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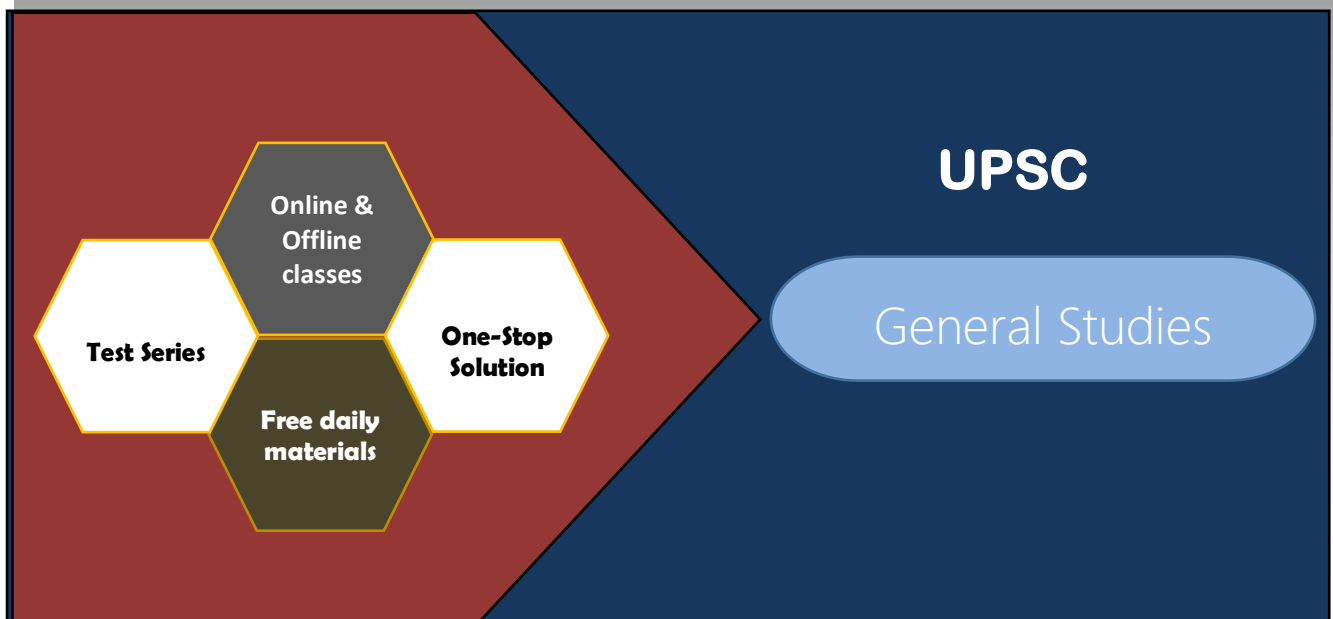
Monthly current affairs magazine

SHIKSHA

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THE HINDU & INDIAN EXPRESS**



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GS 1 : Heritage, culture ,Geography of the World and Society

1. Benefits of Demographic dividend

India becoming the most populous country can bring more boom than bane.

What are the advantages of India's population structure?

- **Total fertility rate of 2.0** - Indicates that India is moving towards the population stabilization.
- **Worldwide market** - India has the potential to become a worldwide market for both production and consumption.
- **Cheaper workforce** - Can lower the manufacturing cost and be a leverage to make India, a worldwide manufacturing market hub.
- **Demographic dividend** - With 68% of the working age population in 2023, India continues to have a demographic window of opportunity for the next 35 years.

How can India translate demographic dividend to economic dividend?

- **Employment or job creation** - If India can generate sufficient and quality jobs for its working age population, realization of demographic dividend will become a reality.
- **Education and skills** - Skilled and educated workforce is critical for better productivity of any economic activity.
- **Healthy environment** - Skilled and healthy workforce reduces excessive public spending on health and helps in greater capital creation.
- **Good governance** - Good governance being transparent creates a healthy environment which will increase the efficiency and productivity of the population.

