nations (UN) targets to reduce premature mortality from major non-communicable diseases (NCDs).

- **NCDIR** is a branch of the Indian Council of Medical Research (**ICMR**) that develops a national research database on NCDs.

Key highlights of the Study:

- The premature mortality rate for 4 major non-communicable diseases (NCD) is projected to **decrease by 13.9**% from 2010 to 2025.
  - The four major NCDs include **cancer**, cardiovascular disease (**CVD**), chronic respiratory diseases (**CRD**), and **diabetes**.
- The World Health Organization (**WHO**) and the UN-mandated Sustainable Development Goals (**SDG**) have set targets to **reduce premature deaths** from four major NCDs.

25 by 25 target of WHO:

- WHO has a target of a **25% reduction** in premature mortality for the four NCDs **by 2025**, compared to 2010.
- It was outlined when the WHO adopted a **global NCD monitoring framework** in **2013**.

Sustainable Development Goals (SDGs) for NCD Prevention:

- The SDG target is to **reduce premature deaths** from the 4 major NCDs **by one-third** (33%) from 2015 to 2030. (SDG Target 3.4)
  - **SDG Target 3.4** includes prevention and control of **NCDs** and **mental health**.
- In India, premature deaths due to NCDs declined by **15.6**% from 2015 to 2030.

India's Scenario:

- From **2010 to 2025**, reductions in premature mortality were 33.9%, 17.4%, 9.3%, and 6.9% for CRD, cancer, CVD, and diabetes respectively.
- For **2015 to 2030**, these changes were 21.7%, 11.5%, 15.4%, and 15.1%.
- The target of WHO and SDG could possibly be reached by **2039** and **2053** in India.

- **Four out of 10 NCD deaths** are premature and occur before the age of **70**.
- Majority of these premature deaths occur in **low- and middle-income countries (LMIC)**, impacting **productivity** and **economy**.
- Deaths due to NCDs in India have **increased** from **37.9% in 1990** to **61.8% in 2016**.
- NCDs kill 41 million people each year, equivalent to **74% of all deaths** globally.
- NCDs account for **66% of all deaths** in India, of which **22% were premature deaths** in 2019. (WHO's NCD data portal).
- Every **two seconds**, 1 person **under the age of 70 dies** of NCD with **86%** of those deaths occurring in **LMIC**.

About Non-Communicable diseases (NCDs):

- NCDs are diseases that are **not spread through infection** or through **other people** but are typically caused by unhealthy behaviours.
- Also known as **chronic diseases** because they tend to be of long duration.
- They are the result of a combination of **genetic**, **physiological**, **environmental,** and **behavioural** factors.

Risk factors:

- **Modifiable behaviors** like tobacco use, physical inactivity, unhealthy diet, and the harmful use of alcohol increase the risk of NCDs.
- **Metabolic risk factors** also contribute to metabolic changes that increase the risk of NCDs.
  - These metabolic changes include **high blood pressure**, overweight/**obesity**, **hyperglycemia** (high blood glucose levels), and **hyperlipidemia** (high levels of fat in the blood).
- **Environmental risks** like air pollution also cause deaths due to stroke, ischaemic heart disease, chronic obstructive pulmonary disease, and lung cancer.

About Unconditional Probability of Dying (UPoD):

- UPoD between the ages of 30 and 70 years is the probability that **a person aged 30 years** will **die** from selected causes of death **before the age of 70 years**.
- It is the selected **global indicator** to measure the impact of NCD prevention and control programs.
    - o It has been defined by **WHO**.
- UPoD from the 4 NCDs was **24.4%** in 2010 and is projected to be **21.0%** and **20.0%** in 2025 and 2030.
- It indicates a relative reduction of **13.9%** by 2025 from 2010 and **15.6%** by 2030 from 2015.
- It was **higher among males**, particularly around the **age of 44**, owing to risk factors such as **tobacco** use and **alcohol consumption**.
- Reduction in UPoD depends on other risk factors, such as **physical inactivity**, **overweight/obesity**, **inappropriate diet** (including high salt intake), and **high systolic blood pressure**.

15. Significance of U.S.'s digital shift

The recent withdrawal by the United States from key digital trade positions at the World Trade Organization (WTO) has profound implications for the future of global digital governance.

Issues in Digital Governance:

- **Digital Colonization:** The historical approach of the U.S. in pushing digital trade proposals to prevent effective regulation of Big Tech, often perceived as digital colonization.
- **Resistance from Developing Countries:** Countries like India and South Africa resisting U.S.-led digital trade agreements due to concerns about economic exploitation and uncontrolled Big Tech dominance.

Significance of U.S. Withdrawal:

- **Shift in Global Digital Economy:** The U.S. withdrawal marks a watershed moment, signalling a shift in how the global digital economy and society will evolve.
- **Domestic Policy Space:** The stated motive is to allow the U.S. greater domestic policy space to regulate Big Tech and Artificial Intelligence (AI), leveraging data and source code.

China Factor:

- **Changing Dynamics:** The emergence of China as a digital superpower challenges the once unchallenged digital hegemony of the U.S.
- **Security Concerns:** The U.S. perceives China's global digital presence not just as an economic challenge but also as a significant security threat.

Potential Split in Global Digital Space:

- **Cold War-Like Exclusions:** The U.S. declaration may lead to economic and security-related exclusions, creating competing blocs led by the U.S. and China.

- **Regional Digital Trade Deals:** The U.S. may still pursue data flow, source code, and facility location provisions in regional digital trade deals limited to its allies.

Implications for Developing Countries:

- **Opportunities for Regulation:** Developing countries should capitalize on the global consensus for strong digital regulations to manage Big Tech and AI.
- **Avoiding Digital Dependencies**: Vigilance is required to resist falling into a new trap of a digital Cold War, ensuring independence from entanglements with either the U.S. or China.

Reshaping Digital Regulation Paradigms:

- **National Digital Regulation:** Developing countries should shape new paradigms for national digital regulation, considering data, source code, and computing facilities.
- **Digital Industrial Policies:** Combining strong digital industrial policies to boost the domestic digital industry, creating open standards, protocols, and infrastructures for global interoperability.

Why hasn't India joined the e-commerce initiative?

- Data is the new oil of the 21st century. Data is the heart of the digital revolution.
- It is the key resource which can make or break a country in the digital era as all digital technologies like Big data analytics, artificial intelligence, IoT, Robotics, etc need data for them to become more efficient and intelligent.
- The larger the population of a country, the larger the amount of data generated, and the younger the population the more the data generated.

 India's 1.3 billion population is bigger than the population of OECD members (36 countries) taken together, with 66% of its population falling in the age group of 15-64 years, which is around 18 percent of the world's young population.

 This amounts to huge data being generated every second in India, which is extremely valuable for the developed world for making efficient digital products and services in the future.

 This is the root cause for the pressure being applied on India to join the plurilateral e-commerce negotiations.

Conclusion:

- Developing countries must navigate this evolving landscape by leveraging opportunities for strong digital regulations while avoiding digital dependencies, thereby ensuring genuine global interoperability in the digital realm.

16. Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)

Recently, Prime Minister Modi announced the extension of the free food grain scheme- Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) for 5 years.

About PMGKAY:

- During Covid-19, the government introduced the PMGKAY in 2020 to provide **5 kg of free food grains** to every **ration cardholder**.
- This is in addition to the **subsidized ration** provided under the **National Food Security Act (NFSA)** to **families covered** under the **Public Distribution System (PDS).**

Eligibility:

- Families belonging to **Antyodaya Anna Yojana (AAY)** and **Priority Households (PHH)** categories will be eligible for the scheme.
- **PHH are to be identified by State Governments**/Union Territory Administrations as per criteria evolved by them.
- **AAY families** are to be identified by States/UTs as per the criteria prescribed by the Central Government:
    - Households headed by widows, terminally ill persons, disabled persons, or individuals aged 60 years or older with **no assured means of subsistence** or societal support.
    - Families with an annual **income of up to Rs. 15,000**.
    - All **primitive tribal households**.
    - Landless agricultural laborers, marginal farmers, rural artisans/craftsmen, slum dwellers, and individuals earning their

livelihood on a daily basis in the informal sector (e.g., porters, coolies, rickshaw pullers, destitutes and etc.) in both **rural** and **urban areas**.
- o All eligible **Below Poverty Line** families of HIV positive persons.

Extension of PMGKAY:

- In 2022, the government discontinued the PMGKAY due to an **improved economic situation** after the **easing of COVID-19 cases** and restrictions.
- In 2023, to offset the discontinuation of PMGKAY, the government declared free ration for one year to 81.35 crore people under the NFSA.
- The PMGKAY scheme, originally scheduled to conclude in December 2023, has been extended and will now **run until December 2028**.
  - o The beneficiaries will not be required to make any payment to obtain food grains.

About NFSA:

- The NFSA was introduced by the government in 2013, granting a **legal right** to 67% of the population (75% in rural areas and 50% in urban areas) to receive **highly subsidized food grains**.
- To promote **women's empowerment**, the **eldest woman** of the household of age 18 years or above is mandated to be the **head of the household** for the purpose of issuing of **ration cards under the Act.**
- A **key principle** of the Act is its **life-cycle approach**, which includes special provisions for **pregnant women, lactating mothers, and children** aged 6 months to 14 years.
- They are entitled to receive **free nutritious meals** through **Integrated Child Development Services (ICDS) centers**, known as Anganwadi Centers under the ICDS scheme, as well as through schools under the **Mid-Day Meal (MDM) scheme**.
- The Act sets **higher nutritional standards** for **malnourished children** up to 6 years old.
- **Under Pradhan Mantri Matru Vandana Yojana (PMMVY),** Pregnant women and lactating mothers are also entitled to receive a **cash maternity benefit** of at least Rs. 6,000, which serves to partly **compensate for wage loss during pregnancy** and supplement nutrition.
- If entitled individuals do not receive their allotted foodgrains or meals, they are entitled to receive a **food security allowance** from the respective State Government.

Coverage of NFSA:

- Its **coverage** is based on the **2011 Census population figures**.

- It is currently **implemented in all 36 states** and **Union Territories**, providing for approximately 81.35 crore individuals.
- Currently, beneficiaries of the NFSA Act pay a nominal fee of **Rs 1-3 per kg for food grains**.
- According to the Act, **priority households** receive **5 kgs of foodgrain per person** every month, while **Antodaya Anna Yojna (AAY)** families get **35 kgs per family per month**.
- The prices for coarse cereals, wheat, and rice are **highly subsidized** at Re 1, Rs 2, and Rs 3 per kilogram, respectively.
- In 2023, the government will provide **free rations** to the beneficiaries of the scheme.
  - o This decision was made before the conclusion of the PMGKAY in December 2022.

17. India-Bhutan relationship: History, Trade, Security & Culture

Bhutan King has recently arrived in India's assam, marking the strong ties between both the two nations.

India-Bhutan relationship:

Historical:

- Bhutan was one of the **first** to recognize India's independence in **1947**.
- Diplomatic relations between India and Bhutan were established in **1968**.
- The basic framework of India- Bhutan bilateral relations has been the **Treaty of Friendship and Cooperation** signed in **1949**, which was revised in **2007**.
  - o The treaty aimed for peace between the **two nations** and **non-interference** in each other's **internal affairs**.
  - o The revised treaty replaced the **provision** requiring **Bhutan** to take **India's guidance** on foreign policy with sovereignty and **not** require Bhutan to obtain **India's** permission over **arms imports**.

Trade & Economy:

- The **India-Bhutan Agreement on Trade, Commerce and Transit** establishes a free trade regime between the **two countries**, and provides **duty free transit** of Bhutanese exports to third countries.
  - o It was first signed in **1972**.
- India is Bhutan's top trade partner both as an **import** source and as an **export** destination.

- India's **top exports** to Bhutan are- petrol & diesel, passenger cars, rice, wood charcoal, cellphones, coke and semicoke, soya-bean oil, excavators, electric generators & motors, parts for turbines, transport vehicle, bitumen.
- India's **top imports** from Bhutan are- electricity (Rs. 2443 crore in 2021), Ferro-silicon, Ferro-silico-manganese, Portland pozzolana cement, Dolomite chips, Ordinary portland cement, Silicon Carbide,Cardamoms, betel nut, oranges, semi-finished products etc.
- Development projects in Bhutan supported by India includes- **Mangdechhu** Hydroelectric Project, **Punatsangchhu** & **Kholongchhu** Hydroelectric Project, Development of **Jigmeling** Industrial Park, and Construction of **150 bedded Mother** and **Child Hospital** etc.
- India allows **16 entry** and **exit points** for Bhutanese trade with other countries (except China) and has agreed to **develop** and **import electricity** from Bhutan.

Defence & Security significance:

- The **Indian Military Training Team** (IMTRAT) is permanently present in **western Bhutan** to train the **Royal Bhutan Army**, and cooperate with the **Royal Bhutan Army**.
- Bhutan acts as a "**buffer**" **state** against China's aggression and military adventures, as it is adjacent to the **Siliguri Corridor** or "**chicken's neck**", which connects India to the rest of the **North East Region** (NER).

Cultural significance:

- Many **Bhutanese pilgrims** travels to Bodh Gaya, Rajgir, Nalanda, Sikkim, Udayagiri, and other Buddhist sites in India.
- The **Je Khenpo** (the head monk of Bhutan), in **2018**, presided over the ceremony to construct a **Bhutanese Lhakhang** (temple) and for **World Peace Prayer** in Rajgir in Bihar.
- Under the **Nehru Wangchuck Scholarship Scheme** since its inception in **2010**, 8 slots are **annually** allotted to **students** and **scholars** coming from Bhutan to India for study.
- **Ambassador's Scholarship** is granted to deserving Bhutanese students, who are studying in India on self-financed basis and also for undergoing vocational training in India.

Diaspora & other aspects:

- Indians are presently working in Bhutan in the sectors of **Infrastructure** Development, **Education**, **Trade** and **Commerce**, Arts, Health and Information Technology.

- **India-Bhutan Foundation** was established in 2003 with the aim of enhancing **people to people exchanges** in areas such as education, arts and culture and environment protection.
- Bhutan became the **second** country to launch the **BHIM (Bharat Interface for Money) app**.
- In **2019**, India launched the **first** phase of the **RuPay project** in Bhutan which allowed Indian tourists to make **cashless payments** at ATMs and POS (point of sale) terminals in Bhutan.

Science and technology:

- India and Bhutan will collaborate on the joint development of a **small satellite** for Bhutan.
- The **India-Bhutan SAT** was launched into space in 2022 by ISRO's **Polar Satellite Launch Vehic**le (PSLV).
- **Digital Drukyul Flagship Program** aims to harness the power of **information** and **communication technology** to accelerate Bhutan's **digital transformation**, with India providing support to components of the program.
- **E - Library Project** includes the development of an **e-library portal**, establishment of a **data centre** in Thimphu tech park, creation and management of **e-content** and the creation of **e-libraries** in **49 schools** and **12 colleges** in each district of Bhutan.
- The integration of **Bhutan's DrukRen** with **India's National Knowledge Network** creates an **information highway** between the universities, research institutions, libraries, health-care and agricultural institutions of the two nations.
- Bhutan was the **first** country to receive the Made in India **Covishield vaccines** under the **Vaccine Maitri Initiative**.

Bone of contention between India & Bhutan:

- India has **failed** to deliver some developmental projects including **hydropower projects** on time and in the **volumes** expected, and this has contributed to **Bhutan's rupee debt**.
  - Bhutan's **hydropower sector** is a keystone of its economy.
- Bhutan suffers **trade deficit** with India, which may act as a potential bone of contention.
- Increasingly, Bhutan has been influenced by the **China's economic might** and hence looking towards it as a **potential partner** to uplift its situation in terms of economy.

18. Enhancing representation, for a just electoral system

- India's large population is represented by a limited number of elected officials at the national and state levels.
- This lack of proportional representation weakens democracy and governance.

Limited Representation in India's Democracy

- An Indian MP represents about 2.5 million citizens on average, compared to 700,000 for a US Representative.
- In Pakistan and Bangladesh, the ratio is around 600,000 and 500,000 citizens per representative respectively.
- India has limited parliamentarians and assembly members for its large population (4,126 MLAs, 543 Lok Sabha MPs, and 245 Rajya Sabha MPs).
- India lacks adequate representation at national and state levels to address issues and be held responsible for citizen welfare.

Malapportionment in India's System

- Rajya Sabha makes for an unequal federation i.e. seats in the upper house are also allocated on the basis of population compared to the US system where each State is given two senators in the U.S. Senate.
- In India's diverse political system, this malapportionment can empower certain parties over others which could exacerbate political differences between southern/northeastern states and northern states.

Delimitation

- An independent Delimitation Commission has conducted delimitation 4 times before.
- Delimitation was frozen in 1976 during the Emergency until 2001.
- It was then frozen again until after the 2026 census by the 84th Amendment Act.
- With more seats, southern states may see a 6% rise but northern states could see a 63% increase.
- States with lower population growth due to effective implementation of family planning and population control measures could be punished.

Way Forward: Needed Electoral Reforms

- Implementing direct elections for Rajya Sabha members who must live in the state they represent to strengthen federalism and state representation.
- Proportional representation in Lok Sabha and state elections to improve representative democracy.
- Alternative voting systems like ranked choice (voters rank candidates and the weakest candidates are eliminated until one has a majority) or two-round system (if no one gets a majority in the first round, the top candidates from that round advance to the second round) to ensure legislators have majority voter support.
- Smaller states can be considered to improve governance and limit large state dominance. A new State Reorganization Commission can be considered to evaluate splitting larger states.
- Directly elect mayors with fixed terms for all census towns to improve local democracy and urban governance. Empower mayors to control key urban functions like planning and services as outlined in the 74th Amendment.

Minimizing Negative Effects of Delimitation

- Delimitation should restore proportional representation in Parliament.
- Significantly increase Parliament seats to avoid states losing seats.
- Should consider geography, economics, language, and fairness as criteria for seat allocation and not just population.
- Fiscal impact on future state transfers should be elaborated clearly.

Conclusion

- Overall, enhancing representation at national, state and local levels will strengthen Indian democracy and address concerns across the country.

19. Asia-Pacific Economic Cooperation (APEC) and India

- The Asia-Pacific Economic Cooperation (APEC) Leaders' Week is currently underway in San Francisco, bringing together leaders from the Asia-Pacific region to discuss pressing economic and trade issues.
- Although India is not an APEC member, is participating at the forum.

Asia-Pacific Economic Cooperation (APEC): An Overview

- **Founding**: APEC, established in 1989, is a regional economic forum aimed at promoting regional economic integration and greater prosperity in the Asia-Pacific region. It consists of 21 member economies, termed "economies" due to their focus on trade and economic matters.

- **Member Economies**: APEC's member economies include Australia, Brunei, New Zealand, Papua New Guinea, Hong Kong (as part of China), the Philippines, Indonesia, Malaysia, Vietnam, Singapore, Thailand, Chinese Taipei (Taiwan), China, Japan, South Korea, Russia, Canada, the United States, Mexico, Peru, and Chile, strategically located around the Pacific Ocean.

APEC's Role over the Years

- **Champion of Free Trade**: APEC has consistently advocated for free trade, reduction of trade tariffs, and economic liberalization.
- **Seoul Declaration:** The 1991 Seoul Declaration marked the establishment of a liberalized free trade area around the Pacific Rim as APEC's primary objective.
- **Economic Impact**: APEC initiatives have contributed significantly to the development of a growing middle class in the Asia-Pacific region. APEC economies, comprising 2.9 billion citizens, account for approximately 60 percent of global GDP and 48 percent of global trade as of 2018.

India's Interest in APEC

- **Historical Interest**: India expressed interest in joining APEC in 1991, coinciding with the initiation of economic reforms for liberalization and globalization.
- **Rationale**: India's interest in APEC is based on its geographical location, the potential size of its economy, and its trade interactions with the Asia-Pacific.
- **Challenges**: APEC has maintained an informal moratorium on expanding membership, despite India's interest. The US-India Joint Strategic Vision for the Asia-Pacific and Indian Ocean Region in 2015 welcomed India's interest in joining APEC but no formal progress has been made.

Highlights of APEC Summit 2023

- **Biden-Xi Meeting**: The meeting between US President Biden and China's President Xi Jinping is a significant highlight. While it may not result in immediate changes in US-China relations, it reflects ongoing high-level engagements.
- **Indo-Pacific Economic Framework (IPEF)**: The summit will focus on progress related to the Indo-Pacific Economic Framework (IPEF), initiated after the US withdrawal from the Trans-Pacific Partnership. Fourteen members, including Fiji and India, are part of the IPEF, with the rest being APEC members.

Conclusion

- The APEC Summit 2023 brings together leaders from the Asia-Pacific region to address economic and trade issues, with the Biden-Xi meeting and discussions on the IPEF among the key highlights.
- Despite India's historical interest in APEC, membership expansion remains a challenge, underscoring the importance of regional economic forums in shaping global economic policies and partnerships.

20. Women for Water, Water for Women Campaign

The **Ministry of Housing and Urban Affairs (MoHUA)** recently unveiled an initiative "**Women for Water, Water for Women" Campaign.**

Women for Water, Water for Women Campaign:

- This is under the flagship scheme **Atal Mission for Rejuvenation and Urban Transformation (AMRUT)**, in partnership **with National Urban Livelihood Mission (NULM).**
- It celebrates **"Jal Diwali"** with knowledge partner as Odisha Urban Academy.
- **Aim:** To provide a platform for inclusion of women in water governance.
- Women will be given first-hand knowledge about water treatment processes through visits to **Water Treatment Plants (WTPs)** in their respective cities.
- **Phase I** of the campaign involves participation of over **15,000 Self Help Groups (SHGs)** women from all States/ UTs (barring the 5 States under Model Code of Conduct).
- **Focus areas** of the campaign include:
  - Familiarizing women with functioning of Water Treatment Plants and water testing facilities.
  - Promote **inclusivity and involvement** through souvenirs & articles created by Women SHGs.
  - Familiarizing & educating the women about **AMRUT scheme & its impact** on water infrastructure.
- **Visits facilitated by**: State and city officials from AMRUT and NULM by identifying WTPs.
- MoHUA asked the State and City officials to **actively participate** and support this initiative for including women in the **vital space of water infrastructure** under AMRUT.

Significance of the Campaign:

- **India has more than 3,000 WTPs**, with a designed water **treatment capacity** of more than 65,000 MLD and **operational capacity** of more than 55,000 MLD.

- Women SHGs will visit more than 550 WTPs, with a combined operational capacity of more than 20,000 MLD (more than 35% of the country).
- **Anticipated outcomes:** Increased awareness and knowledge on water treatment, sense of ownership and responsibility, promotion of inclusivity, empowerment of SHGs, positive community impact, and model for future initiatives.
- These visits will elucidate the **vital procedures** involved in delivering clean and safe drinking water to households due to **women's role in water management.**
- They will gain insight into **water quality testing protocols** which ensure that citizens get water of the required quality.
- It would address issues of **gender equality** by promoting inclusivity and diversity in sectors traditionally **dominated by men.**

21. Centre-State Disputes and their Implications on India's Economy

- In India, disputes between the Central and State governments regarding economic policies have a long history, but in recent years, they have escalated in both frequency and intensity, taking on the character of 'persistent frictions' within the federal system.
- These disputes have significant implications for India's economy and its federal structure.

- **Impact of Economic Reforms**: Economic reforms since 1991 have relaxed many controls on investments, granting some autonomy to States. However, States still rely on the Centre for revenue receipts.
- **Shift from 'Give and Take' to Hardened Stance**: Recent State resistance has transformed the cooperative Centre-State relationship into a more rigid and confrontational dynamic.

Emerging Conflict Areas

- **Homogenization of Social Sector Policies**: Conflicts arise over the homogenization of social sector policies, where States seek greater discretion, but central agencies push for uniformity.
- **Functioning of Regulatory Institutions**: Differences emerge regarding the functioning of regulatory institutions, leading to conflicts over jurisdiction.
- **Powers of Central Agencies**: Central agencies attempt to increase their influence, often imposing their preferences on States.

Economic Consequences of Interference

India's Engagement with FATF

- **Observer Status**: India became an Observer at FATF in 2006, marking the beginning of its association with the organization.
- **Full Membership**: On June 25, 2010, India officially became the 34th country to attain full membership in FATF, signifying its active participation and commitment to the organization's objectives.

Understanding the Mutual Evaluation Process

- **Review Framework**: The mutual evaluation process is an essential mechanism through which FATF assesses a country's legal and institutional framework to combat money laundering and terrorist financing. It also evaluates the country's implementation of measures to prevent these financial crimes.
- **Compliance Assessment**: During this process, FATF scrutinizes a country's adherence to its 40 recommendations regarding anti-money laundering and counter-terrorism financing. It also evaluates the practical effectiveness of these measures.
- **Outcome and Rating**: The outcome of the mutual evaluation is documented in a report. This report highlights the country's strengths, identifies weaknesses, and suggests areas for improvement. A rating is assigned based on the level of compliance and effectiveness.

FATF's Evaluation of India

- **Comprehensive Assessment**: FATF's evaluation of India encompasses various aspects, including the nation's legal framework, regulatory system, law enforcement efforts, and international collaboration.
- **Alignment with Global Standards**: Central agencies in India have been actively working to ensure that the country's anti-money laundering and counter-terrorism financing laws align with international standards and that their practical implementation is effective.

Significance of FATF Evaluation

- **Report Impact**: The evaluation results in a comprehensive report detailing India's strengths, weaknesses, and areas requiring improvement. This report includes a rating based on compliance and effectiveness.
- **Global Anti-Financial Crime Efforts**: The mutual evaluation process is a crucial tool in the worldwide fight against money laundering and terrorist financing.

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- **Financial Implications**: The outcome can significantly affect a country's access to international financial markets and its standing in the global community.

23. Suez Canal and its Alternative

Israel has come up with plans to create an alternative to the Suez Canal.

Historical background of Suez Canal

- **Location-** The Suez Canal is a man-made canal that connects the **Mediterranean Sea to the Red Sea**, providing a crucial shortcut for shipping between Europe and Asia.
- It cuts north-south across the Isthmus of Suez in Egypt.
- **Year of construction** - Construction of the canal began in 1859 and it took around 10 years to complete the project.
- **Management**- The canal is owned and maintained by the Suez Canal Authority (SCA), which is under the government of **Egypt.**

- **Convention of Constantinople-** Signed in 1888 by the maritime powers, it stated that the canal should be open to ships of all nations in times of both peace and war.
- Acts of hostility in the waters of the canal and the construction of fortifications on its banks were forbidden by the convention.
- The British and French owned most of the shares in the canal company and used their influence to protect their interests.
- **Suez Crisis -** In 1956, Egypt took over the Suez Canal from the British and French shareholders to fund a dam project on the Nile River.
- This nationalisation triggered a military attack by UK, France and Israel on Egypt, marking the 1st deployment of the UN Peacekeeping Forces anywhere in the world.
- They were stationed in Sinai to maintain peace between Egypt and Israel after the withdrawal of the invading forces.
- **Egypt-Israel conflict-** In 1967, Egypt expelled UN peacekeepers from Sinai and fought with Israel.
- Israel captured Sinai and Egypt blocked the Suez Canal for 8 years.
- In 1975, Egypt and Israel signed an agreement to end the hostilities and reopen the canal.
- **Arab-Israeli War -** The canal was also a key battleground in the 1973 Arab-Israeli War, where Egypt and Syria attacked Israel.

Established in 2015, Suez Canal Economic Zone is a special economic zone located in Egypt to promote economic growth and to attract foreign investment to the country.

What is the significance of Suez Canal?

- **Global trade-** The canal is a vital link between the West and East, carrying 10% of the global trade every year.
  - An estimated 12% of world maritime trade passes through the Suez Canal.
- **Time efficient-** The canal ensured that ships travelling between Europe and Asia would not have to travel all the way around the continent of Africa.
  - The canal cut the distance between London and Mumbai by a more than 41%.
- **Economy lifeline-** As per World Bank, the canal accounts for nearly 2% of Egypt's GDP.
- **Traffic management-** The canal handles an average of 50 ships per day, with a total value of 9.5 billion dollars.

What are the issues with Suez Canal?

- **Shipping bottleneck**- Despite being widened and deepened over the years, the canal remains perennially congested, with long queues at either end.
- **Suez Canal blockage-** In 2021, the cargo ship "Ever Given" got stuck in the canal thereby affecting the global supply chain and oil prices.
  - It was estimated that the resulting "traffic jam" held up an estimated 9.6 billion dollars of goods every day.
- **Monopoly-** Egypt's control over the waterway has been a source of conflict for almost 70 years now.

24. Branded, generic and the missing ingredient of quality

Following the Indian Medical Association's protest, the NMC has withdrawn the order on 'generic prescribing' since August 23, 2023

Central idea

The article highlights challenges in India's healthcare system, emphasizing the struggle between generic and brand prescriptions. It discusses the alleged nexus between pharmaceutical companies and doctors, quality assurance concerns, and the need for comprehensive measures to ensure affordable and reliable access to medicines. The withdrawal of the generic prescribing order reflects ongoing complexities in achieving universal healthcare goals.

Key Highlights:

- **Over-the-Counter Medical Sales in India**: Patients often seek second opinions from non-qualified individuals in medical shops, with queries ranging from medicine strength to potential side effects.
- **Generic vs. Brand Names**: The National Medical Council (NMC) directed doctors to prescribe generic names over brand names, emphasizing the cost factor and the affordability of generic names. The Hathi Committee in 1975 supported the gradual phasing out of brand names.

 Alleged Nexus and Ethical Commitment: An alleged nexus between pharmaceutical companies and doctors exists, but medical associations stress their ethical commitment to improving access to affordable medicines.
 Quality Assurance Concerns: Concerns about the quality of medicines persist, with a prevalence rate of 4.5% for spurious and 3.4% for "not standard quality" medicines. The need for 100% quality-tested drugs is crucial for patient safety.**Government's Role**: The government is urged to ensure quality through Universal Health Coverage and private healthcare networks, with calls for periodic sampling, banning batches that fail quality tests, and taking punitive actions against manufacturers.

Challenges:

- **Quality Assurance Implementation**: Existing mechanisms for quality assurance are not earnestly implemented, raising concerns about the reliability of the system.
- **Enforcement of Generic Prescription**: The moral dilemma in enforcing generic prescription without concrete evidence of standard quality poses a challenge in the healthcare system.

☐ **Availability of Essential Medicines**: The low availability rate of essential medicines, especially pediatric medicines, hampers the effective treatment of patients.

☐ **Unscientific Combinations**: The presence of unscientific combinations of medicines in the retail market adds complexity to the pharmaceutical landscape.

Analysis:

- **Role of the Chemist**: Concerns revolve around the chemist or less knowledgeable salesperson determining the brand, potentially based on profit motives, impacting the choice of medicines.
- **Withdrawal of Generic Prescription Order**: The withdrawal of the NMC order on generic prescribing, following the Indian Medical Association's protest, reflects the ongoing challenges in healthcare policy.

Key Data:

- **Prevalence of Spurious and NSQ Medicines**: National drug surveys in the last 10 years indicate prevalence rates of 4.5% for spurious and 3.4% for "not standard quality" medicines, highlighting the need for stricter quality control.
- **Availability of Essential Pediatric Medicines**: A study in Chhattisgarh in 2010 found only a 17% availability rate of essential pediatric medicines, indicating a significant gap in accessibility.

Way Forward:

- **Government Assurance and Evidence**: The government should provide concrete evidence of the standard quality of medicines before enforcing generic prescriptions, ensuring patient safety.
- **Comprehensive Measures**: Implementing comprehensive measures, such as limiting profit margins for wholesale and retail agents, is crucial for creating a transparent and fair pharmaceutical ecosystem.
- **Janaushadhi Kendras Expansion**: Expanding the network of Janaushadhi kendras is essential to improve accessibility to affordable medicines and promote their widespread availability.

- **Monitoring Implementation**: Ensuring proper implementation and monitoring of policies for free medicines and diagnostics under Universal Health Care is vital for the success of healthcare initiatives.

Addressing Profit Motives: Addressing profit motives influencing the choice of medicines by chemists and salespersons is essential for a patient-centric healthcare system.

Conclusion:

The withdrawal of the generic prescribing order is seen as a step back in achieving universal access to affordable generic medicines. Addressing quality concerns, ensuring availability, and monitoring implementation are crucial for a successful healthcare system.

25. Legal Literacy and Legal Awareness Program (LLLAP)

Legal Literacy and Legal Awareness Program (LLLAP) of the Department of Justice reaches more than 6 lakh people through 14 implementing agencies under the DISHA scheme.

About LLLAP:

- LLLAP is part of the Department of Justice's **Designing Innovative Solutions and Holistic Access to Justice (DISHA)** scheme.
- It aims to **empower the poor** and **disadvantaged sections** of society to seek and demand justice services.
- It also seeks to improve the **institutional capacities** of **key justice service providers** to enable them to effectively **serve the poor and disadvantaged**.
- The program **disseminates simplified Information**, Education, and Communication (IEC) materials in local languages and dialects.
- Capacity development of **Panchayati Raj Functionaries** and Village Chiefs is a key aspect of the program.

Objectives:

- One of the key objectives is the **expansion of North Eastern and Jammu & Kashmir Project** Legal literacy and Legal Awareness programme to **Pan India Legal Literacy and Legal Awareness programme.**
- With the overall objective of **increasing access to justice** for **disadvantaged sections** the Programme has the following broad deliverables:

- o **Use of Technology** for enhanced delivery of legal literacy, its Knowledge Products and **implementation of Innovative and Holistic ideas**.
- o **Mainstreaming legal literacy** through building and forging partnerships across Ministries and allied Departments, Institutions, Schools etc.
- o **Capacity Building** and Utilization of Existing Grassroot/frontline Workers/ Volunteers.
- o **Developing of Indicators** to measure Legal Literacy and Legal Awareness in India.
- o **Concurrent Evaluation and Assessment** of Legal Literacy and Legal Awareness Programmes.

About DISHA scheme:

- **The DISHA scheme combines four programs**: Tele-Law, Nyaya Bandhu, Nyaya Mitra, and Legal Literacy and Legal Awareness.
- It is to be implemented during the **period of 2021 to 2026**.
- One of the key objectives of DISHA is implementation of **Pan India Legal Literacy and Legal Awareness Programme.**

Objectives:

- Conceptualization of DISHA to **redefine the policy framework**, vision document and action plan.
- **Enriching the Quality of Legal aid** to the Marginalized through Tele-Law; Pro Bono and Nyaya Mitra programme and
- **Raising Legal Awareness through Legal Literacy** and Dedicated Information, Education and Communication (IEC) on Access to Justice Initiatives.

26. U.S. data underscore benefits of chickenpox vaccination

The recent recommendation by the Joint Committee on Vaccination and Immunisation (JCVI) in the U.K. to include chickenpox (varicella) vaccination in the routine childhood immunisation program underscores the potential benefits of this preventive measure.

Issues

- **Chickenpox Complications:**

- While chickenpox in children is often mild, it can lead to complications, including bacterial infections and, in rare cases, encephalitis, lung inflammation, and death.
- Chickenpox virus stays dormant and can cause shingles in adults, posing additional health risks.

- **Historical Concerns about Shingles Increase:**

  - The assumption that vaccination of children against chickenpox would increase shingles cases in adults delayed routine administration of the vaccine in the U.K.
  - The fear was based on the theory that exposure to the virus through infected children boosts immunity in adults, preventing shingles.

- **Contradictory Evidence:**

  - Contrary to assumptions, studies show that varicella vaccination did not increase shingles incidence in adults.
  - A 2022 paper based on 25 years of U.S. data demonstrates a sharp drop in chickenpox and shingles in children, with no significant increase in adult shingles cases.

Significance

- **U.S. Success Story:**

  - Since its introduction in 1996, the chickenpox vaccine in the U.S. has prevented over 91 million cases, 2,38,000 hospitalisations, and almost 2,000 deaths.
  - The success challenges previous concerns and supports the benefits of widespread vaccination.

- **JCVI Recommendation for U.K.:**

  - JCVI's recent recommendation in the U.K. acknowledges the extensive evidence supporting the chickenpox vaccine's safety and effectiveness.
  - The decision is a critical step toward preventing severe cases, hospitalisations, and associated healthcare costs.

27. US-China Summit

Recently, the US President Joe Biden and the Chinese President Xi Jinping met on the sidelines of the Asia Pacific Economic Cooperation (APEC) Summit in San Francisco in 2023.

Key highlights of US-China Summit

- **High level diplomacy**- Apparent realisation that high-level engagement and open channels are key in preventing competition from sliding into conflict.
- **Military cooperation**- It focussed on the restoration of military-to-military communications which is crucial for managing tensions between the two nations.
- **Counter narcotics**- China pledged to curb the outbound shipments of substances used to make fentanyl, a powerful opioid that has contributed to many fatal overdoses in the US.
- **Technology**- Both agreed to discuss risk and safety issues involved with artificial intelligence.
- **Human rights**- US has called China to end human rights violations in Xinjiang, Tibet and other regions, all of which China has dismissed as interference.
- **Climate change**- Both countries agreed to sharply increase clean energy, displace fossil fuels and reduce emissions that are warming the planet.
- **Middle East conflict**- The complex role of both countries in the Middle East were highlighted, acknowledging the challenges and responsibilities each nation holds.
- US sought China's help to de-escalate tensions with Iran and to urge Iran not to launch proxy attacks on US targets in the Middle East as the Israel-Hamas conflict continues in Gaza.
- **Taiwan-** China urged the US to uphold commitments regarding Taiwan's independence as US maintains **One China Policy** on Taiwan.
- **Stabilise US-China ties**- Both agreed to set a minimum level of cooperation and communication to prevent their rivalry from escalating into conflict.
- This was their goal when two countries last met in Bali in 2022, but it was disrupted by a spy balloon incident.

How does the US China Summit affect India's interests?

- **India-US relationship**- India is a strategic partner of US and it benefits from reduction in US-China relationship as it reduces the risk of conflict and instability in the region.
- **G-2** - A cause of concern for India is Sino-American collaboration in Asia.

- But the summit was about organising a truce rather strategic partnership that seemed possible at the turn of the century.
- **China's diplomatic push**- China's relationship with global powers and within South Asia with countries like Bhutan is a cause of concern for India, considering the unresolved India-China border standoff at the Line of Actual Control.
- **Economic impact**- Many US companies like Apple and Microsoft are encouraged to diversify and move manufacturing plants to India due to strained relationship between US and China in the past.
- **Climate change**- US and China have made pacts in the past that doesn't take India's concerns into account.
- **Geopolitical strategy**- India should closely watch the potential US-China understandings on regional security issues in the Indo-Pacific, the Middle East, and Europe

What lies ahead for India?

- **Strengthen ties**- India should take advantage of the new possibilities to strengthen its ties with the US, maintain its long-standing ties with Russia, and manage the difficult ties with China.
- **Productive engagement**-India should utilise the QUAD forum with US, Australia and Japan.
- **Structural shift-** The recent shift in US-China summit is a little cause of worry for India as its own rise in the international system allows it to effectively handle any sudden shifts in great power relations.
- **Focus on AI-** India should pay attention to new areas of US-China engagement, such as regulating artificial intelligence.
- **Lesson for India-China**- The Summit showed the importance of diplomatic engagement for preventing conflict, which can be adopted to resolve the border crisis.

28. Odisha Adarsha Vidyalayas

Odisha revolutionizes public education with initiatives like Odisha Adarsha Vidyalayas, 'Mo School' Abhiyan, and 5T-High School Transformation, aiming to surpass private schools in quality. This results in a substantial shift, with 81% of students currently enrolled in government schools. The state's commitment to inclusivity, alumni engagement, and technology integration drives equality and excellence in education.

Key Highlights:

- **Revolutionary Reforms:** Odisha's education sector undergoes revolutionary changes through initiatives like Odisha Adarsha Vidyalayas, 'Mo School' Abhiyan, and 5T-High School Transformation Programme.
- **Recognition and Ranking:** OAVs receive accolades, with one ranked the fifth-best in government-run day schools, emphasizing qualitative English-medium education for rural and semi-urban areas.
- **Inclusive Enrollment:** OAVs ensure representation of marginalized groups, leading to a higher enrollment of female students. They also rescue and prepare vulnerable children for OAV entrance exams.
- **Alumni Engagement:** Mo School Abhiyan connects schools with alumni, promoting mentorship, collaboration, and financial contributions, creating a significant impact on infrastructure and engagement.

Key Phrases:

- **Quality Education:** Odisha's focus on continuous teacher education, technology integration, and maintaining a favorable teacher-pupil ratio highlights its commitment to providing quality education.
- **Alumni Community:** Mo School Abhiyan leverages the alumni community to contribute to school development, creating a unique model of collaborative efforts for educational improvement.
- **5T-High School Transformation:** The 5T concept drives the High School Transformation Programme, emphasizing transparency, technology, teamwork, and timeliness for comprehensive educational changes.

Analysis:

Odisha's proactive approach to education, combining infrastructure development, alumni engagement, and technology integration, has led to a significant shift in enrollment patterns, with a majority of students now choosing government schools.

Key Data:

- **Enrollment Shift:** In 2019-20, private schools had 16,05,000 students; in 2021-22, this number reduced to 14,62,000, indicating a shift towards government schools.
- **Financial Contributions:** More than 5.5 lakh contributors, including ministers, MPs, and professionals, have contributed over ₹797 crore in 40,855 schools under the School Adoption Programme.

Key Terms:

- **Odisha Adarsha Vidyalayas (OAV):** A model aiming to bridge the rural-urban education gap by providing qualitative and affordable English-medium education.
- **Mo School Abhiyan:** An initiative connecting schools with alumni, promoting collaboration, contributions, and celebrating successes to improve government schools.
- **5T-High School Transformation Programme:** Rooted in transparency, technology, teamwork, and timeliness, focusing on technological advancements and holistic development in high schools.

Challenges:

- **Parental Trust:** Historical perceptions of poor education quality in government schools challenge rebuilding parental trust.
- **Affordability Concerns:** Despite reforms, concerns persist regarding the economic accessibility of quality education in government schools.
- **Perceived Quality Gap:** Overcoming the perception gap regarding the quality of education in government schools compared to private counterparts.
- **Economic Accessibility:** Addressing financial barriers for families, ensuring that quality education remains economically accessible.

Way Forward:

- **Continuous Alumni Engagement:** Strengthen collaborations between schools and alumni to maintain a sustained focus on improvement. Explore mentorship programs and alumni-led initiatives for ongoing school development.
- **Enhancing Perceived Value:** Implement awareness campaigns highlighting the positive changes in government schools. Showcase success stories and academic achievements to alter perceptions.
- **Financial Inclusivity:** Introduce scholarship programs or financial aid to address economic barriers. Collaborate with governmental and non-governmental organizations to provide educational subsidies.
- **Technology Integration:** Expand technological resources in schools for interactive and enhanced learning experiences. Introduce digital literacy programs to prepare students for a technology-driven future.

29. India-UK FTA

India and the UK are negotiating a Free Trade Agreement (FTA) that will reduce tariffs and non-tariff barriers on goods and services.

Free Trade Agreement

- It is a pact between two or more countries that reduces or eliminates certain barriers to trade in goods and services, as well as investment.

- **Goal-** To facilitate cross-border transactions, increase investment prospects, promote mutual trade, and improve the ease of business.
- **Bilateral FTAs-** India has bilateral FTAs with Sri Lanka, Afghanistan, Bhutan, Japan, Thailand, Singapore, Nepal, Korea, Malaysia, etc.
- **Regional FTAs-**
  - South Asian Free Trade Agreement (SAFTA)- 2004
  - India-ASEAN Agreement- 2010

What are the benefits of India-UK FTA?

For India

- **Future collaboration-** It will serve as a template for an agreement with European Union, India's 2nd largest trade partner.
- **Diversify trade-** It will help India to diversify its trade partners and counter China's influence in the region.
- **Investment destination**- It will be India's 1st comprehensive deal with an industrialized nation, and will help India attract foreign investment and enhance its market access.
- **Potential sectors-** It will benefit sectors such as textiles, gems and jewellery, cars, Scotch whisky and wines by lowering tariffs and increasing market access.
- **Address non-tariff barriers**- FTA deals with standards, regulations and custom procedures that often hamper trade flows.
- **Global trade**- FTA will complement India's other trade agreements, such as the ones with the UAE, Australia, and Israel, and will help India integrate with the global value chain.
- **Bilateral ties**- FTA will strengthen the strategic partnership between the two countries, which share common values and interests.

For UK

- **Boost exports-** UK wants to compensate for the loss of access to the European Single Market after Brexit and boost its exports to India.
- **Access to India's market**- It will gain access to India's large and growing consumer market, as well as its skilled workforce and innovation potential.

What are the challenges with the India-UK FTA?