What are the challenges to Indian demographic dividend?

- **Stereotypes** - Existence of gender stereotypes binding women to household works.
- **IT sector** - Even though India is doing well at software outsourcing the share of population is very low.
- The rise of Artificial Intelligence may be a hindrance to the boomed IT industry replacing jobs like coders.

- **Skilled labor** - The number of people skilled in information and communication technology is abysmally low.
- **Census** - Absence of the Census 2021 to know the absolute changes in the demographic dividend.

What is the need of the hour?

- Policies that can provide high-quality education, good health care, respectable employment opportunities, good infrastructure, and gender empowerment.
- India's young population needs to be nurtured and transformed into being productive and well-paying jobs.

2. Heat Waves and its Impacts

There is a sharp rise in the urban temperature in India leading to the exposure of strong heat stress during summer season.

Heat Wave

- Heat wave is a condition of air temperature which becomes fatal to human body when exposed.
- Quantitatively, it is defined based on the temperature thresholds over a region in terms of actual temperature or its departure from normal.

Criterion for declaring heat wave

- Heat wave is considered if maximum temperature of a station reaches at least 40 degree C or more for plains and at least 30 degree C or more for hilly regions.
- **Based on Departure from Normal**
 - **Heat Wave:** Departure from normal is 4.5⁰ C to 6.4⁰ C
 - **Severe Heat Wave:** Departure from normal is >6.4⁰ C
- **Based on Actual Maximum Temperature**
 - **Heat Wave:** When actual maximum temperature $\geq 45^{\circ}$ C
 - **Severe Heat Wave:** When actual maximum temperature $\geq 47^{\circ}$ C
- If above criteria met at least in 2 stations in a Meteorological sub-division for at least two consecutive days and it declared on the second day.

- **For coastal areas** - When maximum temperature departure is 4.5 degree C or more from normal, heat wave may be described provided actual maximum temperature is 37 degree C or more.

Warm night is considered only when maximum temperature remains 40 degree C or more.

Favorable conditions for Heat wave

- Transportation / Prevalence of hot dry air over a region (There should be a region of warm dry air and appropriate flow pattern for transporting hot air over the region).
- Absence of moisture in the upper atmosphere (As the presence of moisture restricts the temperature rise).
- The sky should be practically cloudless (To allow maximum insulation over the region).
- Large amplitude anti-cyclonic flow over the area.
- It is occurring mainly during March to June and in some rare cases even in July but peak month of the heat wave over India is May.

What are the impacts of heat wave?

- Loss of human life
- Decreased work productivity
- Increased out of pocket health expenditure
- Agricultural crop losses
- Prone to heat-related illness such as Heart disease, Mental illness, Poor circulation and Sunburn

How to mitigate extreme heat wave events?

- **Increasing green cover** - Greening could help mitigate heat waves and urban forest should also need to be increased.
- **Wetlands** - The wetlands needs to expanded and restored.
- **Water bodies** - Restoring dead and decaying ponds/lakes should be given utmost importance.
- **Urban heat effect** - Reducing the Urban heat island effect by reducing the use of preambled materials in the civic infrastructure and residential construction.
- Enhancing natural landscapes in urban areas will also address the effect.
- **Urban building standards** - It should be upgraded to avoid usage of heat absorbent galvanized iron and metal roof sheets.

- **Cleaner cooking fuels** - Use of it will reduce indoor air pollution, which may also help reduce urban heat.
- **Natural vegetation** - Can be increased in the streets with the low ventilation.
- **Public transportation** - This can reduce the pollution and mitigate the extreme heat.
- **Landfill management** - A push for waste segregation, along with solid waste management at source can reduce the landfills fires which may contain methane.
- **Forecasting ability** - It should be widened to include the impacts of extreme heat in the food production.