- **Strict regulations**- Sectors such as agriculture, manufacturing face strict standards and technical requirements in UK market.
- **Affect LDCs**- The FTA will affect the Least Developed Countries (LDCs) such as Bangladesh, which currently enjoy preferential access to the UK market.
- **Issues with GI tag**- India normally provides general protection for violation of Geographical Indication rules, but the UK is seeking a higher level of protection.
- The enhanced protection prohibits the use of a GI if the product does not genuinely originate from the designated area, regardless of whether the public is misled or the true origin is specified.
- **Carbon border tax**- UK's possible tax on imports of high-carbon goods like steel as it mimics the European Union's carbon border adjustment mechanism (CBAM) would affect India's exports.
- **Rules of origin-** It is getting increasingly difficult as the present-day manufacturing is progressively integrated with global supply chains in a much more complex manner than ever before.
- **Non trade issues-** Issues such as labour, sustainability, climate change, emission etc., are indeed complex and offers formidable challenges for Indian negotiators to agree with.

What lies ahead?

- As FTAs are based on mutual benefits, India should negotiate firmly for the UK to offer similar elevated GI protection to Indian products.
- There need to be a more balanced and reciprocal trade relationship, potentially opening new markets and enhancing the global standing of Indian products.

30. fact check unit

The article critically examines the Government of Tamil Nadu's establishment of a Fact Check Unit, highlighting constitutional concerns, the potential impact on freedom of speech, and the challenges posed by ambiguity and absence of due process.

A Fact Check Unit is an entity or organization tasked with verifying the authenticity and accuracy of information, particularly in the context of news, announcements, policies, schemes, guidelines, and initiatives of a government or other institutions.

Key Highlights:

- **Establishment of Tamil Nadu Fact Check Unit:** The Government of Tamil Nadu issues an order to create a Fact Check Unit for verifying information related to the state government across diverse media platforms.
- **Constitutional Concerns Raised:** Assertions about the order violating fundamental rights and being constitutionally vague and arbitrary, particularly emphasizing the potential infringement on freedom of speech.
- **Impact on Freedom of Speech:** Examining the implications of the Fact Check Unit on freedom of speech and expression, highlighting the need for reasonable restrictions and challenging the authority of a Government Order in imposing such restrictions.
- **Chilling Effect Analysis:** A deeper analysis of the perceived chilling effect on freedom of speech, exploring the implications of the Government acting as the arbiter of information authenticity.

Challenges:

- **Scope Ambiguity and Potential Misuse:** Critiques the lack of specificity in defining "information related to the Government of Tamil Nadu," raising concerns about ambiguity and the possibility of misuse.
- **Due Process Absence:** Points out the absence of due process, where the Fact Check Unit lacks a mechanism for the author's hearing, positioning the government as the sole determinant of information authenticity.
- **Legal Limitations on Government Orders:** Discusses the legal limitations of Government Orders in imposing restrictions on freedom of speech, underscoring the need for a more nuanced and legislative approach.
- **Global Challenges of Misinformation:** Draws parallels with global challenges of misinformation, citing events like the U.S. presidential election, and underscores the necessity for effective measures in addressing this widespread issue.

Key Phrases for enhancing answer quality:

- **"Chilling effect on freedom of speech"**
- **"Unconstitutionally vague and arbitrary"**
- **"Opportunity of hearing"**
- **"Mis/disinformation and fake news challenge"**
- **"Government as judge, jury, and executioner"**

Analysis:

- **Constitutional Implications Explored:** In-depth analysis of the constitutional concerns, with a focus on how the Fact Check Unit might impact freedom of speech and questioning the legal standing of a Government Order.

- **Interrogation of Scope Ambiguity:** Scrutiny of the ambiguity surrounding the definition of "information related to the Government of Tamil Nadu," delving into potential implications for various forms of expression.

Key Facts:

- **US Election and Misinformation Parallel:** Drawing parallels with global challenges of misinformation during events like the U.S. presidential election, emphasizing the need for effective measures.

Way Forward:

- **Stakeholder Consultation Advocacy:** Advocacy for comprehensive consultations with stakeholders, including the public and intermediaries, to develop effective measures against misinformation.
- **Global Best Practices Exploration:** Encouraging exploration of global best practices, such as the European Commission's Code of Practice on Disinformation, for a more inclusive and well-informed approach.
- **Media Literacy Promotion Recommendation:** Recommending the promotion of media literacy and support for an independent network of fact-checkers as constructive measures to combat misinformation.

31. Inclusion of transgender individuals in the armed forces.

The central idea revolves around advocating for the gradual and thoughtful inclusion of transgender individuals in the armed forces. By drawing parallels with successful women integration, proposing protected roles initially, and emphasizing social awareness, the approach aims for a balanced, transparent, and inclusive transformation within the military, recognizing and addressing historical discrimination.

Key Highlights:

- **Growing Acceptance:** People are becoming more accepting of transgender folks, which is a positive change. Society is starting to understand the importance of including everyone, regardless of their gender identity.
- **Recognizing Challenges:** We're acknowledging that transgender individuals have faced a tough time with discrimination, stigma, and fewer opportunities. This recognition is crucial in addressing historical disadvantages.
- **Legal Steps in India:** India has taken legal steps, like the Transgender Persons (Protection of Rights) Act in 2019, to protect transgender rights. This shows a commitment to making things better since a significant judgment in 2014.

- **Armed Forces Proposal:** There's a suggestion to include transgender individuals in the armed forces. This proposal comes from the realization that they've been at a disadvantage and need proactive help to be part of every aspect of life.
- **Stepwise Integration Approach:** The idea is to include transgender individuals gradually, just like how women's roles in the armed forces expanded step by step. This way, we can be sure that we're ready and set up for their inclusion.
- **Learning from Women's Inclusion:** We're learning from how women were included in the armed forces. By doing this, we hope to avoid problems and make the integration process smooth and successful.
- **Roles for Transgender Personnel:** Transgender individuals might start with roles in medical services and staff positions. Initially, these roles will be more protected to ensure they feel comfortable and respected.
- **Social Awareness Emphasis:** There's a suggestion to make the armed forces more aware of societal justice and the discrimination faced by transgender individuals. This change in mindset is vital for a successful integration.

Key Challenges:

- **Societal Prejudices:** A challenge is dealing with society's biases within the armed forces. Overcoming these biases is crucial for creating an inclusive environment.
- **Balancing Inclusion with Discipline:** We need to be careful about how inclusion might affect the strong discipline and camaraderie in the armed forces. Balancing inclusion with maintaining teamwork is a tricky but necessary challenge.
- **Infrastructure Support:** Developing the needed support for transgender individuals is important. This includes making sure the armed forces are ready and equipped for their inclusion.
- **Dignity Concerns:** We're aware of concerns about respecting the dignity and self-respect of transgender individuals. To address this, there's a proposal for more protected roles initially.

Key Terms and Phrases:

- **Camaraderie and Discipline:** The armed forces have strong bonds based on trust and teamwork. Keeping these bonds intact while embracing diversity is a challenge.
- **Sensitization Road Map:** We're planning a roadmap to sensitize the armed forces at all levels. This means we want everyone to understand and accept the realities of discrimination.

- **Competence and Capabilities:** Transgender individuals should be accepted based on their skills and abilities. Competency and capability are what matter most.
- **Sheltered Appointments:** Initially, there's a proposal for more protected roles to make sure transgender individuals feel secure and respected.
- **Aide-de-Camp:** Imagining a capable transgender officer in a prestigious role shows the positive impact they can have on perceptions and acceptance.
- **Gradual Integration:** Just like how women were gradually included, we're looking at a step-by-step approach for transgender integration.

Key Facts and Data:

- **NALSA Judgment as a Legal Milestone:** In 2014, there was a significant decision recognizing and protecting transgender rights. This decision set the stage for later legal measures.
- **Transgender Persons (Protection of Rights) Act (2019):** In 2019, India took legislative steps to protect transgender rights. These measures show a commitment to making things better.
- **Success of Women in Armed Forces:** We're looking at the achievements of women in the armed forces as a guide for including transgender individuals. Learning from past successes helps us avoid problems.

Critical Analysis:

- **Acknowledging Historical Discrimination:** We're recognizing that a big change is needed in the armed forces' way of thinking. This acknowledgment sets the stage for real change.
- **Calibrated Approach to Integration:** We're emphasizing the importance of careful planning and a step-by-step approach. This ensures that inclusion happens smoothly.
- **Learning from Women's Inclusion:** We're learning from how women were included in the armed forces. This shows a readiness to apply lessons from one integration process to another.
- **Impact on Discipline and Camaraderie:** We're considering how inclusion might affect the unique bonds within the armed forces. This balance is crucial for a successful integration.
- **Recognizing Importance of Social Awareness:** We're identifying the need for the armed forces to understand societal justice. This change in mindset is vital for true and lasting change.

Way Forward:

- **Advocating Wider Discussions:** We're suggesting more discussions and debates within the armed forces. This ensures that everyone's perspective is considered.
- **Gradual Expansion of Roles:** We're advocating for more roles based on abilities and merit. This ensures that everyone gets opportunities based on their skills.
- **Involvement of Transgender Community:** We're suggesting that the transgender community should be part of decision-making. This makes sure their views are central to the integration process.
- **Establishing Social Awareness Strategy:** We're emphasizing the need for a strategy to make the armed forces more aware. This ensures that everyone understands and accepts the need for change.
- **Transparent and Just Process:** We're highlighting the importance of openness and fairness in the integration process. This ensures that the process is respectful and just for everyone involved.

32. What is the Haryana State Employment of Local Candidates Act about?

Recently, Punjab and Haryana High Court quashed a law passed by the Haryana government in 2020 that provided 75% reservation in private jobs to residents of the State.

- **Reservation-** The Act requires **private sector** employers to reserve **75% of jobs** that offer a monthly salary of **less than Rs. 30,000** for individuals who are domiciled in Haryana.
- **Eligibility-** The Act applies to all private companies, societies, partnership firms, trusts and any person employing 10 or more persons in Haryana or any other entity as may be notified by the Government.
- **Tenure-** The Act will only have effect for 10 years from the date of its commencement.
- **Exemptions**- An employer may seek an exemption by applying to the Designated Officer under the Act, if adequate number of local candidates of the desired skill, qualification or proficiency are not available.
- The Government may also exempt certain industries and has so far exempted new start-ups and Information Technology Enabled Services (ITES) companies, short-term employment, farm labour, domestic work, and promotions and transfers within the State.
- **Registration -** Employers are required to register employees receiving gross monthly salary or wages of less than Rs. 30,000 in the Haryana Udhyam Memorandum portal within 3 months of the commencement of the Act.
- **Reporting obligation**- Employers are also required to furnish a quarterly report of local candidates hired and employed during that quarter.

- **Penalty -** An employer who fails to comply with the Act is punishable upon conviction to a fine.

Why High Court quashed Haryana's private quota?

- **Unconstitutional-** The Act infringes and violates Part III (Fundamental Rights) of the Constitution.
- Such acts could lead to other States coming up with similar enactments, putting up "artificial walls" throughout India affecting the **Article 14** (right to equality).
- The court said the State could not invoke **Article 16** (allows the State to make reservations for backward classes in public employment) to justify reservations in the private sector, as it was not a matter of State policy or public interest.
- The State's action of reserving jobs for locals impaired **Article 19(1) (g)** (right to freedom of profession, occupation, trade or business to all citizens) and imposed unreasonable restrictions on private employers.
- **Discriminatory-** The law separated people based on their State of residence, and conflicted with the notion of having single citizenship.
- **Protectionism-** It restricts the movement of workers from one State to another by reserving jobs for locals by creating inefficiencies, inequalities, and wastage of human resources.
- **Inspector Raj-** Requiring employers to submit quarterly reports and documents to prove that they were hiring local candidates leads to excess interference by the government in private affairs.
- **Denial of legal remedy-** It barred any legal action against the officers who were enforcing the law, even if they acted in "good faith".
- The court said this tied the employer's hands and violated their right to seek judicial remedy.
- **Supreme Court ruling-** It lifted High Court's order and asked the Court to give a final verdict on the validity of the law within a month.

What lies ahead?

- Protectionism can have negative effects on labour productivity, output, employment, etc., and will exploit the already vulnerable migrant workers.
- States should ensure that migrant workers have the same labour rights as local workers, which would create a fair and competitive labour market.
- Labour rights such as freedom of association, collective bargaining, non-discrimination, fair remuneration, and safe and healthy working conditions should be protected at any cost.

Bangladesh's Elections

- In recent months, Western nations, including the US, UK, and EU have been urging Bangladesh to hold free, fair, and participatory elections.
- These calls have been accompanied by pressure on the Sheikh Hasina government to step down and allow a neutral caretaker administration to oversee the upcoming parliamentary elections in January.
- While the US has eased its stance under Indian intervention, the EU continues to exert pressure.

This article explores the intricate dynamics of Bangladesh's political landscape, the potential consequences of fair elections, and the global interests at stake.

Fair Elections vs. Radical Islamists

- **Opposition Demands**: The Bangladesh Nationalist Party (BNP) demands elections under a caretaker government, which the government has rejected.
- **Potential Outcome**: With the BNP unlikely to participate, the elections may result in a one-sided contest favoring the Awami League, returning Sheikh Hasina to power for the fourth time.
- **Anti-Incumbency**: After 15 years in power, the Awami League faces significant anti-incumbency, exacerbated by record-high inflation and economic challenges.
- **Economic Crisis**: Falling forex reserves, currency depreciation, and mounting external debt have created a looming debt crisis.
- **Chinese Loans**: Much of the infrastructure development relies on high-interest loans from China.

Authoritarianism and Islamist Influence

- **Authoritarian Practices**: The Awami League's authoritarian measures, including arrests and harassment of opposition leaders, have fueled resentment among the masses.
- **Corruption and Nepotism**: Perceived corruption and nepotism within the Awami League have widened the gap between the government and the impoverished population.
- **Islamist Influence**: The Awami League's encouragement of Islamist groups like Hefazat-e-Islam Bangladesh has created a toxic environment within the ruling party.
- **Radicalization**: Islamist organizations, through religious schools and mosques, have radicalized a significant portion of the population, especially the youth.

- **Islamist Opposition**: The Islamist parties, including Jamaat-e-Islami, Hefazat, and Islami Oikyo Jote, now fill the opposition space.
- **Political Analyst's Perspective**: Political analysts argue that the Awami League's crackdown on the BNP has inadvertently strengthened Islamist parties, which seek to implement strict Sharia laws and turn Bangladesh into an Islamic state.

Potential Outcomes of Equitable Elections

- **Rise of Jihad**: Fair and equitable elections may pave the way for radical Islamist parties to come to power.
- **Jamaat-e-Islami**: Despite being banned from contesting elections, Jamaat nominees may run as Independents or on tickets from other parties, potentially leading to their victory.
- **Radicalists Victory**: Political observers suggest that non-partisan elections would likely result in Islamist parties sweeping the polls and gaining power.
- **Impact on India**: The rise of Islamists in Bangladesh could negatively affect India, potentially aligning Bangladesh with Pakistan and China, and posing a threat to India's interests.
- **Global Concerns**: An Islamist-controlled Bangladesh could become a breeding ground for jihadis and a potential failed state, posing a danger to global security.

World's Interest in the Election Process

- **Global Implications**: Given the far-reaching consequences of Islamist rule in Bangladesh, the world has a vested interest in allowing the election process to proceed with limited interference.
- **Focus on Future Actions**: While the elections may be flawed or unfair, the priority should be to ensure that after returning to power, the Awami League commits to keeping China at bay, curbing Islamist forces, allowing a responsible and secular opposition to thrive, and cleansing the party of Islamist elements.
- **Securing Bangladesh's Future**: Striking a balance between a flawed elections and securing Bangladesh's democratic and secular future is essential for the world's stability and security.

Conclusion

- The upcoming elections in Bangladesh present a complex dilemma for both the nation and the world.
- While free and fair elections could bring radical Islamists to power, their absence could lead to continued authoritarianism.

- Striking the right balance and securing Bangladesh's future as a democratic and secular nation is paramount to global stability and peace.

34. Governor holds no veto power over Bills, says SC

- While examining the constitutional authority of the Governor in withholding assent to a bill, the Supreme Court has issued a crucial verdict outlining a governor's obligations when withholding assent to a Bill.
- Chief Justice Chandrachud highlighted that keeping a Bill duly passed for indeterminate periods contradicts constitutional principles, emphasising the importance of prompt action.

Governor's Obligation

- The Supreme Court ruled that when a governor withholds assent to a Bill, it's mandatory to promptly send it back to the State legislature.
- This action must be accompanied by a message necessitating the legislature to reconsider the Bill.

Legislature's Authority

- The court emphasised that the ultimate decision on accepting the Governor's advice belongs exclusively to the legislature.
- The Governor's message does not bind the legislature, as indicated by the expression "if the Bill is passed again…with or without amendments."

Constitutional Democracy Principles

- The court warned against the risk of a Governor virtually vetoing a duly elected legislature's functioning by withholding assent without further recourse.
- Such a scenario contradicts the fundamental principles of constitutional democracy.

Expedition Requirement

- The court stressed that the Bill should be sent back to the Legislature "as soon as possible" with the mandatory message.
- The expression "as soon as possible" was deemed a "constitutional imperative of expedition," and failure to act promptly was deemed inconsistent with constitutional language.

35. Inclusion of Transgenders in Armed Forces

The Transgender Persons (Protection of Rights) Act, 2019 and its implications are being examined by the Indian Armed Forces in order to determine potential employment opportunities for transgenders.

What about the joint study group formed regarding this aspect?

The Armed Forces, at present, don't recruit transgenders or people identifying as homosexuals.

- **Study group-** It was constituted by the Principal Personnel Officers Committee (PPOC).
  - PPOC comprises top officers of the 3 services (Army, Navy and Air Force)
- **Head-** Directorate General of Armed Forces Medical Services, the tri-service medical organisation of Armed Forces.
- **Aim-** To deliberate on the implications of the Transgender Persons (Protection of Rights) Act, 2019 and suggest a way forward for its implementation in the defence forces.

Why there is a need to include transgenders in armed forces?

- **Social inclusion**- This is a positive step as trans community has faced societal discrimination and marginalisation in many ways, including access to social equality, social rights, education, and employment opportunities.
- **Breaks the stigma**- Excluding transgender people from military service reinforces social stigma and inequality.
- **Employment opportunity**- As per National Human Rights Commission study in 2018, it was found that 96% of transgender individuals face employment discrimination, resulting in their limited access to decent career opportunities.
- **Limited accessibility**- The 1st ever study on the rights of transgenders unveiled that around 92% of transgender individuals lack access to engage in economic activities within the nation, with even qualified individuals being denied employment opportunities.
- **Lessons to India-** A study on the impact of allowing transgender people to serve openly in US military suggests that embracing diversity can enhance the effectiveness and viability of the armed forces.
- **Legal framework**- Transgender Persons (Protection of Rights) Act 2019 stipulates that both government and private entities are prohibited from engaging in discriminatory practices against transgender individuals in areas pertaining to employment, such as recruiting and promotion.

- **Duty-** All citizens have a duty to serve their country, hence transgenders have the right to perform duty to serve their country.
- **Transgender suitability-** There is no factual evidence to support the claim that transgender people are unfit for military service.

What are the challenges in including them in armed forces?

- **Distinct recruitment**- Central Armed Police Forces (CAPF), as well as the army and police forces, employ a distinct psychological approach to administration.
- Recruitment of transgenders in the CAPF may encounter challenges due to practical considerations related to unconventional command philosophy.
- **Training prerequisite**- Following a period of familiarisation and pre-induction training alongside soldiers will be challenging for transgenders.
- **Conservative outlook**- Indian Army as an institution has not undergone significant modernization with respect to LGBTQ communities.
- **Differential rights**- Supreme Court ruling in 2014 and 2018 with respect to transgender person may not be applicable to Indian Army as certain rights afforded to civilians may not extend to members of the armed forces.
- **Article 33-** Fundamental rights of armed forces personnel may be subject to limitations as determined by legislation enacted by the Parliament.
- This implies that the Army Act, Navy Act, and Air Force Act have the capacity to curtail various liberties that are typically afforded to non-military individuals.
- **Administrative constraints**- Indian Army may face difficulties such as housing and other infrastructure of transgender people.

36. WHO reports on measles vaccine

A report on "**measles vaccine"** was recently published by the **World Health Organisation** (WHO), whose data are based on the WHO UNICEF Estimates National Immunisation Coverage (**WUENIC**) 2022 report.

Measles:

- The Measles is an acute viral respiratory illness caused by the **measles virus** (MeV).
- It is a **highly contagious viral** infection that can prove fatal to **young** children.
- It is also known as **Rubeola**.
- **Measles incubation period**: In the first **10-14 days** after getting infected, the measles virus spreads throughout the human body.
  - During this time, there are **no signs** or **symptoms** of measles.

- **Symptoms** of measles include- high fever, weakness, cough, runny nose, pitted or cracked nails, measles rash, sore throat, Koplik spots inside the mouth, muscle pain, light sensitivity etc.
- It is one of the main causes of worldwide **mortality** and **morbidity**, mostly in the regions of **Africa** and **Southeast Asia**.
- India is targeting a vaccination coverage of **95**% with **2 doses** of MR vaccine to achieve **measles** and **rubella** elimination by **2023**.

Transmission:

- The virus is transmitted through **respiratory droplets** from an infected individual.
- It is **highly contagious** and can spread easily in **crowded** places.

Treatment:

- There is **no specific** treatment for measles.
- **Vitamin A** supplements may help reduce the number of measles deaths.

Vaccination:

- The measles vaccine is administered as a combined **measles-mumps-rubella** (**MMR**) vaccine.
- The **chickenpox (varicella) vaccination** may also be included in this **MMRV vaccine**.

Key facts on Measles vaccines in India:

- As per the **HMIS** [Health Management Information System] of the Union Ministry of Health, 99% of the eligible children have received their 1st dose of **Measles Containing Vaccine** [MCV] in the **Fiscal Year 2022-23**.
- The **vaccination** age for the administration of **MCV** has been increased from **2 years** to **5 years** in the periodic immunisation intensification activities.
- The **Intensified Mission Indradhanush** (IMI) **3.0** and **4.0** were carried out in **2021** and **2022** to vaccinate all unvaccinated or partially vaccinated children with missed or due doses of vaccines.
- The **IMI 5.0** was carried out in **2023** with a special focus to **increase** the coverage of **MR vaccine** in children up to the age of **5 years**.
    o **First** time the campaign is being conducted across all the districts in the country and includes children up to **5 years** of age, as against **2 years** in previous phases.
    o Special focus is on improvement of **Measles** and **Rubella** vaccination coverage with the aim of **Measles** & **Rubella** elimination by **2023**.

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- Several states have carried out **Supplementary Immunisation activities** and outbreak response **immunisation**, in which a total of **30 million** children have been vaccinated with an **additional dose** of MR vaccine.

Intensified Mission Indradhanush (IMI):

- The IMI is a campaign under the **UIP** (Universal Immunization Program), conducted in the areas of **low immunization coverage** to vaccinate all the **children** under **2 years of age** and **pregnant** women left out or dropped out from **routine immunization**.
- It was launched in **2014**.
- The special drive focuses on improving immunization coverage in **select districts** and cities to ensure full immunization to more than **90**% by end of **2018**.
- It is implemented by the Ministry of Health and Family Welfare (**MoHFW**).
- The **UIP** provides **life-saving vaccines** to all children across the country **free** of cost to protect them against **12 life threatening** diseases to **26 million children** annually.
  - The diseases include- Tuberculosis, Diphtheria, Pertussis, Tetanus, Polio, Hepatitis B, Pneumonia and Meningitis due to Haemophilus Influenzae type b (Hib), Measles, Rubella, Japanese Encephalitis (JE) and Rotavirus diarrhoea.
  - **Rubella**, **JE** and **Rotavirus** vaccine will also be administered in select states and districts.

Initiatives under the program:

- The pregnant women are administered the **tetanus** vaccine, and ORS packets and **zinc tablets** are distributed in the event of severe **diarrhoea** or **dehydration**.
- **Vitamin A** doses are administered to boost **child immunity**.

37. Global South Summit

India recently hosted the **2nd Voice of Global South Summit** in a virtual format.

2nd Voice of Global South Summit (VOGSS):

- **125 countries** of the Global South, from **Pacific Islands** in the East to **Latin America** in the West would share their perspectives and priorities on a common platform.

- **Focus:** Sharing the **key outcomes** achieved in various G20 meetings over the course of **India's Presidency** and deliberations to achieve common objectives for Global South.
- **Significance:** A platform to discuss ways to **sustain the momentum** generated towards our common aspiration of a more inclusive, representative and progressive **world order.**
- India ensured that concerns and priorities of the Global South were duly factored in finding **solutions to global challenges.**
- **1st Session of VOGSS** was held in January 2023 by India with the **theme** of "Unity of Voice, Unity of Purpose".
- The **2nd summit** will be structured into **10 sessions**, including the inaugural and concluding sessions would be at Head of State / Government level.

Themes of the sessions:

- **Inaugural Leaders' Session**: Together, for Everyone's Growth, with Everyone's Trust
- **Concluding Leaders' Session:** Global South: Together for One Future
- **Foreign Ministers' Session**: India & Global South: Emerging Together for a Better Future
- **Foreign Ministers' Session**: Global South and One Development
- **Education Ministers' Session**: Making Human Resources Future Ready
- **Finance Ministers' Session**: Financing People-Centric Development
- **Environment Ministers' Session**: Sustainable Solutions for Climate Resilience and Climate Finance
- **Energy Ministers' Session**: Affordable & Inclusive Energy Transition for Sustainable Development
- **Health Ministers' Session**: Solutions from the Global South for One Health
- **Commerce / Trade Ministers' Session**: Global South & Resilient Supply Chains

38. Gender Disparity in Indian Judiciary

- India's judiciary has long grappled with gender disparity, and the recent passing of Justice Fathima Beevi, the country's first female Supreme Court judge, has brought attention to this issue.
- Despite incremental progress, women continue to be underrepresented in both the Supreme Court and High Courts, highlighting the need for comprehensive reform.

Justice Fathima Beevi

- Justice Fathima Beevi, India's first woman Supreme Court judge, passed away at the age of 96 in Kollam, Kerala.
- She made history as the first Muslim woman judge of the Supreme Court, as well as the first woman Supreme Court Justice in Asia.

[A] Supreme Court

- **Current Scenario**: Of the 34 incumbent Supreme Court justices, only three are women: Justices Hima Kohli, Bela Trivedi, and BV Nagarathna.
- **Historical Perspective**: India has had a total of 11 women judges in the Supreme Court's history, since Justice Beevi's appointment in 1989.
- **Low Representation**: This translates to approximately 4% representation of women judges out of a total of 268 judges in the apex court's history.
- **Recent Appointments**: The current collegium, led by Chief Justice DY Chandrachud, has made 14 appointments but is yet to appoint a woman judge to the Supreme Court.

[B] High Court

- **High Court Scenario**: As of March 2022, India has 25 high courts with 1,114 sanctioned judge positions.
- **Working Judges**: However, only 785 judges are currently working, with 329 positions remaining vacant.
- **Female Judges**: Out of the working judges, only 107 are women, constituting 13% of the total.
- **Women Chief Justices**: Only one of the country's 25 high courts currently has a woman chief justice.

Efforts to Address Gender Disparity

- **Legal Perspective**: The Union Law Minister stated that the Constitution's Articles 124, 217, and 224 do not provide for caste or class-based reservations in higher judiciary appointments.
- **Recommendation for Diversity**: Nevertheless, the Centre encouraged high court chief justices to consider suitable candidates who are women, minorities, scheduled castes, or tribes to ensure social diversity in the appointment process.

Challenges in Lower Judiciary and District Courts

- **Higher Representation**: Women constitute approximately 27% of judges in the lower judiciary, but gender disparities persist in higher appointments such as district judges and high courts.

- **Regional Disparities**: A study revealed that only a few smaller states like Goa, Meghalaya, and Sikkim had over 60% women judges, while others remained below 40%.
- **Reservation**: Some states have introduced quotas for women in the lower judiciary, providing between 30% and 35% reservation for direct appointments.

Way forward

- In April 2021, Chief Justice SA Bobde emphasized that capable candidates were required for **greater women representation, rather than an attitudinal change.**
- His statement sparked controversy as female advocates challenged the assumption that women refused judgeships solely due to domestic responsibilities.
- Advocates argued that men also decline judgeships for various reasons without hindering their appointment.

Conclusion

- The gender disparity in India's judiciary remains a persistent challenge, with slow progress towards equal representation.
- It is imperative to address this issue comprehensively, from the highest courts to the lower judiciary, by promoting diversity and equal opportunities, ultimately strengthening the justice system and upholding gender equality.

39. Reform of the Supreme Court of India

- Legal experts and civil society groups have highlighted a need for a revamp in the structure of the Supreme Court.

Jurisdictions:

- The Supreme Court of India has 3 jurisdictions under the Constitution: original, appellate, and advisory.
- It serves as both a Constitutional Court and a Court of Appeal.
- It hears cases between the centre and states, between multiple states, rules on civil and criminal appeals, and advises the President on legal and factual issues.
- Anyone can immediately petition the Supreme Court if they believe their fundamental rights have been violated.

Composition of Benches:

- Cases are heard by benches of varying sizes, as directed by the Chief Justice of India (CJI) who acts as the Master of Roster.
- Constitution Benches typically have 5, 7, or 9 judges and rule on constitutional law issues.
- At least 5 judges are required for Constitution Bench cases involving substantial questions of constitutional interpretation.
- Typical cases are heard by 2-judge Division Benches or 3-judge full Benches on a range of topics.
- As the workload grew over the decades, Parliament increased the number of Supreme Court judges from 8 in 1950 to 34 by 2019.

Caseloads and Pending Cases:

- There are currently 79,813 cases pending before the Court's 34 judges.
- The Supreme Court issues around 8-10 decisions each year through Constitution Benches made up of 5 or more judges.
- It is mainly serving as an appeals court.
- Only 4 out of 1,263 total decisions issued in 2022 came from a Constitution Bench.

Historical Evolution

- During colonial rule, Supreme Courts existed in Bombay, Calcutta, and Madras.
- The Indian High Courts Act of 1861 replaced the Supreme Courts with High Courts overseeing separate regions.
- The Government of India Act, 1935 established the Federal Court of India to hear appeals from the Privy Council and High Courts.
- Article 124 of the new Constitution called for the creation of a Supreme Court.
- The modern Supreme Court of India was founded in Delhi under Article 130.

Proposed Reforms:

- In 1984, the Tenth Law Commission of India proposed splitting the Supreme Court into two divisions: a Constitutional Division and a Legal Division.
- The Eleventh Law Commission reiterated this in 1988, stating it would make justice more available and decrease litigation costs.
- In 1986, the Supreme Court said establishing a National Court of Appeal to handle special leave petitions was desirable in the "Bihar Legal Support Society v. Chief Justice of India" case.
- The 229th Law Commission Report in 2009 recommended four regional Supreme Court benches to hear non-constitutional cases.

- It is observed that the majority of appeals in the top court consisted of cases from High Courts in closer proximity to the Supreme Court and the regional Supreme Court benches could correct this anomaly.

Way Forward

- The Supreme Court's work could be divided to create a Final Court of Appeal and a permanent Constitution Bench. This would ensure more consistency in rulings.
- A Constitution Bench is currently examining these issues and looking at measures to protect citizens' access to the Supreme Court.
- There is an opportunity to address the structural gap in the Supreme Court by designating several appeal benches as regional benches.

40. SATHEE (Self Assessment Test and Help for Entrance Exams)

Ministry of Education asks States to encourage use of online coaching platform SATHEE.

SATHEE platform:

- SATHEE is an **open learning platform** available to students at no cost.
- It has launched a **45-day crash course** for aspirants to **test their level of preparation**.
- The platform hosts **live and recorded lectures**, expertly designed curriculum, and **doubt-clearing sessions** for students to **brush up their knowledge.**
- It uses **Artificial Intelligence (AI)** to interact with students, and can be customised to each student's pace of learning.
    o The integrated **AI chatbot** helps students **align their learning needs**.

Mock tests:

- Pan India **mock tests are conducted** every weekend on SATHEE, with the same look and feel adopted by the **National Testing Agency (NTA)** for conducting the JEE.
- The time taken by an aspiring student to solve a question will be compared with that taken by an IIT-Kanpur student, and similar mappings will be done.
    o Occasionally, **senior IIT students**, using **innovative shortcuts** to solve questions, will share their feedback with aspirants.

Conducting Lectures:

- It will **host lectures** and **video content** prepared by **Professors** and **students of the IITs**, and the **All India Institute of Medical Sciences (AIIMS)**.
- Currently, **digital learning materials** are accessible on the SATHEE portal in **four languages**- English, Hindi, Odia, and Telugu.
  - There are plans for a Bengali launch soon, with further expansion to include 13 languages.
- The portal **intends to provide lectures** and live courses on all **National Council of Educational Research and Training (NCERT)** syllabus topics.

SATHEE mitras:

- SATHEE mitras (friends) are being involved to **increase rural coverage** of students appearing for entrance tests, including the JEE and NEET.

GS 3 : Economy, Science and Technology, Environment

1. Bureau of Indian Standards (BIS)

Bureau of Indian Standards (BIS) has approved the country's first ever indigenously developed AC (Alternating Current) and DC (Direct Current) combined charging connector standard for light electric vehicles (LEVs) like two-wheelers and three-wheelers and micro cars.

About BIS:

- BIS is the **National Standard Body of India**, established under the **BIS Act of 2016**.
- It operates under under **Department of Consumer affairs**, Ministry of Consumer Affairs, Food & Public Distribution.
- The organisation was formerly the **Indian Standards Institution (ISI),** set up under the Resolution of the Department of Industries and Supplies in 1946.
- It is responsible for the **harmonious development** of activities related to **standardization**, **marking**, and **quality certification of goods**, as well as **matters connected with** or **incidental** to **these activities**.
- It plays a crucial role in **maintaining** and **enhancing the quality** and **safety** of **various products in India.**
- BIS has been contributing to the national economy in various ways, including:
  - **Providing safe** and **reliable quality goods**.
  - **Minimizing health hazards** to consumers by setting quality standards.
  - **Promoting exports** and reducing the need for imports by ensuring product quality.

o **Exercising control** over the proliferation of product varieties through **standardization**, **certification**, and **testing**.

Functions:

- **Developing** and **publishing Indian Standards** to **establish quality benchmarks**.
- **Implementing Conformity Assessment Schemes** to ensure products meet the prescribed standards.
- **Recognizing** and **operating laboratories** for Conformity Assessment to test and **certify products.**
- **Implementing Hallmarking** to certify the purity of precious metal articles.
- Working to **empower consumers** by promoting quality and safety.
- Conducting **capacity-building programs** on quality assurance to educate and **train stakeholders**.
- Representing India in international standardization organizations like **ISO** (International Organization for Standardization) and **IEC** (International Electrotechnical Commission).

AC (Alternating Current) and DC (Direct Current) combined charging connector:

- AC and DC are two **types of electric currents**.
- All **home EV chargers** and the majority of **public charging stations** use **AC**, while **DC** is used for **fast charging**.
- A combined AC and DC charging connector ensures that a **hybrid**, **cost-efficient infrastructure** emerges for all forms of charging whether fast or slow for light electric vehicles.
- **Advantage**: It will benefit the end user by having an **interoperable network** for both **fast** and **slow charging** without having to carry a bulky charger with them.

Initiative for electric vehicles (EVs) in india:

- India aims to become a **manufacturing hub for EVs** under its 'Make in India' initiative.
- **Indian government** has announced several initiatives like:
  - **Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India** (**FAME India**).
  - The **PLI scheme** for the Auto and the Auto Component.
  - **The PLI scheme** for **manufacturing of ACC** to drive local production and achieve its goal by the mentioned time period.

- The government has initiated projects to establish a **network of charging stations** across the country, making EVs more accessible and convenient for consumers.

2. Meeting of United Nations Forum on Forests (UNFF)

The **Ministry of Environment, Forest and Climate Change** recently organized a **Country-Led Initiative** (CLI) event under United Nations Forum on Forests **(UNFF).**

United Nations Forum on Forests:

- It was established by **United Nations Economic and Social Council (ECOSOC)** in **2000** for management, conservation, and sustainable development of all types of forests.
- It is based on the **Rio Declaration, Forest Principles, Agenda 21** and the outcome of Intergovernmental Panels on Forests **(IPF/IFF).**
- **Members:** All UN member states and specialized agencies.
- The UN General Assembly adopted the **first-ever UN Strategic Plan for Forests (UNSPF)** for **2017-2030** as a global framework for actions for forest conservation.

About Country Led Initiative (CLI) Meet:

- The CLI conducts **discussions under UNFF** regarding the **implementation** of Sustainable Forest Management, UNSPF, and the sharing of best practices among member states.
- It was held at the **Forest Research Institute (FRI), Dehradun**, Uttarakhand for discussion of **thematic areas** including **forest fires and forest certification.**
- During this event, experts, UN organizations, regional and sub-regional partners, and major groups deliberated on these issues.
- This would be considered for discussions at the **19th session** of UNFF at New York in **2024.**

Challenges for forest management:

- An alarming **increase in scale and duration of wildfires**, led to profound impacts on biodiversity, ecosystem services, human well-being, livelihoods, and national economies.
- About **100 million hectares (3%)** of forested areas are **affected by fires every year**.

- This resulted in unhealthy **air quality**, disasters, and **loss of** human lives, wildlife, ecosystem services, and property in the northern hemisphere, including India **during summer.**
- Though total forest area under **certification increased** by 35% since 2010 and increased by 27 million hectares in 2020-21, **developing countries** face issues.
- **Excessive costs** of certification, audit and compliance issues, **inaccessibility** to forest owners in remote regions, and **lack of capacity** for complex certification standards.
- Most **consumer markets** recognize certification from selected certifying bodies at the expense of other certification schemes.
- This can be tackled by the promotion and implementation of instruments like **voluntary certification systems** under the **UN Forest Instrument.**

3. Climate Finance

During the 3rd Climate and Development Ministerial, Sultan bin Ahmed Al Jaber, COP28 President, has emphasized the need to address adaptation finance gaps and make climate finance more accessible to vulnerable nations.

Climate finance

- **Climate finance –** It refers to local, national or transnational financing, drawn from public, private and alternative sources of financing to support mitigation and adaptation actions that will address climate change.
- *UNFCCC, Kyoto Protocol and the Paris Agreement* call for financial assistance from parties with more financial resources to those that are less endowed and more vulnerable.
- **Significance –** It can help countries transition to low-carbon and climate-resilient development paths.

What are the global climate financing mechanisms?

- **Global Environment Facility (GEF)-** GEF serves as financing mechanism for the following conventions

- Special funds set up and managed under GEF include
    - o The Special Climate Change Fund (SCCF)
    - o The Least Developed Countries Fund (LDCF)
- **Earth Summit-** *Common but Differentiated Responsibilities* (CBDR) is a principle that was formalized in UNFCCC of Earth Summit in Rio de Janeiro, 1992.

In accordance with the principle of "CBDR", developed countries have to provide financial resources to assist developing country Parties in implementing the objectives of the UNFCCC.

- **Kyoto protocol**- It is based on CBDR principle.
  - **Market based mechanisms**- Climate friendly investments like Clean Development Mechanism (CDM), Emission Trading.
  - **Adaptation fund-** *Marrakesh Accords* established this fund under CDM, which supports projects and programs that assist vulnerable communities in coping with the climate change impacts.
- **Green Climate Fund (GCF)**- It was established in 2010 as financial mechanism for UNFCCC based in *Incheon, South Korea.*
- It supports program, policies, projects, etc. through state of the art funding window that involves a country owned partnership approach and flexible financing solutions and climate investment expertise.
- **Paris Agreement**- It was adopted in 2015 which reaffirms the commitment of developed countries to mobilize 100 billion dollar per year by 2020 and extends it until 2025.
- **New Quantified Collective Goal**- By 2025, climate finance will be set starting from 100 billion dollar per year.

What are the concerns with the climate financing mechanisms?

- **Financial mobilisation**- The developed countries are required to provide financial resources to developing countries, but there is no agreed approach to share the burden of this goal.
- **Lack of contribution**- The developed countries have not been able to meet the mark of a mobilisation of 100 billion dollars climate finance.

- **Financial crunch**- The financial needs of developing countries to switch to low-carbon and climate resilient development are not adequately funded by the financial mechanisms of the UNFCCC.
  - India, needs 206 billion dollars for adaptation and 834 billion dollars for mitigation until 2030.
- **Lack of political will-** The developed countries showed strong political will to respond to the *global financial crisis* in 2009-10 by mobilising 1.1 trillion dollars in short time, but same commitment is missing when it comes to climate finance transfers.

4. Politicians, tech leaders gather for U.K.'s AI summit

- The first Artificial Intelligence (AI) Safety Summit was held at Bletchley Park, the historic site where scientists, including Alan Turing, cracked the Nazis' Enigma code during World War II.
- The summit aimed to create a framework for mitigating AI risks while maximising its potential and resulted in the "Bletchley Declaration."
- The declaration underscores the need to address AI risks to unlock its potential safely, emphasising cooperation between governments, technology developers, and civil society.

Key Highlights from the Bletchley Declaration

- The "Bletchley Declaration" emphasises the importance of collaboration between governments, technology developers, and civil society to ensure AI safety.
- It affirms the need to address AI risks to harness its extraordinary opportunities.

International Collaboration and Framework for AI Regulation

- Minister Rajeev Chandrasekhar, representing the Government of India, stressed the importance of international conversations on AI.
- He suggested a sustained approach to regulating technology, driven by a coalition of countries to prevent innovation from outpacing regulation.
- India currently chairs the Global Partnership on AI, a coalition of 15 governments.
- U.S. Secretary of Commerce, Gina Raimondo, announced the U.S. would launch its own AI safety institute, focusing on voluntary disclosures by AI companies and mandatory safety testing result sharing.

China's Role and International Governance Framework

- China expressed its willingness to enhance dialogue and communication in AI safety to build an international governance framework.
- Recent sanctions by the Biden administration on the transfer of AI-related technology have been a source of concern for Beijing.
- China has previously called for a global AI framework at international forums.

Upcoming AI Safety Summits

- South Korea will host the next AI Safety Summit in six months, followed by a second summit in six months hosted by France.
- Several global leaders and tech figures attended the summit, but some G-7 heads of government were not present.

5. Household Debt Challenge

According to the RBI, household debt surged to 5.8% of the GDP in 2023, marking the second-highest annual increase since Independence.

Household debt

- Household debt is defined as all liabilities of households (including non-profit institutions serving households) that require payments of interest or principal by households to the creditors at a fixed dates in the future.
- In India, it comprises of consumer durables, house loans and personal loans for education, medical etc.,

How to assess the debt sustainability?

- **Debt service ratio (DSR)-** It measures the proportion of the household disposable income required to meet debt obligations.
- This ratio provides insights into the ability of the household sector to service current and future debt obligations given their level of disposable income.
- A lower DSR indicates better sustainability and a more manageable level of household debt.
- **Factors affecting DSR**- Debt-to-income ratio, residual maturity/tenure, and effective interest rate.

How does India's household debt affect Indian economy?

At the current pace of growth in debt and income, Indian households would reach the threshold level over the next 5 to 6 years.

- **Lack of data**- The Bank of International Settlements (BIS) publishes quarterly data on household DSR for 17 advanced economies, but not on any developing country including India.
- **International scenario**- Indian household DSR is similar to that of heavily indebted Nordic countries and it is more than China, France, UK, USA, all which have household leverage of more than 100%.
- **Short term impact**- An increase in household debt can boost economic growth and employment, as households borrow more to spend on consumption and investment.
- This can stimulate aggregate demand and output in the economy.
- **Long term impact**- It can have negative effects on the economy as households may face difficulties in repaying their debts, especially if interest rates rise or income falls.

- This can reduce their consumption and savings, and increase their financial stress and default risk.
- **External shocks**- High level of household debt make the economy vulnerable to external shocks, such as changes in global financial conditions, exchange rates, or commodity prices.
- **Increase inequality**- If a household debt is concentrated among low-income or informal sector workers, who have less access to formal credit and social protection, they may bear a disproportionate burden of debt repayment and financial distress.

How to reduce the debt burden of household?

- **Increase residual maturity profile**- Increasing the residual maturity profile of borrowers by 6 months can push the threshold of household leverage by more than 4% points of income.
- **Reduce effective interest rate-** A reduction in the effective interest rate raises the sustainable level of household debt.

What lies ahead?

- Providing adequate relief and support to households affected by the pandemic, such as moratoriums, restructuring, waivers, subsidies, etc.
- Enhancing financial literacy and awareness among households about the benefits and risks of borrowing and saving.
- Promoting financial inclusion and access to formal credit for low-income and informal sector households.
- Encouraging responsible lending and borrowing practices among lenders and borrowers, such as prudential norms, credit ratings, transparency, etc.
- Maintaining macroeconomic stability and growth by pursuing sound fiscal and monetary policies.