3. Bioluminescence observed at Visakhapatnam beach

The blooms of *Noctiluca Scintillans*, commonly known as “sea sparkle or bioluminescence” are being witnessed along the coasts of Visakhapatnam, AP.

Noctiluca Scintillans

- *Scintillans* is a bioluminescent specie that brightens the seawater during the night.
- It grazes on other micro-organisms such as larvae, fish eggs, and diatoms. But the unicellular phytoplankton that lives inside it can photosynthesize, turning sunlight into energy.
- They help their host cell survive even when food was scarce.
- Thus, *N. Scintillans* acts as both a plant and an animal

Threats posed

- According to marine experts, the phenomenon is an indicator of climate change.
- While smaller blooms may be harmless, slow-moving larger blooms may have an impact on deep-sea fishes.
- The toxic blooms of *N. Scintillans* were linked to massive fish and marine invertebrate kills.
- Though the species does not produce a toxin, it was found to accumulate toxic levels of ammonia, which is then excreted into the surrounding waters, possibly acting as the killing agent in blooms.
- They have displaced microscopic algae called diatoms, which form the basis of the marine food chain. This has deprived food for the planktivorous fish.

4. Uthirameur Inscription: Ancient Tamil proof of Democratic Provisions

PM Modi referred to an over 1,100-year-old inscription found in Uthirameur, Tamil Nadu, which talks about rules for a local body, including provisions for disqualifying a member.

Uthiramerur inscriptions

- Uthiramerur inscriptions are a set of ancient Tamil inscriptions found in Uthiramerur, a town in the Kanchipuram district of Tamil Nadu.
- These inscriptions date back to the 10th century CE and were created during the reign of the Chola dynasty, which ruled over a large part of South India.
- It was crafted under the rule of Parantaka Chola I (907 – 956 AD.)

What does the inscription say?

The temple inscriptions of Uthiramerur provide historical descriptions of rural self-governance.

(1) Sabha and Ur

- Uthiramerur had two village assemblies: *Gram Sabha* and *Ur*.
- Sabha was exclusively a Brahmin assembly, while the Ur was made up of people belonging to all classes.
- Sabha managed land sales, endowment fund for dredging a tank, and assigned duties to the Ur for managing deserted land.
- Sabha assembled in the hall of the local temple and was summoned through beating of the drums.
- The inscriptions contained references to *variyars*, the executive officers subordinate to the Sabha.

(2) Administrative System

- The executive powers were given to committees called *Variyams* during the Chola king Parantaka I's reign (907–955).
- Each variyam constituted 6 to 12 members, depending on the importance of its functions.
- The first inscription (dated 919 CE) described the rules for electing committee members.
- The second inscription (dated 921 CE) described some amendments to these rules to make them more practical.

(3) Committees and Qualifications

- The village had 30 *kudumbus* or *wards*, from which the members of various committees were selected annually.
- The inscription lays down the qualifications for a nominee, including ownership of tax-paying land, residence on self-owned land, age between 35 and 70 years, knowledge of mantras and the Brahmanas, and not being associated with certain offenses or activities.
- The candidates were selected via *Kudavoloi* (pot of palm leaf tickets) system.
- The tenure of a committee member was 360 days.
- Anyone found guilty of an offense was immediately removed from the office.

(4) Punishments

- The Uthiramerur inscriptions indicate that parading on a donkey was a punishment for offenses such as incest, adultery, theft, and forgery.

5. Earth4All Initiative

Recently published **Earth4All Initiative** predicted the world's human population.