6. Reverse Flipping

Economic Survey 2023-24 acknowledged the concept of reverse flipping and this trend has been gaining attention in the recent years.

Reverse flipping

- **Flipping-** The process of transferring the entire ownership of an Indian company to an overseas entity, accompanied by a transfer of intellectual property rights and data owned by the Indian company.

- It transforms an Indian company into a 100% subsidiary of a foreign entity, with the founders and investors retaining the same ownership via the foreign entity, having swapped all shares.
- The Foreign Exchange Management (Overseas Investment) Rules and Regulations, 2022 clarify that the flipping culture has been acknowledged by the Reserve Bank of India (RBI).
- **Reasons for flipping**
  - o Taxation benefits
  - o Ease of setting up in places like Singapore, the US
  - o Ease of attracting foreign capital

- **Reverse flipping** - It is the trend of overseas start-ups shifting their domicile to India and listing on Indian stock exchanges.
- **Reasons for reverse flipping to India**
  - o India's favourable economic policies (tax breaks, funding assistance)
  - o Expanding domestic market
  - o Growing investor confidence in the country's start-up ecosystem
  - o Institutional support (International Financial Services Centres Authority (IFSCA) has constituted an expert committee to formulate a roadmap to 'Onshore the Indian innovation to GIFT IFSC')

How significant is the reverse flipping scenario for India?

- **Start-up hub**- Reverse flipping underscores the belief in India's potential as a global start-up hub.
- **Ease of doing business**- Reverse flipping is due to access to deeper pools of venture capital, favourable tax regimes, better intellectual property protection and favourable government policies.
- **India's economic growth**- India is the world's 5th largest economy by GDP and is expected to become the 3rd largest economy by 2030.
- This presents a significant opportunity for overseas start-ups looking to expand into new market.
- **Skill capital**- As per ILO, India has the world's largest youth population with 66% of the population under the age of 35 making India an attractive market for a skilled and talented workforce.
- **Effective corporate governance**- The listing process on the Indian stock exchange is relatively cost-effective making it an attractive option for overseas start-ups with limited sources.
- **Consumerism**- The overseas start-ups can tap into growing Indian consumer market as they have brand recognition and goodwill in India, a competitive advantage over Indian start-ups.

- **Expansion**- Overseas start-ups can find synergies with Indian companies leading to partnerships, joint ventures, and acquisitions which help them to expand their reach in India.

How to accelerate the reverse flipping?

The Economic Survey 2023-24 has suggested the following measures.

- Simplifying multiple layers of tax and uncertainty due to tax litigation
- Simplifying procedures for capital flows
  - Many countries such as US and Singapore, have easier corporate laws with lesser restrictions on the inflow and outflow of capital
- Facilitating improved partnerships with private entities to develop best practices and state-of-the-art start-up mentorship platforms
- Exploring the incubation and funding landscape for start-ups in emerging fields like social innovation and impact investment

7. Biosphere Reserves

It is important to reflect on the progress made in conserving and sustainably using the biosphere reserves.

Biosphere Reserve

- It is an international designation for representative parts of natural and cultural landscapes extending over large area of terrestrial or coastal/marine ecosystems or a combination thereof.
- BRs are living examples of how human beings and nature can co-exist while respecting each other's needs.
- **Designated by-** United Nations Educational, Scientific and Cultural Organization (UNESCO)
- **Supported by** - Other UN agencies and International Union for Conservation of Nature (IUCN)
- **Function**
  - Conservation of biodiversity and cultural diversity
  - Economic development that is socio culturally and environmentally sustainable
  - Logistic support underpinning development through research, monitoring education and training

World Biosphere Reserve Day is celebrated on November 3 to raise awareness on the importance of biosphere reserves and to promote their conservation and sustainable use.

Criteria for designating biosphere reserves

- The site must contain an effectively protected and minimally disturbed core area of value of nature conservation.
- The core area should be typical of a bio-geographical unit and large enough to sustain viable populations representing all trophic levels in the ecosystem.
- The management authority to ensure the cooperation of local communities while managing and containing the conflicts.
- Areas potential for preservation of traditional tribal or rural modes of living for harmonious use of environment.

World Network of Biosphere Reserves (WNBR)

According to UNESCO, there are currently 748 biosphere reserves across 134 countries, including 22 transboundary sites.

- The WNBR of the MAB Programme consists of a dynamic and interactive network of sites of excellence.
- **Launch year-**1971
- **Aim**- To establish a scientific basis for the improvement of relationships between people and their environments.
- **Role** - It proposes interdisciplinary research, demonstration and training in natural resources management.
- It helps national governments with the planning and implementation of research and training programmes with technical assistance and scientific advice.
- **Picture of WNBR**
    - **Leading WNBR country** - Spain, with 53 properties
    - **1st biosphere reserve in South Asia** - Hurulu Biosphere Reserve, Sri Lanka.
    - **No Biosphere Reserves** - Bangladesh, Bhutan, and Nepal
    - **India-** Signatory to the landscape approach supported by UNESCO's MAB programme

Status of biosphere reserves in India

- **Status-** There are 18 biosphere reserves in India, out of which 12 are recognized internationally under the MAB programme.
- **UNESCO Michel Batisse Award 2023-** It is won by **Gulf of Mannar** for introducing the concept of 'plastic checkpoints'.
- **1st biosphere reserve** - Nilgiri Biosphere Reserve , Tamilnadu, Kerala, Karnataka

- **Largest Biosphere reserve**   - Great Rann of Kutch, Gujarat
- **Smallest biosphere reserve** - Dibru- Saikhowa, Assam

How significant are biosphere reserves?

- **Testing sites**- They are sites for testing the approaches to manage changes and interactions between social and ecological systems, including conflict prevention and management of biodiversity.
- **Restoration-** Any damaged ecosystems and habitats are repaired properly through the establishment of biosphere reserves.
- **Land use planning**- Various groups of people work together to find comprehensive land management solutions.
- **Community engagement**- In the Sundarbans Biosphere Reserve in India, local communities are working together to manage mangrove forests and protect the biodiversity of the region.
- **Conservation**- Preservation of species, ecosystems, genetic diversity, and landscapes without affecting the living beings that inhabit them.
- **Healthy Ecosystems**- Natural problems such as soil erosion, water springs, and soil quality should be monitored and protected on a regular basis.
- **Education and Research**- Information about conserving, restoring, and developing ecosystems is provided, as well as steps to recreate landscapes affected by human activities.
- **Provides habitat**- They are home to a wide variety of ecosystems from tropical rainforests to alpine deserts, and provide home to countless unique and endangered plants and animals species.
- **Carbon sink**- They have become crucial in our fight against climate change, as these areas are home to many of the world's carbon sinks helping to absorb carbon dioxide from the atmosphere.

8. Poor Air Quality in Mumbai

Mumbai's air quality has deteriorated with the Air Quality Index (AQI) being above 200 (poor).

What is the condition of air pollution in Mumbai?

- **Sources-** Vehicular emissions, industrial activities, construction dust, waste burning, and biomass burning.

- Open waste burning is the top pollution source identified by the Mumbai Air Pollution Mitigation Plan.
- **Status** - The AQI Index indicates that the air pollution level in Mumbai is unhealthy.
- Particulate matter level raised 7 times above the recommended level of World Health Organisation (WHO).

Why air quality is deteriorating in Mumbai?

- **Climate change**- Increased warming in Middle East and Arabian Sea affects the wind patterns and the temperature, humidity, and rainfall over Mumbai and northwest India in all seasons.
- Increase in pre-monsoon heat waves and heavy rain spells during the summer monsoon in addition to the October heat and pollution caused the poor air quality in Mumbai.
- **Prolonged La Nina**- La Nina is a condition in which the sea surface temperatures in the eastern Pacific Ocean become cooler than normal.
- **2022** was part of the longest and strongest La Nina events on record that impacted the wind pattern of the city.
- **Temperature inversion**- The cooling of surface air and warming of upper air create a stable vertical variation in air temperature, which inhibits the mixing of air, making the air quality worse.
- **Lack of civic agencies support**- There was no biomethanation plants to process the waste and lack of segregation of wastes in slum clusters and non-gated societies contributed to the poor air quality.
- **Outdated regulations**- There was no significant increase in inspections and penalties for waste burning and the city's regulations remain unaltered for 17 years.
- **Coastal location-** Mumbai was considered largely immune to the issue of air pollution, and the associated problems of haze and smog due to its location near the coast.
- But the last 2 years have shown that this geographical advantage no longer offers reliable protection.

What are the consequences of poor air quality?

- **Health impact**- It can cause respiratory problems, cardiovascular diseases, cancer, and premature death. It can also affect the mental health and cognitive abilities of people.
- **Children**- High prevalence of particulate matter 2.5 is associated with low birth weight, anaemia, and acute respiratory infections among children.
- **Pregnancy outcomes**- High levels of air pollution leads to low birth weight (LBW), stillbirth, foetal mortality, premature birth, and birth defects.

Mumbai has witnessed a gradual rise in lung cancer fatalities from 621 in 2009 to 923 in 2021, reflecting a 48.6% increase over 12 years.

What measures were implemented for curbing Mumbai air pollution?

- The Brihanmumbai Municipal Corporation (BMC) issued a set of **guidelines** for the mitigation of air pollution in Mumbai and gave builders and contractors 1 month to acquire sprinklers and fogging machines at construction sites.
- The BMC has imposed a penalty of Rs 20,000 on vehicles like trucks found without proper tonneau covering, having dirty tyres, and spreading dust while carrying construction debris.
- Recycled water or water from local sources like lakes, ponds, wells and borewells is to be used for **road washing.**
- The BMC is also in the process of setting up a **command and control centre** to collect data using sensor-based air quality index monitoring devices.
- Many buses will be fitted with **vehicle-mounted filters** for removal of impurities from dust and other particles.
- The Maharashtra Pollution Control Board has issued notices to major companies in Mumbai to **reduce production by 50%** to control rising air pollution.

What lies ahead?

- The need of the hour is decentralised waste management and bio-methanation plants to process the wastes.
- Mumbai also needs a holistic waste management policy and strict penalties to tackle the pollution problem.
- Long term strategies such as implementing emission standards, promoting public transport, enhancing green cover would be the potential solution.

9. India's Deep Ocean Mission

- India's Deep Ocean Mission (DOM) is a visionary initiative aimed at exploring and harnessing the immense potential of the ocean's depths.
- Among its groundbreaking objectives, DOM will deploy an indigenous submersible with a three-member crew to reach a depth of 6,000 meters in the ocean, marking India's first foray into the profound oceanic abyss.

Deep Ocean Mission Overview

- **Mission Pillars**: DOM, principally led by the Ministry of Earth Sciences (MoES), encompasses six pillars:

1. Development of deep-sea mining technologies and a crewed submersible for exploring depths of 6,000 meters.
2. Ocean climate change advisory services, involving extensive ocean observations and modeling.
3. Technological innovations for deep-sea biodiversity exploration and conservation.
4. Deep-ocean survey to identify potential sites of multi-metal hydrothermal sulphides mineralization.
5. Harnessing energy and freshwater resources from the ocean.
6. Establishment of an advanced Marine Station for Ocean Biology.

- **Strategic Significance**: DOM aligns with the 'New India 2030' vision, focusing on a blue economy as a core objective for India's growth. It is part of the United Nations' 'Decade of Ocean Science' (2021-2030) and complements Prime Minister Narendra Modi's emphasis on sustainably utilizing the ocean's potential for national development.
- **Collaborative Efforts**: Multiple MoES institutes, including the Centre for Marine Living Resources and Ecology (CMLRE), Indian National Centre for Ocean Information Services (INCOIS), National Centre for Coastal Research (NCCR), National Centre for Polar and Ocean Research (NCPOR), and National Institute of Ocean Technology (NIOT), collaborate with national institutes and academia to achieve DOM's objectives.

Progress on Pillar 1: Deep-Sea Mining Technologies and Crewed Submersible:

- **'Samudrayaan' Initiative**: India's deep ocean mission, 'Samudrayaan,' was launched in 2021 under the leadership of MoES. It aims to reach a depth of 6,000 meters in the central Indian Ocean using the 'Matsya6000' submersible, accommodating a crew of three members.
- **Submersible Features**: Matsya6000 is equipped with scientific sensors, tools, and an operational endurance of 12 hours (extendable to 96 hours in emergencies). The submersible's design is complete, with testing and experimentation at a depth of 500 meters scheduled in the upcoming year.
- **Mining System**: NIOT is developing an integrated system for mining polymetallic nodules from the central Indian Ocean bed. This mineral-rich region, allocated by the United Nations International Seabed Authority (ISA), includes copper, manganese, nickel, and cobalt.
- **Successful Trials**: NIOT conducted deep-sea locomotion trials with the 'Varaha' underwater mining system at a depth of 5,270 meters in the central Indian Ocean. Varaha collected polymetallic nodules during the trial, marking a significant milestone.
- **Challenges**: Deep-sea exploration faces immense challenges, including high pressure, soft and muddy ocean bed surfaces, power supply constraints,

visibility limitations, temperature variations, and corrosion. NIOT and MoES are committed to addressing these complexities.

Significance of the Chosen Depth (6,000 meters)

- **Strategic Depth**: Targeting a depth of 6,000 meters serves a strategic purpose. India aims to sustainably extract valuable resources such as polymetallic nodules and sulphides, with ISA allocating regions in the central Indian Ocean for exploration.
- **Resource Distribution**: Polymetallic nodules, rich in metals like copper, manganese, nickel, iron, and cobalt, are found around 5,000 meters deep. Polymetallic sulphides occur at approximately 3,000 meters. By operating at 6,000 meters, India can effectively cover depths of 3,000 to 5,500 meters, spanning its Exclusive Economic Zone and the central Indian Ocean.

Challenges in Deep-Ocean Exploration

- **High Pressure**: Exploring the deep oceans involves extreme pressure conditions, with water exerting tremendous force. Equipment must be meticulously designed to withstand these conditions.
- **Soft Ocean Bed**: The soft and muddy ocean bed complicates landing and maneuvering for heavy vehicles.
- **Material Durability**: Electronics and instruments must endure underwater conditions, unlike space where objects are designed to function in a vacuum.
- **Extraction Challenges**: Extracting materials from the ocean bed necessitates significant power and energy, with the need to transport extracted minerals to the surface.
- **Visibility Constraints**: Limited natural light penetration in deep waters poses visibility challenges.

Matsya-6000 and Varaha: A Vision for India's Ocean Exploration

- **Matsya6000**: India's flagship deep-ocean submersible combines features of remotely operated vehicles (ROVs) and autonomous remote vehicles (AUVs). It accommodates a crew of three, is constructed from titanium alloy, and is designed to withstand high pressures.
- **Varaha**: Varaha is India's deep-ocean mining system, operating on the flexible riser technique. It successfully conducted deep-sea locomotion trials at a depth of 5,270 meters, marking a world record.
- **Unique Ecosystem**: India is poised to possess a comprehensive underwater vehicle ecosystem, encompassing deep-water ROVs, polar ROVs, AUVs, deep-water coring systems, and more.

Conclusion

- India's Deep Ocean Mission is a pioneering endeavour to explore and harness the potential of the ocean's depths.
- With Matsya6000 and Varaha, India is poised to join the selective nations conducting deep-ocean exploration and mining.

10. Role of TCAS-Kavach in Railway Safety

- The tragic train collision in Vizianagaram district, Andhra Pradesh, resulting in 14 fatalities and 50 injuries, highlights the critical importance of implementing Traffic Collision Avoidance Systems (TCAS).
- In this case, the indigenous TCAS known as 'Kavach' was not in place on the route where the collision occurred, emphasizing the need for enhanced railway safety measures.

TCAS-Kavach

- **Cab Signalling System**: Kavach serves as a cab signalling train control system with anti-collision capabilities, acting as a vigilant guardian of the existing signalling infrastructure.
- **Development**: Developed over a decade, starting in 2012, by the Indian Railways Research Designs and Standards Organisation (RDSO).
- **Warning Mechanism**: Kavach is designed to alert the locomotive pilot if they fail to notice a 'red signal' and continue at a speed that would surpass the signal. If the pilot does not slow down below 15 kilometres per hour, Kavach automatically applies the brakes, bringing the train to a halt.

Deployment of Kavach

- **Components**: The Kavach setup involves three key components: Radio Frequency Identification (RFID) technology in the tracks, RFID readers, computers, and brake interface equipment in locomotives, and radio infrastructure including towers and modems at railway stations.
- **Intercommunication**: These components communicate with each other, enabling real-time monitoring of train movements and the transmission of signals to locomotives. Visual interferences, such as hilly terrain or haze, do not affect their functionality.
- **Antenna Communication**: Locomotives are equipped with antennas that communicate with towers at railway stations and display warnings to the driver on their monitor.

Preventing Accidents with Kavach

- **Testimonial Evidence**: Union Railway Minister test ride of Kavach demonstrated its effectiveness in averting accidents. Two trains moving towards each other on the same track at high speed were stopped 400 meters short of collision as Kavach applied automatic brakes.
- **Human Error**: The Andhra Pradesh train accident was attributed to the deceased loco pilot's 'human error.' Had Kavach been in place, it could have warned the pilot about overshooting the red signal and applied emergency brakes, potentially avoiding the accident.

Cost and Implementation Challenges

- **Deployment Cost**: Implementing Kavach costs ₹50 lakh per kilometer for the Indian Railways.
- **Coverage**: Currently, Kavach covers only 1,500 kilometers of rail routes, a small fraction of the total 68,000-kilometer network. Expanding its coverage, particularly on high-density routes, remains a formidable challenge.
- **Budget Allocation**: The Indian Railways has allocated ₹4,000 crore under the Signalling and Telecom budget, including ₹2,000 crore from the Rashtriya Rail Sanraksha Kosh (RRSK) fund for Kavach implementation.
- **Slower pace**: However, the limited allocation may result in gradual progress, with only about 2,500 to 3,000 kilometers of installation expected during the year.

11. National Security Strategy

India is working on its first-ever national security strategy document after years of deliberations in the military and strategic community.

National Security Strategy

- **NSS** - A National Security Strategy (NSS) document outlines the *country's security objectives, and the ways to achieve these.*
- It defines traditional, non-traditional threats and opportunities while introducing accountability of agencies tasked with the implementation of such responsibilities.
- **History -** The NSS of India has *not been defined* since its Independence in 1947.
- Earlier 3 attempts has been made (2007, 2019 and 2021) to come out with the national security strategy, but there was hesitation at the political level.
- **Significance of NSS -** The strategy will cover the entire range of traditional and non-traditional threats facing India, such as financial, energy, information, and environmental security.
- It will guide the *military and security reforms* and provide a holistic view of the national security.

- NSS will reflect India's response to the *rising geopolitical tensions* and uncertainties in the world.
- The document will be made public and updated regularly based on emerging situation and newer threat assessments.

Why India needs a National Security Strategy?

- **Resource utilisation**- The strategy will help in optimal utilisation of India's comprehensive national power and resources.
- **Address vulnerabilities**- India's border is linked with large scale smuggling and contraband trade that permits channels through which terrorists and criminals find easy access.
- **Technology driven world**- NSS would enable the identification of critical infrastructure that may be vulnerable to cyber-attacks, and the development of human resources capable of identifying attacks and protecting and restoring critical systems.
- **Nuclear security-** The country's nuclear deterrent must deal with the challenge of two nuclear-armed neighbours namely China and Pakistan.
- **Dynamic nature**- The only political direction to the Armed Forces in existence is *Raksha Mantri's operational Directive of 2009* which is outdated and needs to be revised.
- **Jointness-** There has to be a national defence doctrine to achieve synergy, coordination and jointness among the three services and to enhance their combat effectiveness and operational readiness.

What components must the NSS encompass?

- **Climate change-** NSS should anticipate the consequences of ecological degradation such as melting of glaciers, sea level rise, large scale migration of population and formulate coping measures.
- **Internal security**- The strategy must address the internal security threats such as inequality, erosion of institutions, lawlessness and centre-state relations.
- **External security management**- The doctrine should emphasise the need to restore deterrence against India's adversaries, especially China, and to pursue the goal of transforming India into a modern, prosperous and secure country.
- **Strategic communication**- NSS must be integrated with strategic communication, particularly in a democracy, to shape public perceptions through constant and consistent public outreach and to provide a channel for public opinion or feedback.

What lies ahead?

- NSS must be executed within the parameters laid down by the Constitution of India and the country's democratic political dispensation.
- NSS should be citizen-centric, constitutionally guided, and democratically accountable.

12. Delhi Odd-Even Scheme

- The Odd-Even scheme, designed to reduce vehicular emissions and combat severe air pollution in Delhi, has garnered attention and scrutiny.
- While this emergency action has been implemented in response to deteriorating air quality, experts emphasize that it may not be a panacea for all pollution woes.

Odd-Even Scheme

- **Reduction in Vehicles**: The scheme aims to curtail vehicular pollution by restricting the number of cars on the road. However, it has limitations, as it excludes two-wheelers and taxis, which are significant contributors to emissions.
- **Two Aspects of Transport Pollution**: Transport pollution encompasses emissions from exhaust tailpipes and wear and tear of tires and brakes. Tailpipe emissions contain pollutants like PM2.5, soot, organics, nitrogen oxides, carbon monoxide, and poly-aromatic hydrocarbons.

Why such move?

- **Curbing Local Sources of Pollution**: Transport is a dominant source of pollutants when considering Delhi's local emissions. Vehicles play a crucial role in exacerbating air quality issues.
- **Complex Challenges**: Estimating the scheme's exact impact on pollution levels is challenging due to multiple factors, including emissions from outside Delhi, restricted coverage of the transport fleet, and exemptions.

Prior Experience and Expert Opinions

- **Experience from 2016**: A study conducted on the Odd-Even scheme implemented in January 2016 indicated limited success in mitigating air pollution. PM2.5 levels decreased marginally in specific areas but not significantly citywide.
- **Comprehensive Approach Needed**: Experts argue that while the Odd-Even scheme can contribute to pollution reduction, it should be viewed as one element of a comprehensive strategy, combined with measures like construction halts, during periods of stagnant air.

- **Not a Silver Bullet**: Emergency actions, including the Odd-Even scheme, cannot independently solve air quality issues, and their effectiveness is influenced by various factors.

Assessing Impact Based on Pollution Concentration

- **Air Quality Index (AQI) May Not Tell the Full Story**: Experts emphasize the importance of considering pollutant concentration levels rather than relying solely on the Air Quality Index (AQI) for assessing the scheme's impact.
- **Concentration Matters**: Monitoring the concentration of pollutants provides a clearer picture of the scheme's effectiveness in reducing harmful substances in the air.

Transportation Role in Delhi's Pollution

- **Contributor to Emissions**: Transport, including vehicles and cars, is a substantial contributor to PM2.5 emissions in Delhi, accounting for a significant portion of the pollution.
- **Role of Four-Wheeler Cars**: Four-wheeler cars contribute about 8% of emissions within the transport sector. Reducing their presence on the road can make a notable difference.

Lessons from Other Cities

- **Global Precedents**: Other major cities, such as Beijing and Paris, have implemented vehicle restrictions to address pollution issues.
- **Comprehensive Measures**: The success of such schemes often depends on their comprehensive nature and alignment with specific local conditions.

Conclusion

- The Odd-Even scheme in Delhi serves as a critical emergency measure to combat air pollution during periods of severe deterioration.
- While it can contribute to reducing vehicular emissions, experts emphasize that it should be part of a broader strategy that addresses multiple pollution sources.
- Analyzing pollutant concentration levels provides a more accurate assessment of the scheme's impact, and it is crucial to view it in conjunction with other measures to ensure sustained improvements in air quality.

13. United Nations Forum on Forests (UNFF)

India's Ministry of Environment, Forest and Climate Change has recently hosted the United Nations Forum on Forests (UNFF).

United Nations Forum on Forests (UNFF):

- The UNFF is a high-level intergovernmental policy forum that aims to promote sustainable forest management and conservation of all types of forests.
- It is a subsidiary body of the United Nations Economic and Social Council (ECOSOC).
- It was formed in 2000.
- It provides a forum for member states to exchange information and experiences on forest-related matters.
- It includes all UN member states and permanent observers, the UNFF Secretariat, and other stakeholders.
- It is one of the 5 main components of International Arrangements on Forests (IAF).
  - Others are- (i) the UNFF Secretariat (ii) the Collaborative Partnership on Forests (CPF) (iii) the UNFF Global Forest Financing Facilitation Network (GFFFN) (iv) the UNFF Trust Fund.
  - IAF is a set of non-legally binding principles and guidelines on forests that provides a framework for national action and international cooperation in forest management.
- 2 themes of discussion- (i) forest fires/wildfires and best practices on its prevention and restoration in fire-affected areas (ii) forest certification and sustainable forest management.
- The Collaborative Partnership on Forests (CPF) is an interagency group that supports the work of the UNFF and facilitates coordinated action on global forest issues.

About the Sustainable Forest Management (SFM):

- The Sustainable Forest Management (SFM) is the management of forests as per the principles of sustainable development.
- It aims to conserve biodiversity, maintain ecosystem services, support local livelihoods, and ensure the sustainable production of forest products.
- 3 main pillars of SFM are- ecological, economic and socio-cultural.
- Principles of Sustainable Forest Management:
  - Maintenance of ecological integrity
  - Maintenance of productive functions of forests
  - Maintenance of social functions and benefits
  - Legal, institutional, and economic frameworks
- Components of SFM are- biodiversity conservation, timber harvesting, ecosystem services, community engagement.

About the UN Strategic Plan for Forests (UNSPF):

- The UN Strategic Plan for Forests 2017-2030 provides a global framework for actions at all levels to sustainably manage all types of forests and trees outside forests and halt deforestation and forest degradation.
- It is implemented by UNFF.
- It consists of 6 Global Forest Goals (GFGs) and 26 associated targets that aims to provide a framework for action at the global, regional, and national levels.
- 4 themes of UNSPF are- (i) poverty eradication (ii) food security (iii) gender equality (iv) women's empowerment.

Other key facts:

- UNFF19 will be held in May 2024 at United Nations headquarters.

14. Extension of Food Security Program (PMGKAY)

Recently, Prime Minister Narendra Modi has announced an extension of the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY), the free ration scheme for another 5 years.

PMGKAY

- It is the world's largest food security welfare scheme.
- Launch year- 2020.
- Aim- To provide free food grains to the poor and needy through the Public Distribution System (PDS).
- Eligibility- It will be provided to around 80 crore beneficiaries covered under both categories of National Food Security Act,2013 (NFSA)
    o Antyodaya Anna Yojana (AAY)- 35 kg food grains per household per month
    o Priority Householders (PHH)- 5 kg per person per month
- It also provides an additional 5 kg of food grains per person per month for free, over and above the existing entitlements.
- The scheme can be availed through the One Nation One Ration Card (ONORC) plan.
- Key features-

- Merger- The government subsumed the PMGKAY under the NFSA Act and the entire quantity of entitlement under the NFSA would be available free of cost.

- The scheme has been extended many times ever since its introduction.

NFSA 2013

The Act marks the paradigm shift in the approach of food security from welfare to rights based approach

- Aim- To provide for food and nutritional security in the human life cycle approach, by ensuring access to adequate quantities of quality food at affordable prices to people to live a life with dignity.
- Coverage- It provides coverage for nearly 2/3rd of the country's total population based on the basis of Census 2011.
  - o Rural population- 75%
  - o Urban Population- 50%
- Eligibility-
  - o Priority Households (PHH) - Covered under Targeted Public Distribution System (TPDS), according to State government guidelines
  - o Existing Antyodaya Anna Yojana (AAY) Households

- Special provisions - Special provisions have been made for pregnant women and lactating mothers and children (6 months to 14 years of age), by entitling them to receive nutritious meal free of cost through Integrated Child Development Services (ICDS).
- Responsibility- NFSA defines the joint responsibility of the Centre and State/UT Government.

- Direct Benefit Transfer- It reduces the need for huge physical movement of food grains.
- Food security allowance- Governed through the Food Security Allowance Rules, 2015, it is provided to beneficiaries in case of non-supply of entitled food grains or meals.
- Grievance redressal mechanism- It is provided at State and district levels.
- Social audit- It is authorized by State government to conduct periodic social audits on the functioning of FPS, TPDS and other welfare schemes.
- Vigilance committee- It is appointed by State government for ensuring transparency and accountability of the TPDS.

Benefits of PMGKAY

- Eliminate Malnutrition- Eligibility criteria would eliminate malnutrition among the vulnerable section of the country.

- Reduce child mortality- The pregnant women are entitled to maternity benefit thus reducing the mortality rate of children which is high due to unavailability of food.
- Better health outcomes- Food security along with protein entitlement would improve the health of the population.
- Affordability- The entitlements are available free of cost to the targeted beneficiaries, thus reducing the burden on the poor people.
- Accessibility- Food security allowance is provided in case of non-supply of food grains, thus providing the beneficiaries the right to food even in the event of unavailability of food grains.
- Women empowerment- Eldest woman of the beneficiary household (18 years or above) is considered as 'Head of Family' for issuing ration cards.

15. India's Air Quality Management needs Transboundary Accountability

- The annual recurrence of 'severe' air quality levels in the Delhi-National Capital region and surrounding areas during winter often leads to the misconception that air pollution is a seasonal issue primarily driven by farm residue burning.
- However, this perception falls short of the complex, year-round, multi-source, and multi-pollutant nature of the problem.

This article highlights the need to adopt a comprehensive, science-backed approach to address air pollution effectively.

Year-round, Multi-source Pollution

- **Misconception**: Labelling air pollution as a 'winter' problem caused solely by farm residue burning oversimplifies the issue.
- **Complex Reality**: Air pollution is a continuous problem arising from various sources, not confined to a particular season.
- **Ineffectiveness of City-Centric Strategies**: Current initiatives like the National Clean Air Programme (NCAP) focus on cities, ignoring the transboundary nature of pollution.

Transboundary Air Pollution

- **Understanding Dispersion**: Pollution emitted in one region can significantly impact air quality in another due to transboundary dispersion.
- **Inter-state Implications**: Weather, topography, and climatic conditions influence transboundary dispersion, creating challenges for downwind regions.

- **Limited Jurisdictional Power**: Downwind regions often lack the authority to regulate upwind pollution sources, rendering mitigation strategies ineffective.

Need for Airshed Air Pollution Management

- **Defining Airsheds**: An airshed is a geographic area governed by common meteorology, topography, and climate, impacting air mass dispersion.
- **Global Precedents**: Countries like the United States, China, and the European Union have implemented effective regional airshed-level frameworks.

Policy Levers in India

- **Existing Legal Framework**: The Commission for Air Quality Management in National Capital and Adjoining Areas (CAQM) Act, 2021 recognizes the transboundary nature of air pollution.
- **Expanding Scope**: The Air Act, 1981, can be expanded to cover multiple jurisdictions and pollution sources under a single air quality management framework.
- **Global Experiences**: Drawing lessons from frameworks like the Cross-State Air Pollution Rule (CSAPR) in the US and the Long Range Transboundary Air Pollution (LRTAP) in Europe can inform India's approach.

Implementation Challenges

- **Accountability**: Holding upwind polluting regions accountable for transboundary pollution remains a challenge, necessitating legal mechanisms and cooperation.
- **Conflict Resolution**: Implementing a formal procedure for resolving conflicts arising from the interpretation or application of airshed-level frameworks is crucial.
- **Political Will**: Ensuring consistent implementation of air quality management measures despite bureaucratic cycles and political considerations is a persistent challenge.
- **Cross-Boundary Cooperation**: Encouraging cooperation between jurisdictions and regions to collectively address air pollution requires coordinated efforts.
- **Data Integration**: Integrating data from diverse sources and ensuring uniformity in air quality monitoring can be challenging.

Way Forward

- **Legal Framework Expansion**: Expanding the scope of the Air Act, 1981, to encompass multiple jurisdictions and pollution sources under a single air quality management framework.
- **Global Lessons**: Drawing lessons from international frameworks like the Cross-State Air Pollution Rule (CSAPR) and Long Range Transboundary Air Pollution (LRTAP) to inform India's approach.
- **Accountability Measures**: Legally binding upwind polluters to address transboundary pollution through mitigation plans.
- **Scientific Independence**: Separating scientific and technical activities from political negotiations to ensure data-driven decisions.
- **Conflict Resolution Mechanism**: Implementing a mechanism for resolving disputes arising from framework interpretation or application.
- **Promoting Change**: Integrating an airshed-level framework within existing legal structures or introducing a new framework to deliver cleaner air for citizens.

16. Wildlife Justice Commission (WJC)

The **Wildlife Justice Commission** (WJC) has recently released a report on **wildlife trade**, its complexities and **sand mining**.

Wildlife Justice Commission (WJC):

- The Wildlife Justice Commission (WJC) is an **international foundation** that aims to help dismantle organised **transnational criminal networks** trading in wildlife, timber and fish.
- It was set up in **2015** with headquarters in The **Hague**, the **Netherlands**.
- Its objective is to **combat** and address **wildlife crime**, which includes illegal trade, poaching, and trafficking of endangered species and their products.
- It operates **independently** and is **not** part of any government or international organization.

Highlights from the report:

Wildlife:

- There is intricate relation between **wildlife trafficking** and a range of **criminal activities**, revealing a **complex network** that spans protection rackets, extortion, murder, money laundering, illicit drugs, tax evasion, and corruption.

Sand-mining:

- The poorly managed **extraction process** of **sand-mining** leads to severe **environmental consequences**, impacting **ecosystems**, **communities**, and livelihoods.
  - The **sand-mining** is performed for **supplying** raw material crucial for concrete, asphalt, and glass production, lacks effective global governance.
- Indiscriminate **sand extraction** from rivers, coastal, and marine ecosystems result in erosion, adversely affecting communities.
- It **negatively** impacts **aquifers**, lead to reduction in **storm surge** protection, shrinking **deltas**, and disruptions in freshwater and marine fisheries.
- **Land-use changes** and **biodiversity** are also adversely affected.
- There is **no global treaty** that governs the sand mining operations, further exacerbating the issue.

17. Evolution and Future of Fiber Optic Technology

- COVID-19 pandemic highlighted the crucial role of the internet in maintaining global connectivity, facilitated largely by high-speed internet connections.
- These connections, enabling video chats, online payments, and virtual meetings, largely depend on the technology of optical fibers.

Understanding Optical Fibers

- **Composition and Size**: Optical fibers are thin strands of glass, almost as thin as a human hair, used for transmitting information.
- **Information Transmission**: They carry various forms of data, including text, images, and videos, at speeds close to that of light.
- **Everyday Relevance**: Optical fibers play a vital role in everyday communications like text messaging and phone calls.
- **Fragility vs. Strength**: Despite their thinness, these fibers are strong and durable when encased in protective materials.
- **Versatility**: They are flexible enough to be laid underground, underwater, or wound around spools.

Historical Perspective

- **Charles Kao's Contribution**: About 60 years ago, physicist Charles Kao proposed using glass fibers for telecommunications, a suggestion that earned him a Nobel Prize in 2009.
- **Replacing Copper Wires**: Kao's idea was initially met with skepticism but eventually replaced copper wires in telecommunication.

How Optical Fibers Work?

- **Light as an Electromagnetic Wave**: Light, part of the electromagnetic spectrum, can be controlled and guided through optical fibers.
- **Total Internal Reflection**: This phenomenon allows light to travel long distances within the fiber with minimal loss of power.
- **Fiber Optic Communication System**: This system includes a transmitter, the optical fiber, and a receiver to encode, carry, and reproduce information.

Data Transmission and Resistance

- **High Data-Transmission Rate**: Optical fibers can transmit data at rates of several terabits per second.
- **Insensitivity to External Disturbances**: Unlike copper cables, they are not affected by external factors like lightning or bad weather.

Development of Fiber Optic Cables

- **Early Experiments**: The concept of guiding light in transparent media dates back to the 19th century, with demonstrations by Jean-Daniel Colladon and others.
- **Medical and Defense Applications**: Early glass objects were used in medicine and defense before their adaptation for data transmission.
- **Advancements in the 20th Century**: Significant progress occurred in the 1950s and 1960s, including the development of glass-clad fibers and the invention of lasers.

Modern Manufacturing

- **Fiber-Optic Cable Production**: Today, glass fibers are produced using the fiber-drawing technique, ensuring high purity and engineered refractive index profiles.
- **Loss Reduction**: Modern optical fibers have significantly reduced signal loss, less than 0.2 dB/km.

Future of Fiber Optics

- **Expanding Applications**: Fiber optics technology is now integral to various fields, including telecommunication, medical science, and laser technology.
- **India's National Mission**: The Indian government's 2020 Union Budget announced a significant investment in quantum technologies and applications, highlighting the future potential of fiber optics.

- **Quantum Optics and Communication**: The technology stands at the forefront of a new era, with expanding possibilities in quantum optics and home connectivity.

Conclusion

- **Impact of Fiber Optics**: The evolution of fiber optics has revolutionized communication and connectivity, offering high-speed, reliable data transmission.
- **Continued Growth and Innovation**: As the technology continues to advance, its applications are likely to expand further, driving innovations in various sectors and enhancing global connectivity.

18. Past Tectonic Activity of Venus

A recent study reveals Venus might have had **tectonic activity** 4.5 to 3.5 billion years ago, drawing parallels to Earth's geological history.

Key Findings of the Study:

Tectonic Activity on Venus:

- The study proposes that Venus experienced tectonic movements between 4.5 to 3.5 billion years ago, similar to Earth.
- This geological activity is believed to have played a significant role in shaping **Venus' unique atmosphere.**
    - Venus' unique atmosphere is predominantly composed of **carbon dioxide (96.5%)** and **nitrogen (<3.5%).**

Significance of Plate Tectonics:

- The theory of plate tectonics, which explains the **segmentation of Earth's outer shell** into large plates floating atop the **mantle.**
    - It is now considered to extend its relevance to Venus.
- This suggests that a similar **tectonic regime** might have existed on **Venus**.

Implications for Ancient Life:

- Ancient tectonic activities on Venus might have created **favourable conditions** for **microbial life**.
- It indicates a **higher degree of similarity** between **Earth and Venus** in terms of tectonic regimes beneficial for life.

Transition of Tectonic States:

- Venus is believed to have transitioned from a **state of active tectonics** to a stagnant lid model.
  - It has significantly limited its current **geological activity**.
- The transition highlights the ability of planets to **shift between different tectonic states**, which in turn **impacts their habitability**.

About Venus:

- Venus is a rocky planet with the **densest atmosphere** of all the rocky bodies in the Solar System, and the only one with a mass and size that is close to that of its orbital neighbour Earth.
- It is the **second planet** from the **Sun**.
- **Orbiting inferiorly** (inside of Earth's orbit), it appears in Earth's sky always **close to the Sun**, as either a **"morning star" or an "evening star"**.
- While this is also true for **Mercury**, Venus appears much more prominently, since it is the **third brightest object in Earth's sky** after the **Moon** and the **Sun**.
  - It appears brighter than any other star-like **classical planet** or **any fixed star**.

19. Jericho Missile System

Recently, a call was given by an Israeli lawmaker suggesting deploying a ' **Jericho Missile System'** against Hamas and Palestine in the ongoing war.

About Jericho Missile System:-

- Jericho is Israel's original ballistic missile programme, **initiated in the 1960s.**
- It was named after the **biblical city** located in the West Bank.
- This programme was **initially a collaboration with the French aerospace company Dassault,** but when France withdrew in 1969, Israel continued its development.

Jericho-1 Missile System:-

- The Jericho-1 missile system, **retired in the 1990s.**
- It had a **weight of 6.5 tons, a length of 13.4 meters, and a diameter of 0.8 meters.**
- Jericho-1 missile system had **a range of 500 kilometres.**
- It could **carry a 1,000-kilogram payload**, though it had a 50 per cent chance of hitting within a 1,000-meter radius of its target.

Jericho-2 Missile System:-

- It was **developed in the late 1980s**.
- It has a **length of 15 metres and a diameter of 1.35 metres** while maintaining the same payload capacity and range between 1,500 and 3,500 kilometres.
- It has the **same payload capacity as Jericho-1**.

Jericho-3 Missile System:-

- It is the **first Israeli Intercontinental Missile (ICBM).**
- It was first tested in 2008 and **entered service in 2011.**
- The payload capacity extended to about **1,300 kilograms.**
- It has a **range of 4,800 to 6,500 kilometres.**

20. Bletchley Park Declaration

28 countries recently signed the **first International declaration** to address the risks of **Artificial Intelligence (AI)** at the **AI Safety Summit** in **Bletchley Park, London.**

About The Bletchley Park Declaration:

- It was signed by **28 major countries**, including the United States, China, Japan, the United Kingdom, France, India, and the European Union.
- It **aimed to establish** a shared understanding of the opportunities and risks associated with frontier AI, and global action to tackle them.
  - **Frontier AI** is defined as **highly capable foundation generative AI models** that could possess dangerous capabilities that can pose severe risks to public safety.
- The **substantial risks** of intentional **misuse and unintended control** issues of frontier AI included fields like **cybersecurity, biotechnology, and disinformation.**
- It acknowledged the **potential for severe harm** (deliberate or unintentional) arising from AI models, and risks related to **bias and privacy.**
- It drew global **leaders, computer scientists, and tech executives**, resulting in a groundbreaking agreement.

Approaches by different Countries:

- Policymakers worldwide have **increased regulatory scrutiny** of generative AI tools, with concerns related to **privacy, system bias, and intellectual property rights.**

- **South Korea** would co-host a **virtual AI summit**, and **France** will host an **in-person summit** for the same to foster **international cooperation** against these risks.
- **European Union:** It proposed a new AI Act that classifies AI according to use-case scenarios, based broadly on the degree of invasiveness and risk.
- **United Kingdom:** A **"light-touch" approach** would be implemented that aims to foster innovation in this field.
- **U.S.A**: A Rulebook for AI Regulation based on the Blueprint for an AI Bill of Rights.
- **China**: Introduced measures to regulate AI under law.
- **India:** There was a shift in India's stance from not considering legal intervention in AI regulation to actively formulating regulations based on a risk-based, user-harm approach.
  - The terms for mitigation shall be formulated and observe AI through the prism of **openness, safety, trust, and accountability.**
  - **Digital India Bill** was introduced to replace **Information Technology Act, 2000**, for issue-specific regulations for each of these intermediaries.
  - **NITI Aayog** published a series of papers on **Responsible AI for All.**

Other Key Facts:

- **Bletchley Park in Buckinghamshire** near London was once the top-secret base of codebreakers who cracked the **German 'Enigma Code'**, hastening the end of World War II.
- The **Enigma machine** was a code-generating machine used by the **German military** during World War II to **encode strategic messages**.
- **Alan Turing** and his team broke this code and, later formed the **basis of modern electronic computing.**

21. Economic Impact of Air Pollution in India

Recent studies emphasize air pollution's alarming impact on India's economic sustainability and public health.

India's Air Pollution Crisis

- Over **20 of the world's most polluted cities** are in India, with **Delhi** having some of the highest **PM2.5 levels globally**.
- Air quality issues in Delhi lead to emergency measures like **bans on trucks and construction** to improve conditions.

Economic Impact of Air Pollution:

Economic Losses:

- The Lancet reports that Delhi faces the **highest per-capita economic loss due to pollution**.
- Costs of air pollution, including those from fossil fuels, significantly burden economies, with a **global economic cost estimated at $2.9 trillion**, equating to **3.3% of global GDP**.

Impact on the Employment Sectors:

- In developing nations like India, employment heavily relies on outdoor activities such as agriculture and construction.
- Urban employment in delivery services and security is also affected by air pollution.

Impact on the Services Sector

- Indoor workplaces, like call centres, **are not** immune to the detrimental effects of **poor air quality.**
- Studies reveal a **direct correlation between increased air pollution levels and decreased worker productivity** in service sectors that contribute **over 50% to India's GDP**.

Specific Study Findings

- The National Bureau of Economic Research (NBER) working paper on Chinese call-centre workers showed a measurable **decrease in productivity with rising air pollution**.
- The study's relevance to India highlights a **similar risk to the services sector** due to poor air quality.

Broader Economic Implications:

- Air pollution's effects on **labour and productivity** extend to economic outputs and national GDP.
- The Reserve Bank of India's report warns of up to **4.5% GDP risk by 2030** from climate change-related labor disruptions.
- Dalberg Advisors' study estimates a **$95 billion annual cost to Indian businesses** due to air pollution.

Impact Across States:

- Economic loss due to air pollution varies among states, **disproportionately affecting those with lower per-capita GDP**.
- High economic losses are reported in **Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, and Chhattisgarh**.

Economic Cost Manifestations:

- Economic costs are seen in terms of **reduced labor and asset productivity, decreased consumer footfall, increased health expenses, welfare losses, and premature mortality**.
- These findings leverage big data **analytics and stakeholder inputs**, including from cross-sectoral business leaders and academic experts.