Earth4All Initiative

- Earth4All is a **collective initiative of leading economic thinkers, scientists, and advocates.**
- It is convened by **The Club of Rome, the Potsdam Institute for Climate Impact Research, the Stockholm Resilience Centre and the Norwegian Business School.**
- It is guided by a **Transformational Economics Commission**, made up of economic thinkers from across the globe to explore new economic thinking and test the model outcomes.
- Its global campaign aims to make the Earth4All vision a reality, **advocating for governments to adopt policies that will enable resilient and healthy societies.**

Findings of the Report:-

- The researchers advance two scenarios:
 - **Too Little, Too Late:** predicts that if economic development continues as it has in the last five decades, the **world's population would peak at 8.6 billion in 2050, and decline to 7 billion by 2100.**

- **The Giant Leap:** the researchers conclude that the **population will peak at 8.5 billion by 2040 but then rapidly decline** to around 6 billion by 2100.
- This will be due to our investments in poverty alleviation, gender equity, education and health, ameliorating inequality, and food and energy security.
- The Earth4All report contradicted the U.N. **'World Populations Prospects 2022'** report, which predicted that the global population **would steadily rise to 10.4 billion** in 2080 and then stabilise around that number in 2100.

Indian Scenario:-

- As of 2022, **more than half the world's population lives in Asia.**
 - **China and India** are the two most populous countries.
- According to the **United Nations Population Fund (UNFPA)**, while India's population growth is stabilising, it is still growing at 0.7% Steps taken by India for Stabilising Population
- **Mission Parivar Vikas Compensation scheme for sterilization acceptors:** Under the scheme, MoHFW provides compensation for loss of wages to the beneficiary.
- **Clinical Outreach Teams (COT) Scheme:** for providing Family planning services through mobile teams
- **Scheme for Home delivery of contraceptives by ASHAs** at the doorstep of beneficiaries.
- **Family Planning Logistic Management and Information System (FP-LMIS):** A dedicated software to ensure **smooth forecasting, procurement and distribution of family planning National Family Planning Indemnity Scheme (NFPIS)** under which clients are insured in the eventualities of death, complication and failure following sterilization.
- Ensuring **quality of care in Family Planning** services by establishing **Quality Assurance Committees** in all states and districts.

6. Famous Basohli painting from Jammu and Kashmir's Kathua gets GI tagging

Recently, the world-famous Basohli painting from Jammu and Kashmir's Kathua district has obtained the Geographical Indication (GI) Tag.

- It was approved by the **National Bank for Agriculture and Rural Development (NABARD).**

Benefits of having a GI tag

- The GI tag to a product, goods, or specialty grants **legal protection** to the original producers and prevents their unauthorized use by **third parties**.
- It also **boosts exports, promotes goods at the international level**, and brings economic prosperity to producers and stakeholders.

About Basohli Paintings (Kathua):

- The Pahari School of Art developed in the mountainous regions of **Basohli, Kulu, Guler, Kangra, Jammu, and Garhwal** between the **17th and 19th centuries**.
- The first center of the Pahari school materialized at **Basohli** with its own bold and flamboyant style.
- Basohli gave birth to a unique style of **miniature paintings** that witnessed a **fusion of mythology and traditional folk art**.
- Under **Sangram Pal (1635-1673)** and later **Kirpal Pal (1678-1693)** that Basohli paintings flourished.
- **Vaishnavism** was adopted under **Sangram Pal** and hence the early paintings, depict **Krishna as the protagonist**.
- Basohli paintings matured under the **patronage of Kirpal Singh**.
- **Features:**
 - Use bright and bold colors like **red, yellow, and blue** on the borders
 - Generally flat background
 - **Facial features-** a prominent nose and lotus-shaped eyes.
- **Famous artists:** Devidasa and Manaku

7. Nagri Dubraj Rice

Recently, Chhattisgarh's Nagri Dubraj rice variety, Basohli Painting of Jammu, Banarasi Paan, and Langda mango were accorded the geographical indication tag.

About Nagri Dubraj Rice:-

- It is known as the **Basmati of Chhattisgarh** because of its fragrance.
- It is produced by a women's self-help group "**Maa Durga Swasahayata Samuh**".
- The grain finds reference in **Valmiki Ramayana**.
- It is an **indigenous variety** and has **small grains, is very soft to eat after cooking**.

About Basohli Painting:-

- Basohli painting belongs to the **Kathua district** of Jammu.
- It belongs to the **Pahari School of Paintings**.