22. Kepler Space Telescope

A system of seven sweltering planets has been revealed by a continued study of data from NASA's retired Kepler space telescope.

Kepler Space Telescope:

- Launched in 2009, **Kepler Space Telescope** was **NASA's first planet-hunting mission**, assigned to search a portion of the Milky Way galaxy for Earth-sized planets orbiting stars outside our solar system.
- It is named after the renowned astronomer **Johannes Kepler.**
- It was operated for over **nine years** before its retirement due to fuel depletion in **2018**.
- It is equipped with a **photometer** to monitor the **brightness of about 150,000 stars.**

Mission Objectives and Design

- Aimed to survey a part of the Milky Way to find **Earth-size exoplanets** in habitable zones.
  - o **Exoplanets** are any planet beyond our solar system. Most orbit other stars, but free-floating exoplanets, called **rogue planets**, orbit the galactic centre and are untethered to any star.
- Estimating the number of **Milky Way stars** with potential habitable planets.

Kepler's Scientific Achievements:

- Monitored a **fixed field of view**, targeting main sequence stars.
- Data transmitted to Earth were used to identify the **dimming of stars** caused by transiting exoplanets.
- Detected planets were those whose orbits are **edge-on relative** to Earth's perspective.
- Observed **530,506 stars** and confirmed **2,778 planets** as of June 2023.

Kepler-385 System:

- Kepler-385 System comprises **seven planets** with intense radiant heat from their star.
- Planets range between larger than **Earth** and **smaller than Neptune**.
- It hosts one of the few systems with over **six verified planets**.
- It is centered around a **Sun-like star, larger** and **hotter than our own Sun**.

23. Euclid Space Telescope unveils mysteries of Dark Universe

- European astronomers have unveiled the first images captured by the newly launched Euclid space telescope.
- These groundbreaking images offer a glimpse into Euclid's extraordinary capabilities, demonstrating its capacity to observe billions of galaxies situated up to 10 billion light years away.

Euclid Mission

- Euclid's mission, led by the European Space Agency (ESA) in partnership with NASA, aims to unravel the enigmatic forces of dark matter and dark energy, which together constitute 95% of the universe.
- The Euclid Space Telescope is equipped with a 1.2-meter primary mirror, allowing it to capture detailed observations of galaxies.
- It carries two main scientific instruments: the visible-wavelength camera (VIS) and the near-infrared camera and spectrometer (NISP).
- By mapping the distribution and evolution of galaxies, Euclid aims to shed light on the fundamental forces shaping the cosmos.

(1) Mission Scope and Duration

- Euclid is a space-based mission, equipped with a sophisticated telescope and state-of-the-art scientific instruments.
- The mission is expected to have a nominal operational lifetime of 6 years, during which it will conduct an extensive survey of the sky.

(2) Launch and Spacecraft

- Euclid was launched on July 1, 2023, from Cape Canaveral in Florida using a SpaceX Falcon 9 rocket.
- The spacecraft carries the Euclid Space Telescope, which is designed to observe galaxies across a wide range of wavelengths.

(3) Investigating Dark Energy and Dark Matter

- Dark energy, discovered in 1998, explains the unexpected acceleration of the universe's expansion.
- Euclid's mission aims to provide a more precise measurement of this acceleration, potentially uncovering variations throughout cosmic history.
- Dark matter, inferred through the gravitational effects it exerts on galaxies and clusters, plays a vital role in preserving their integrity.

Remarkable Images taken by Euclid

- **Sharper and Clearer:** These images are touted as the sharpest of their kind, showcasing Euclid's precision and ability to capture intricate cosmic details.
- **Perseus cluster:** Euclid's observations span four regions within our relatively nearby universe, including the massive Perseus cluster, which is located just 240 million light-years away and contains over 1,000 galaxies.
- **Horseshoe Nebula:** Euclid provided a unique perspective on celestial wonders like the Horsehead Nebula, a region where new stars are born.
- **Dark Matter's Clues:** Scientists believe that organized structures like the Perseus cluster could only have formed if dark matter exists. Dark matter is inferred from its gravitational influence on galaxies, including their rotation and the formation of massive cosmic structures.

Unraveling the Dark Universe

- **5% Visible, 95% Dark:** The mission emphasizes that our understanding of the universe is limited to merely 5% — the matter we can see. The rest of the universe remains "dark" because it does not emit electromagnetic radiation, but its effects on visible matter are evident.
- **Dark Matter's Role:** Dark matter is suspected to influence galaxies' rotation, galaxy clusters' cohesion, and the formation of cosmic structures, further validating its existence.
- **Dark Energy's Mystery:** Dark energy, an even more enigmatic force, was proposed in the 1990s when the universe's accelerated expansion was discovered. This mysterious energy was awarded a Nobel Prize in 2011.

Mission Ahead

- **Creating a 3D Map:** Following its initial commissioning and overcoming technical challenges, Euclid will construct a 3D map covering approximately one-third of the sky. This map will reveal subtle variations attributable to the dark universe.
- **Cosmic Web Exploration:** By gaining insights into dark energy and dark matter, scientists aim to understand the formation and distribution of galaxies

within the cosmic web, a network of cosmic structures that make up the universe.

24. Forest Conservation Amendment Act of 2023

- The Forest Conservation Amendment Act of 2023 has emerged with limited public discourse, raising concerns about its ramifications for forests and indigenous communities.
- While aimed at addressing climate change and deforestation, the law's provisions have sparked debates over forest utilization, economic gain, and the rights of forest dwellers, particularly indigenous communities.

Forest Conservation Amendment Act, 2023: Key Provisions

- **Focus Areas**: The amendment emphasizes climate change mitigation and effective forest management, while also promoting afforestation.
- **Jurisdiction Changes**: The law restricts its applicability to areas categorized under the 1927 Forest Act and those designated as such after October 25, 1980.
- **Exemptions**: Forests converted for non-forest use after December 12, 1996, and those within 100 kilometers of the China-Pakistan border for potential linear projects are exempt.
- **Security Measures**: The central government gains authority to construct security infrastructure in areas up to ten hectares, even extending to vulnerable zones of up to five hectares.
- **Economic Initiatives**: Initiatives like ecotourism, safari, and environmental entertainment may be implemented to enhance forest-dependent livelihoods.

Motivation behind the Amendment

- **Godavarman Thirumulkpad Case**: A landmark legal case in 1996 influenced the interpretation of forest land and led to the inclusion of private forests under the 1980 law.
- **Industrial Progress**: Opposition to the law stemmed from concerns about hindering industrial growth and private landowners' interests.
- **Debate and Controversy**: The Forest (Conservation) Amendment Bill prompted extensive discussions but was passed with limited opposition, raising concerns among indigenous communities and human rights activists.

Prior Consent and Indigenous Rights

- **Amendments in 2016 and 2017**: These stipulated mandatory prior consent from tribal grama sabha for non-forest alterations, a provision now removed.

- **State-Level Engagement**: State governments may involve grama sabhas in decisions related to land acquisition but might be cautious due to perceived hindrance to economic initiatives.
- **Impact on Forest Rights Act (FRA)**: FRA implementation has faced challenges, with governments preferring to limit forest areas rather than amend the Act to address Adivasi claims.

Compensatory Afforestation Concerns

- **Ambiguities**: Past issues with the Compensatory Afforestation Act have arisen from ambiguities and land shortages.
- **Environmental Implications**: The new amendment mandates afforestation elsewhere for every parcel of land lost, but lacks specifications, leaving room for discretion.

Forest Governance and Federal Norms

- **Afforestation vs. Forest Governance**: Financial incentives for afforestation projects clash with forest governance principles, and concurrent list governance practices contradict federal norms.
- **Security and Environmental Concerns**: While internal environmental security is crucial, it often takes a backseat to external security threats, impacting States prone to natural disasters.

Conclusion

- The Forest Conservation Amendment Act of 2023 raises complex issues related to forest governance, indigenous rights, and environmental security.
- While aimed at addressing critical challenges, its implementation and impact on forest communities warrant careful consideration and debate to ensure a balanced approach to conservation and development.

25. AI Safety Summit 2023

Recently, the World's 1st Artificial Intelligence (AI) Summit was held at Bletchley Park, a historic site in UK where the Enigma code was cracked during World War II.

AI

- Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems.

- Specific applications of AI include expert systems, natural language processing, speech recognition and machine vision.

London Summit on AI

- **AI safety summit**- A meeting of 28 nations, including the U.S. and China, to discuss the risks and benefits of AI and how to regulate its development and use.
- The summit is centred around *'frontier AI',* which is defined as "highly capable foundation models that could possess dangerous capabilities sufficient to pose severe risks to public safety.
- **Aim**- To address the safety and ethical issues of AI, especially the advanced large language models (LLMs) that can generate natural language texts.
- **Two pronged agenda-**
    - o Identifying risks of shared concern and building the scientific understanding of them
    - o Building cross-country policies to mitigate the concerns
- **Key takeaways of the Summit**
    - o *Bletchley Declaration* was signed at the summit, pledging to work together to understand and manage the potential catastrophic effects of AI, especially the cutting-edge frontier AI that could threaten humanity's existence.
    - o The summit discussed the establishment of an *international register of frontier AI models* that will allow governments to assess the risks involved.
    - o The *world's first AI Safety Institute* has been launched in the *UK,* tasked with testing the safety of emerging types of AI.

What are the key highlights of Bletchley Declaration?

- **International Cooperation**- The declaration underscores the necessity for a united front in addressing the challenges and leveraging the opportunities that AI presents on a global stage.
- **Safety Standards**- It includes shared commitment to reducing risks associated with AI and ensuring that these technologies are developed with a safety-first approach.
- **Ethical AI**- The declaration ensures that AI technologies respect human rights, privacy, and democratic values, fostering a human-centric approach to AI.
- **Transparency and Accountability**- Both are seen as a cornerstone for building public trust and understanding, essential for the successful integration of AI technologies into society.

- **Knowledge Sharing**- It aims at accelerating the global understanding and mitigation of AI-related risks, promoting a culture of shared learning and continuous improvement in AI safety practices.

What are the global regulatory landscapes in Artificial Intelligence?

- **USA**- US had recently released a *Blueprint for an AI Bill of Rights.*
- **European Union-** It is discussing the promulgation of world's 1st comprehensive framework for regulation, which will define rules to govern the development and use of AI across EU.

EU plans to set European Board for Artificial Intelligence to audit and administer the new rules.

- **China**- It outlined a broad set of principles for international cooperation and global governance of AI.
- **India-** Niti Aayog published a series of papers on the subject of Responsible AI for All.
- **United Nations** - UN Secretary-General Antonio Gueterres has announced the creation of an advisory body that would address the international governance of AI with technology executives, government officials and academics.

26. Debate on 70 Hour Work Week

Recently Infosys founder N.R. Narayana Murthy sparked a debate, urging young Indians to work 70 hours per week.

What are the arguments in favour of 70 hour work week?

- **Economic productivity-** A long work week boost economic productivity, leads to employment opportunities and overall economic growth.
- **Worker efficiency-** It will increase the productivity and efficiency of the Indian workforce, which is currently one of the lowest in the world.
- This would meet market demands, generate profit in a competitive global market.
- **Developed country**- It is necessary for India to become a developed country and uplift the living standards of its people.
- **Skill acquisition**- It will enable young Indians to learn new skills, acquire more knowledge, and innovate more solutions for the country's problems.

- **Success stories**- It will help India emulate the success stories of Japan and Germany, which worked hard and long hours to rebuild their nations after the Second World War.

What are the arguments against the 70 hour work week?

- **One size does not fit all-** 89% of the Indian workforce is engaged in informal employment, compared to just 4.2% in Germany and 8% in Japan.
- Hence comparing these countries with India in labour productivity in not viable.
- **Exploitation-** A prolonged work week can lead to the exploitation of the working class and deprives their rights and benefits.
- **Health impacts -** It can negatively impact *mental and physical health*, resulting in stress, burnout, fatigue, sleep deprivation and other health problems.
- **Work-life balance**- As per ILO, companies that implement work-life balance policies benefit from increased retention of current employees, improved recruitment, lower rates of absenteeism and higher productivity.
- **Counterproductive**- It can reduce quality and efficiency of the work output, increase the chances of errors and accidents, lowers the morale and motivation of the workers.
- **Economic inequality**- Rich benefit from long work hours of working class which may widen the inequality between working class and rich.
- **Productivity-** Productivity is an attribute of skill, not time, and that reducing working hours can improve leisure and quality of life without reducing output value.
- Working more than eight hours a day also leads to *lower hourly output*.
  - *Belgium* has given the workers the right to work four days a week without a salary reduction to create a more dynamic and productive economy.
- **Outdated**- 70 hour work week is outdated as it does not suit the changing needs and preferences of the modern workforce, which values flexibility, autonomy and work-life balance.
- **Lacks funding**- Worker productivity depends on the amount of capital and the quality of institutions that support investment and innovation, hence just increasing working hours will have no impact on productivity.
- **Labour productivity**- India's average annual working hours stayed above 2,000 from 1970 to 2020, while the labour productivity increased marginally from 2 dollars per hour to 9 dollars in the same period.
- Hence the need of the hour is to increase productivity through technology rather increasing working hours.

Recently, the draft Broadcasting Services (Regulation) Bill, 2023 was released by the Ministry of Information & Broadcasting.

Key features of Broadcasting Services (Regulation) Bill 2023

- **Aim-** To bring a consolidated legal framework for the broadcasting sector.
- **Modernization**-The Bill seeks to replace Cable Television Networks (Regulation) Act, 1995 and other policy guidelines governing the broadcasting sector.
- **Extension**- It extends the regulatory purview to the OTT content, digital news and current affairs which are currently regulated through Information Technology Act, 2000.
- **Regulation-** The bill provides regulatory provisions for various broadcasting services under a single legislative framework.
- **Adaptability-** The bill adapts to the dynamic world of OTT, Digital Media, DTH, IPTV, and more, promoting technological advancement and service evolution.
- **Comprehensive** - It provides definitions for contemporary broadcasting and other important technical terms for the first time.
- **Differentiated approach**- It allows for a differentiated approach to Programme and Advertisement Code across various services and requires self-classification by broadcasters and robust access control measures for restricted content.
- **Inclusivity-** It aims to make broadcasting more inclusive and accessible to people with disabilities through the use of subtitles, audio descriptors, and sign language.
- It also has a provision for Disability Grievance Officer.
- **Accessibility-** It has provisions for infrastructure sharing among broadcasting network operators and carriage of platform services.
- The Bill streamlines the 'Right of Way' section to address relocation and alterations more efficiently
- **Institutional support**-

- **Dispute Resolution Mechanism**- The bill established a structured mechanism for dispute resolution.
- **Penalty-** It provides statutory penalties for operators and broadcasters, such as advisory, warning, censure, or monetary penalties.

What are the concerns of the bill?

- **Affects autonomy**- The regulation could affect the autonomy, as OTT platforms work on a "pull model" where consumers choose the content.
- **Impact on content innovation**-The stringent and subjective codes could lead to content censorship and affect the audience experience.
- **Over regulations**- The bill extends the regulatory purview to OTT platforms which are regulated under IT Act.
- **Pricing regime**- As OTT contents are regulated under the bill, the government may bring the pricing regime for OTT content as it has done for television channels.

28. LEAP AHEAD

The Ministry of Electronics & Information Technology (MeitY) has recently introduced the **LEAP AHEAD** initiative to support and accelerate the growth of technology **startups in India**.

LEAP AHEAD Initiative:

- The **Launchpad for Tech Entrepreneurs towards Accelerated growth and Pioneering Ahead** is a collaborative project involving the **Software Technology Parks of India** (STPI) and **The Indus Entrepreneurs** (TiE).
- **Aim:** To promote the success of startups in the **technology sector**.
- **Eligibility:** Startups registered with Department for Promotion of Industry and Internal Trade (**DPIIT**) and having raised **at least Rs 25 lakh** from external investors or bootstrapped qualify for the program.
- It will benefit **technology startups** at various stages of their **development**, including **scaling**, **growth**, **diversification**, and **expansion** into new regions.
- Startups can receive **up to Rs 1 Crore** in funding and a **three-month mentorship** program with virtual and in-person sessions for a holistic learning experience.
- It will empower **young entrepreneurs** in **smaller Indian cities**, especially **women**, to achieve their aspirations and foster innovation in **tier 2 and 3 cities**.

What is a Startup?

- **Startups** are young companies founded to develop an **innovative product or service**, bring it to market and make it **irresistible and irreplaceable for customers**.
- They are characterized by their focus on **innovation**, **growth**, and the pursuit of a **unique business idea**, **product**, or **service**.

- **Aims** to address product shortcomings and create new goods or services, **disrupting established industry practices**.
- They are commonly associated with **technology** and may operate in various **industries**, including **software**, **biotechnology**, **e-commerce**, and more.

About Software Technology Parks of India (STPI):

- STPI is a premier **Science & Technology autonomous society** under Ministry of Electronics and Information Technology (**MeitY**).
- It was established in **1991** with the objective of **encouraging**, **promoting**, and **boosting** the **export** of **software** from India.
- STPI is establishing **Centres of Entrepreneurship** (CoEs) or **Technology incubators** for building India's leadership in **technology** areas in a collaborative manner.
- Provides **infrastructure**, **skilling**, **mentoring**, market connect and **supports startups**.

29. FDA Approves World's First Chikungunya Vaccine: Ixchiq

- The Food and Drug Administration (FDA) in the US granted approval for the world's inaugural vaccine against chikungunya.

Ixchiq: The Chikungunya Vaccine

- Developed by European vaccine manufacturer Valneva, this vaccine will be available under the brand name Ixchiq.
- It has been authorized for use in individuals aged 18 and above who are at elevated risk of chikungunya exposure.
- It is administered as a single dose via injection into the muscle.
- The vaccine contains a live, attenuated (weakened) form of the chikungunya virus. It may induce symptoms similar to those experienced by individuals with the disease.

Understanding Chikungunya

- **Symptoms**: Chikungunya is characterized by severe joint pain, limited mobility, and accompanying fever. It is a viral infection (CHIKV) primarily transmitted by Aedes aegypti and Aedes albopictus mosquitoes, earning it the status of an "emerging global health threat."
- **Global Prevalence**: Chikungunya is prevalent in Africa, Asia, and the Americas, with sporadic outbreaks reported in other regions. Since 2004, outbreaks have become more frequent and widespread, partly due to viral adaptations facilitating transmission by Aedes albopictus mosquitoes.

- **Symptoms**: Alongside joint pain, chikungunya symptoms include joint swelling, muscle pain, headache, nausea, fatigue, and rash. While severe cases and deaths are rare, they may be underreported due to misdiagnosis, often confused with dengue or zika.
- **No Cure**: Currently, there is no cure for chikungunya, and treatment is primarily focused on symptomatic relief, including analgesics for pain, antipyretics for fever, rest, and adequate fluid intake.
- **Prevention**: Prevention efforts primarily revolve around mosquito control through public health initiatives, civic maintenance, and personal measures such as using medicated mosquito nets and eliminating stagnant water sources to hinder mosquito breeding.

30. World's first vaccine for Chikungunya

- On November 9 2023, the U.S. Food and Drug Administration (FDA) approved the world's first vaccine for chikungunya, developed by Valneva, a European vaccine manufacturer, under the brand Ixchiq.

Chikungunya: An Emerging Global Health Threat

1. Characteristics
   - o Chikungunya is a viral infection transmitted by Aedes aegypti and Aedes albopictus mosquitoes, causing severe joint pain, fever, and impaired mobility.
   - o It is prevalent in Africa, Asia, and the Americas, with sporadic outbreaks reported globally.
2. Symptoms
   - o Joint pain, muscle pain, headache, nausea, fatigue, rash.
3. Prevention and Control
   - o Public health outreach and civic maintenance for mosquito control.
   - o Use of medicated mosquito nets and prevention of water stagnation to avoid mosquito breeding.

Ixchiq Vaccine: Composition and Approval

1. Composition
   - o Given as a single injection into the muscle, it includes a live, attenuated form of the chikungunya virus, eliciting symptoms resembling those of the actual disease.
2. Clinical Studies and Side Effects:

- o Safety was evaluated in clinical studies with about 3,500 participants. Commonly reported side effects are headache, fatigue, muscle and joint discomfort, fever, nausea, and tenderness at the injection site.
3. Efficiency Evaluation
   - o Evaluated based on immune response data from a U.S. study in individuals aged 18 and older. Effectiveness demonstrated through the level of antibody known to be protective in non-human primates.

Role of the Vaccine

1. Unmet Medical Need
   i. The approval addresses an unmet medical need for a disease with limited treatment options.
   ii. Offers an important advancement in preventing chikungunya, a potentially debilitating disease.
2. Global Rollout
   i. Fast-track approval may expedite the rollout in countries where chikungunya is prevalent, including Brazil, Paraguay, India, and parts of western Africa.

31. State of the economy

The article highlights India's economic challenges, including concerns about post-COVID recovery sustainability, vulnerabilities to geopolitical shifts, a growing dependency on Chinese imports, and a decline in industrial growth rates. The central idea revolves around acknowledging these challenges and the imperative for strategic interventions to ensure long-term economic resilience and growth

Key Highlights

- **GDP Growth and Recovery**: India's GDP projected to grow by 6.3% in 2023-24, showcasing post-COVID recovery. Positive signs of resilience, but concerns persist about employment quality and inflation.
- **Geopolitical Shifts and Vulnerabilities**: Globalization ended in 2022-23, exposing India to geopolitical vulnerabilities. Calls for a reevaluation of economic strategies to navigate changing global dynamics.
- **Trade Deficit with China**: India grapples with a soaring trade deficit with China. Strategic threat due to dependency on Chinese imports; calls for diversification.
- **Industrial Woes and Growth Rates**: Industrial growth rates, especially in capital goods, have regressed. Decline in key sectors signals a threat to overall economic stability.

- **Public Sector Investment**: Public sector investment appears stagnant despite reported growth. Doubts about credibility underscore the need for transparent reporting.
- **Social Development Challenges**: India's Human Development Index (HDI) ranking has slipped. Recognition of challenges in social development, prompting a need for improved strategies.

Challenges

- **Sustainability Concerns Post-COVID Recovery**: Quality and sustainability of post-COVID recovery raise concerns, necessitating comprehensive strategies.
- **Vulnerabilities to Geopolitical Shifts**: Geopolitical vulnerabilities impact India's economic stability, demanding adaptation of economic policies.
- **Dependency on Chinese Imports**: Rising trade deficit with China poses economic frailty, urging the urgent need to diversify imports.
- **Decline in Industrial Growth**: Regression in industrial growth rates, especially in capital goods, requiring targeted interventions for revitalization.

Key Phrases and Terms for making mains answer value added

- **Post-COVID Resilience**: Short-term economic success after the COVID-19 pandemic.
- **Geopolitical Realignment**: Recognition of shifts in global dynamics impacting India's economic strategies.
- **Trade Deficit Dynamics**: China's influence on India's economic vulnerabilities due to a soaring trade deficit.
- **Industrial Regression**: Decline in growth rates, especially in capital goods, signaling industrial challenges.
- **Credibility of Public Sector Investment**: Doubts raised about the accuracy of reported public sector investment growth..

Analysis of the article in balanced way for mains score improvement

- **Short-Term Success vs. Long-Term Resilience**: Balancing short-term GDP growth with the need for sustainable and inclusive recovery.
- **Adapting to Geopolitical Realities**: Necessity to adapt economic policies to navigate geopolitical shifts and ensure stability.
- **Diversification for Economic Stability**: Addressing the trade deficit challenge by diversifying imports and promoting self-reliance.
- **Revitalizing Key Sectors for Growth**: Targeted interventions required to revitalize industrial growth, especially in crucial sectors.

Key Data and Facts

- **Projected GDP Growth (2023-24):**3%
- **Trade Deficit with China**: Strategic Threat
- **Industrial Growth Decline**: Capital Goods
- **HDI Ranking (2021):** Decline

The Way Forward

- **Sustainable and Inclusive Growth:** Develop comprehensive strategies for sustained and inclusive growth post-COVID.
- **Adaptive Economic Policies:** Adapt economic policies to navigate evolving global dynamics and ensure stability.
- **Diversification and Self-Reliance**: Diversify imports and boost domestic production for economic self-reliance.
- **Targeted Interventions for Industrial Revitalization**: Implement targeted interventions to revitalize key industrial sectors and stimulate overall economic growth.

32. G20 Summit

External Affairs Minister Dr S Jaishankar recently, said that the New Delhi Leaders' Declaration adopted during the **G20 Summit** will be remembered.

- He said this in his opening remarks at the Foreign Ministers' Session of the second Voice of Global South Summit.
- The External Affairs Minister reaffirmed India's commitment to the Global South through an extensive range of development projects in 78 countries.
- He said these projects are demand-driven, outcome-oriented, transparent and sustainable.
- He stressed that as India embraces digital delivery, promotes green growth and ensures affordable health access, it will always have the Global South at the centre of its international partnerships.

G20 Summit:-

- **Establishment: 1999. (G20)**
- **Historical Background**: The G20 forum was established by the finance ministers and central bank governors of seven countries – Canada, France, Germany, Italy, Japan, the U.K., and the U.S. after a meeting in Washington DC.
- **Members**: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, the Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the U.K., the U.S. and the European Union.
- **Presidency of the G20:** it **rotates every year** among members.

- o The country holding the presidency, together with the previous and next presidency-holder, forms the **'Troika'**.
- o **India** assumed the presidency of the G20 grouping from Indonesia, in 2022 and will hold the post for a year.
- o During India's presidency, **India, Indonesia and Brazil** will form the troika.
- The G20 **does not have a permanent secretariat or Headquarters.**

33. Amal Kumar Raychaudhuri and the Raychaudhuri Equation

- Amal Kumar Raychaudhuri, an Indian physicist, overcame obstacles and restrictions to make a profound contribution to the field of general relativity.

A.K. Raychaudhuri: Early Life

- Born in Barisal, now in Bangladesh, in 1923.
- Educated in Kolkata.
- Developed a deep interest in general relativity during his time at the Indian Association of Cultivation of Science (IACS).

Challenges Faced

- While passionate about general relativity, Raychaudhuri was instructed by the director of IACS, Meghnad Saha, to work on topics of the director's choosing or leave.
- Raychaudhuri, with limited career options, complied with Saha's directive but continued to explore the mysteries of gravity in his spare time.

Theoretical Breakthrough: The Raychaudhuri Equation

- Raychaudhuri focused on the problem of singularities in general relativity, specifically points where gravity could become infinitely strong.
- Developed a unique approach that bypassed complex mathematical challenges.
- Introduced the Raychaudhuri equation, a simple and elegant formula that showed the inevitable convergence of matter in curved spacetime.
- The equation hinted strongly at the existence of singularities, a critical aspect of general relativity.

Influence on Renowned Physicists

- Raychaudhuri's equation played a pivotal role in the work of Stephen Hawking and Roger Penrose.

Solutions

- **Need for Protection and Restoration:**

  - ▪ Urgent measures are required to protect and restore the mudflat ecosystem in Kadalundi to maintain its ecological balance and global significance.
  - ▪ Government initiatives should focus on creating awareness and actively implementing conservation strategies.

- **Balancing Ecotourism and Conservation:**

  -
  - o While efforts to promote ecotourism in the Kadalundi-Vallikunnu Community Reserve (KVCR) are commendable, they should be balanced with the conservation of the mudflat ecosystem.
  - o Sustainable practices in ecotourism can coexist with the preservation of critical habitats.

35. Plastic Credits

To cut down on plastic pollution, plastic credits are one of the tools being considered in UN-led talks in Nairobi.

Plastic credits

- **Plastic credits** - It is a market based mechanism that allows companies or individuals to pay for plastic waste collection and recycling in exchange for a credit that offsets their own plastic production or use.
- It is similar to carbon credits that many fossil fuel companies have purchased to try to offset their greenhouse gas emissions.
- **Facilitation-** The exchange is facilitated by accreditors like Verra, marketplaces like the Plastic Credit Exchange (PCX), or private companies that trade in credits or organize credit-generating activities.
- When companies buy enough plastic credits to offset their plastic footprint over a set period of time, they may claim **net-zero plastic.**

Advantages of plastic credits

- **Combat plastic pollution**- It can reduce the amount of plastic that enters our oceans, rivers, and landfills.

- **Financial incentive-** It finances waste management infrastructure which helps in plastic waste collection and recycling and fosters sustainable solutions.
- **Circular economy**- The plastic materials are reused and recycled instead of being discarded or leaked into environment.
- **Eco friendly**- They reduce the environmental impacts of plastic pollution, such as greenhouse gas emission, water consumption, land use and biodiversity loss.
- **Income support**- Money raised from waste collection and recycling credits can generate income for the informal waste sector people who pick through waste.
- **Awareness generation**- It will help in engagement among consumers, businesses and government on the issue of plastic pollution and the need for more sustainable solutions.
- **Proper accreditation**- These credits are measurable, traceable, and verifiable, ensuring that they represent actual reductions in plastic waste.
- **Corporate social responsibility (CSR) -** By purchasing plastic credits, companies can demonstrate their commitment to sustainable practices and social responsibility.

Disadvantages of plastic credits

- **Inefficient-** They are not a substitute for reducing plastic use and waste at the source, which is the most effective way to prevent plastic pollution and its environmental consequences.
- **Lack of clarity**- They are not standardized or regulated, which can confuse and mislead consumers and corporates.
- **Limited scope-** They may not address the social and economic aspects of plastic waste management, such as the rights and livelihoods of informal waste collectors.
- **Poor quality-** They may not account for the quality and durability of the recycled plastic, which may affect its environmental performance and value.
- **Unsustainability-** They promote a linear model of plastic production and disposal which would not foster circular economy and result in wasteful production.
- **Oversight-** Plastic credits may not address the root cause of plastic pollution, which is the overproduction and consumption of single-use plastics.
- They may create a false sense of sustainability and divert attention from the need to reduce and redesign plastic products.
- **Inaccurate data -** They may rely on self-reported data or inaccurate measurements, which could lead to fraud and double counting.

- **Fundamental flaw-** Certain environmental groups have criticised plastic credits as a greenwashing tool, stating that it encourages burning plastics and creates more emissions and health problems.

What lies ahead?

- Plastic credits should align with the existing frameworks and indicators such as **Global Reporting Initiative** and use a common methodology to measure and report their impact.
- They should have independent auditors and certifiers to validate claims and processes and avoid conflict of interest.
- They should support livelihoods and well-being of waste collectors and recyclers and create value for low-value plastic.
  - An example of a socially inclusive scheme is **Plastic Bank**.

36. Why India should invest in mining

The article highlights India's opportunity in the emerging critical minerals market in Afghanistan's Hindu Kush, emphasizing responsible mining amidst environmental considerations. It connects this opportunity to the global shift towards electric mobility, with the potential for job creation.

Key Highlights:

- **Afghanistan's Riches:** The Hindu Kush region in Afghanistan holds minerals worth a trillion dollars, a potential game-changer.
- **Mobility Shift:** Global movement from oil to electric vehicles is escalating demand for critical minerals.
- **Indian Opportunity:** Geological hints suggest the possibility of similar mineral wealth in the northern Indian side of the Hindu Kush range.
- **Untapped Potential:** India, with vast unexplored land and advancements in deep-sea mining, may have undiscovered mineral riches.

Challenges:

- **Governance and Environmental Concerns:** Past issues highlight the need for robust laws to balance environmental concerns with job creation.
- **Political Tensions:** Historical discord between the central government and Congress on mining needs resolution for cohesive policies.
- **Legislative Balance:** Striking a balance between ecological conservation and job creation requires nuanced legislation.

- **Private Sector Role**: Private sector involvement is crucial for capital-intensive mining, demanding careful governance.

Key Phrases for value addition:

- **"Afghanistan: Saudi Arabia of lithium"** emphasizes the potential of the Hindu Kush region.
- **"Transition from oil to electric mobility"** underlines the global shift and increasing demand for critical minerals.
- **"New Middle East: Hindu Kush mountain range"** positions the region as a significant player in the emerging critical minerals market.
- **"Global critical minerals race"** highlights the competitive dynamics in securing these resources worldwide.

Analysis:

- **Global Shift:** The global transition to electric mobility is a key driver behind the soaring demand for critical minerals.
- **Indian Potential**: India, with its untapped resources, is poised to benefit from the increasing global demand for minerals.
- **Balancing Act:** Striking a balance between environmental conservation and job creation is essential for sustainable mining practices.
- **Private Sector Significance:** In the capital-intensive mining sector, the private sector's involvement is crucial for efficiency and technological advancements.

Key Data:

- **Trillion-Dollar Potential:** Afghanistan's Hindu Kush region is estimated to hold minerals worth a trillion dollars.
- **Geological Reports:** Reports suggest the possibility of untapped mineral deposits in the northern Indian side of the Hindu Kush range.
- **Exploration Status:** Less than 10% of India's landmass has been explored, with only 2% mined.

Way Forward:

- **Legislation:** Enforcing robust environmental, labor, and land laws is crucial for responsible and sustainable mining.
- **Private Exploration:** Encouraging large-scale private exploration for critical minerals is vital for efficiency and technological advancements.
- **Deep-Sea Prospects:** Leveraging emerging deep-sea mining technologies can open new avenues for resource exploration.
- **Balance Priority:** Striking a balance between environmental conservation and job creation should be a priority in future mining policies.

37. A renewed focus on emerging technologies

The Indian military's strategic embrace of emerging technologies, encompassing AI, cyber, and unmanned systems, reflects a forward-looking vision. While showcasing diverse initiatives, the article underscores the need for organizational shifts, jointness, and collaboration with civilians to effectively integrate these technologies

Key Highlights:

- **Diverse Initiatives**: Indian military strategically adopts AI, cyber, and unmanned systems, with each service branch leading initiatives.
- **Strategic Vision**: Reflects a forward-looking approach, leveraging technology for operational and strategic advantages.
- **AIDef Showcases**: Defence Ministry's 'AIDef' presents Defence AI Council and Project Agency, showcasing a commitment to integrate AI across allied organizations.
- **Indigenous Emphasis**: Highlights a push for indigenization, aligning with national goals of self-reliance in defence.

Challenges:

- **Organizational Shift Needed**: Warns against viewing technology as a 'plug and play,' stressing the need for organizational and doctrinal changes.
- **Data-sharing Imperative**: Advocates for a cultural shift, urging military to share data with civilians for technology to reach its full potential.
- **Crucial Interconnectedness**: Identifies jointness and interoperability challenges, crucial for effective integration of emerging technologies.
- **Need for Unified Commands**: Stresses the urgency of joint theatre commands to streamline operations and enhance coordination.

Key Phrases:

- **Civil-Military Partnerships:** Emphasizes collaborative defence, necessitating partnerships with scientists, academics, and technologists.
- **Shared Responsibility**: Highlights the shared responsibility of the military and civilians in navigating the complexities of emerging technologies.
- **Historical Challenge:** Explores the perpetual military challenge of adapting to change, underlining the complexity of integrating emerging technologies.
- **Strategic Evolution**: Recognizes the need for a strategic evolution to effectively incorporate emerging technologies into military operations.

Analysis:

- **Operational Synergy**: Advocates for joint theatre commands to achieve operational synergy and seamless integration of emerging technologies.
- **Unified Strategy**: Stresses the importance of a unified strategy for joint operations, minimizing challenges related to technology integration.
- **Specialization Advocacy**: Urges a shift towards specialization in human resources practices, aligning officer expertise with the demands of emerging technologies.
- **Intellectual Inclination:** Recommends extended tenures for officers inclined towards technological domains, fostering intellectual capabilities.

Key Data:

- **'UDAAN' Initiative:** The Indian Air Force is utilizing AI, cyber, and virtual reality under 'UDAAN' to address operational, logistical, and training needs.
- **Integrated Unmanned Roadmap:** The Navy is progressing with emerging technologies, including an Integrated Unmanned Roadmap, as part of project 'Swavlamban.'
- **Defence Cyber Agency**: Established in 2018, the Defence Cyber Agency addresses threats in the cyber domain.
- **Defence Space Agency**: Launched in 2018, it focuses on threats and capabilities related to space.
- **Comprehensive Approach**: Reveals the military's comprehensive approach, identifying 45 niche technologies for diverse military applications.
- **Strategic Preparedness**: Illustrates a strategic preparedness to harness a spectrum of technologies for operational superiority.
- **Communication Enhancements:** Mentions GSAT-7 and GSAT-7A launches, highlighting advancements in military communication capabilities through satellite technology.
- **Space for Defence**: Showcases India's utilization of space capabilities for defence purposes, marking a significant leap in technological applications.

Way Forward:

- **Integrated Planning**: Calls for integrated planning to address challenges in jointness and interoperability, laying the groundwork for successful technology integration.
- **Cross-Service Collaboration**: Advocates for cross-service collaboration, emphasizing the need for unified efforts to maximize the potential of emerging technologies.
- **Private Sector Integration**: Recommends openness to technocrats from the private sector, fostering innovation and expertise infusion for defence.

- **Innovation Ecosystem**: Calls for the creation of an innovation ecosystem, encouraging collaboration between defence and civilian talent for holistic technological advancements.

This transformative journey requires a multi-faceted approach, encompassing strategic vision, organizational adaptability, collaborative partnerships, and talent infusion to fully realize the potential of emerging technologies in the military landscape.

38. Production Gap Report 2023

The **2023 Production Gap Report** "Phasing down or phasing up? Top fossil fuel producers plan even more extraction despite climate promises" was recently released by the **UNEP** (United Nations Environment Programme).

Production Gap Report 2023:

- The Production Gap Report 2023 is the **4th edition** of the Production Gap Report that tracks whether the between governments' planned **fossil fuel production** and global production levels is consistent with **limiting global warming** to **1.5°C** or **2°C**.
- It was **first** launched in **2019**.
- It provides details on country profiles for **20 major fossil-fuel-producing** countries including India.

Key definitions in the report:

- **Carbon dioxide equivalent (CO2eq):** The amount of carbon dioxide (CO2) emissions that would cause the same **warming** over a given period as an emitted amount of greenhouse gases (GHGs).
- **Greenhouse gases (GHGs):** Atmospheric gases that **absorb** and **emit infrared radiation**, trap **heat**, contribute to the greenhouse effect, and cause global warming.
  - **Examples**: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF6) etc.
- **Just transition**: It refer to a shift to a **low-carbon economy** that ensures **disruptions** are minimized and benefits maximized for stakeholders.
- **Long-term low-emission development strategies (LT-LEDS):** Under the Paris Agreement, all countries have to communicate **LT-LEDS** by **2020**, by taking into account their common but differentiated responsibilities and capabilities.

- **Multilateral development bank (MDB)**: An international financial institution chartered by **multiple countries** to support economic and social development in lower-income countries.
- **Nationally determined contributions (NDCs):** Submissions by Parties to the Paris Agreement that states their **climate change action** to achieve the Agreement's goal of limiting **global temperature** increase to below **2°C**, while pursuing efforts to **limit** the increase to **1.5°C**.
  - Parties have to communicate new or updated NDCs by **2020** and every **5 years** thereafter.

Key highlights of the report:

- Countries still plan to produce more than **double** the amount of fossil fuels in **2030**, than the amount that would be consistent with limiting warming to 1.5°C.
- Major producer countries have pledged to achieve **net-zero emissions** and launched initiatives to reduce **emissions** from fossil fuel production, but none have committed to reduce **coal**, **oil**, and **gas production** in line with limiting warming to 1.5°C.
- For each fossil fuel, the combined levels of production being planned by **10 high-income countries** alone will exceed global **1.5°C-consistent** pathways by **2040**.

About the UNEP:

- The UNEP is a specialized agency of the United Nations that aims to promote **international cooperation** on environmental issues, foster the adoption of sustainable development practices, and address global environmental challenges.
- It was established in **1972**, by the UN General Assembly, following the **Stockholm Conference** on the Human Environment held earlier.
- It is headquartered in **Nairobi, Kenya**.
- It is a member of the United Nations Development Group (**UNDP**).
- The **United Nations Environment Assembly** is UNEP's **governing** body, which has **193** members and meets every **two years**.

Noteworthy initiatives:

- It publishes the **Global Environment Outlook**, a flagship report that assesses the state of the world's environment.
- It played a key role in the development and implementation of the **Montreal Protocol** on Substances that Deplete the Ozone Layer.

- o The protocol is an international treaty designed to protect the ozone layer by phasing out the production of substances responsible for ozone depletion.
- It is involved in the implementation of the **Convention on Biological Diversity**, an international treaty aimed at promoting the conservation of **biodiversity** and its **sustainable** use.
- UNEP Finance Initiative (UNEP FI) is a partnership between **UNEP** and the **global financial sector** that helps to understand the impacts of **environmental** and **social considerations** on **financial** performance and promotes sustainable finance practices.

39. Fact Check Unit

Tamil Nadu government recently ordered the creation of a fact check unit to verify the authenticity of information about the government on all media platforms.

Provisions of fact check unit

- **Objective**- To act as a deterrent to creators and disseminators of fake news.
- To combat misinformation, disinformation and hate speech.
- **Power-** The unit can take suo motu cognisance of any information related to the government for fact-checking or act on complaints from various sources.
- **Key components –** It includes
  - o **Social Media Cell-** To propagate the news about the government's welfare schemes and initiatives.
  - o **Central task force (CTF)-** Based in Chennai, it is the official fact check unit of the State.
- **Complaint processing-** The CTF will use fact-checking tools and government sources to sort the complaints into actionable or non-actionable categories.
- **Legal action**- The CTF will seek advice from the legal and police departments and forward the actionable complaints to the relevant authorities.
- **IT Rules 2021-** It is created in reference to the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, issued by the Central government to regulate online content and platforms.

Why fact check unit is unconstitutional?

- **Against Article 19-** It violates the freedom of speech and expression guaranteed by Article 19(1)(a) of the Indian Constitution.

- **Curbs dissent**- The fact check unit could potentially censor any dissenting or critical views of the government.
- **Affect media's independence** - It could undermine the role of independent media and journalism.
- **Lack of clarity**- The unit lacks clear criteria for determining what constitutes fake, false or misleading information.
- **Political interference**- The fact check unit could be influenced by political or ideological biases and arbitrarily label any information as false or misleading, without providing evidence or justification.
- **Infringes Article 21-** It could access and monitor the online activities of the users and compel the intermediaries to disclose their personal information thus infringing the right to privacy.
- **Limitations of GO-** The constitutional right to express opinions and information can only be restricted by a law passed by the State, not by a Government Order (GO).
- **Lack of fair hearing**- The order does not give a chance for the author of the post to defend themselves, and gives the government the power to decide and act on the authenticity of the information.
- **Conflict of interest**- The government becomes the judge, jury, and executioner on the authenticity of information.
- **State run fact check unit**- European Commission's Code of Practice on Disinformation constitutes independent network of fact-checkers, but the State run units will harm the society.
- **Exceeded authority**- It exceeds the scope of Information Act, 2000 under which it is established.
- The intermediaries could lose their independence and efficiency due to the unit, which could burden them with excessive and unjustified duties, without any legal authority or approval.
- **Centre's FCU**- The Centre's constitution of FCU under IT rules, 2023 is put on hold after it was challenged before Bombay High Court.

What lies ahead?

- The monitoring network should follow principles of natural justice including giving prior notice, right to appeal and judicial oversight.
- FCU need to be transparent and non-discriminatory to prevent selective application.

40. Impact of climate change on health

As India gets ready for the 28th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP28), it is important to examine how climate change affects the country's health. India's inadequate health systems make our population particularly vulnerable to the impact of climate risks on health. Climate change affects health directly, causing more sickness and death. In more indirect ways, it affects nutrition, reduces working hours, and increases climate-induced stress.

Key Highlights:

- **Vulnerability of Health Systems**: Inadequate health infrastructure in India heightens susceptibility to climate change impacts on health.
- **Concerns Over Temperature Rise**: Failure to cap global temperature rise raises fears of uninhabitable regions with a 2°C increase.

Challenges:

- **Double Morbidity Burden**: Convergence of communicable and non-communicable diseases worsens health challenges.
- **Neglected Non-communicable Diseases:** Climate change impact on mental health and non-communicable diseases often overlooked in India.

Key Phrases and Analysis:

- **Urban Heat Island Effect**: Unplanned urbanization intensifies the urban heat island effect, straining the urban health system.
- **Poorly Managed Health Risks**: Inadequate recognition and management of health risks associated with climate change-induced factors.

Key Data and Facts:

- **Temperature-Related Health Risks**: 1% increase above 29°C correlates with an 8% rise in hospitalization rates, emphasizing direct temperature impact.
- **Urbanization Challenges:** Unplanned urbanization exacerbates climate-related health risks, necessitating interventions in urban planning and public health.

Way Forward:

- **Holistic Mitigation Strategies**: Mitigation involves understanding climate change pathways, modifying health information systems, and upstream interventions.
- **Multi-level Action:** Coordinated action at global, regional, and local levels, involving researchers, policymakers, and governments for meaningful change.