- It has a unique style of **miniature paintings** that have a **fusion of mythology and traditional folk art**.
- The **characteristic features** of these paintings were **the use of bright and bold colours like red, yellow, and blue in the borders, as well as for the generally flat background**.
- The other distinguishing part was **the facial features- a prominent nose and lotus-shaped eyes**.
- The **female figures can be categorised into three types** according to their attire.

About Banarasi Paan:-

- **It is made in Banaras, UP.**
- It is known for its **delicious taste**.
- It is made using **special ingredients** in a unique way.
- It is an **exotic combination** of **areca nuts, catechu (kattha) of fresh betel leaf, tobacco, and slaked lime**.
- Other ingredients like **rose petals (gulkand), silver foil (Parekh) etc.** are added to it.

About Langda mango:-

- Langra aam is believed to have **originated in Banaras (now Varanasi)**.
- It **maintains its green colour** after it gets ripe, while other mangoes change into yellow-reddish colour.
- This pulpy fruit is cultivated in mid-season in states including **Uttar Pradesh, Bihar, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Orissa, Punjab, West Bengal and Rajasthan**

About GI Tag:-

- It is used for **products which have specific geographical origins** or have **qualities that can be attributed specifically to the region**.
- The GI tags are issued as per the **Geographical Indications of Goods (Registration and Protection) Act, of 1999**.
- It is a part of the **intellectual property rights** that comes under the **Paris Convention for the Protection of Industrial Property**.
- This tag is valid for a **period of 10 years** following which it can be renewed.

8. Carbon Pricing: The Way For Decarbonization

Environmental destruction has been a consequence of boosting GDP growth in every country due to the absence of a price for natural resources like air and forests. To combat this, the biggest economies of the G-20 must agree on valuing nature, including by pricing carbon effluents. As president of the G-20 this year, India can take the lead in carbon pricing, which will open unexpected avenues of decarbonization.

Pricing Carbon at present

- **Three ways of pricing carbon:** carbon tax, emissions trading system (ETS), and import tariff on the carbon content
- **GHG emission:** 46 countries price carbon, covering only 30% of global greenhouse gas (GHG) emissions
- **IMF's proposed price:** International Monetary Fund (IMF) proposed price floors of \$75, \$50, and \$25 a ton of carbon for the United States, China, and India, respectively
- **Benefits:** Economy-wide benefits of carbon pricing in terms of damages avoided generally outweighed the cost it imposed on individual industries in EU, British Columbia, Canada, and Sweden
- **Boost to renewables:** Carbon pricing makes investment in renewable energy such as solar and wind more attractive.

Carbon pricing for India

- Among the three ways of pricing, India could find a carbon tax appealing as it can directly discourage fossil fuels, while raising revenues which can be invested in cleaner sources of energy or used to protect vulnerable consumers
- IMF proposed \$25 a ton as a starting point for India
- The main obstacle is the argument by industrial firms about losing their competitive advantage to exporters from countries with a lower carbon price
- All high, middle, and low-income countries should set the same rate within each bracket

Way ahead: Need for Global Carbon Pricing

- **The first movers will be the most competitive:** High enough carbon tax across China, the US, India, Russia, and Japan alone (more than 60% of global effluents), with complementary actions, could have a notable effect on global effluents and warming. The first movers will be the most competitive

- **India's leadership:** India can play a lead role by tabling global carbon pricing in the existential fight against climate change as president of the G-20 summit this September
- **Communication is important:** Any type of carbon pricing faces stiff political opposition therefore communicating the idea of wins at the societal level is vital.

Conclusion

- India can take the lead in carbon pricing as president of the G-20 this year. By pricing carbon effluents, India can promote investment in renewable energy, protect vulnerable consumers, and contribute to the global fight against climate change. However, there is a need for effective communication to ensure that the idea of carbon pricing is understood at the societal level, and any type of carbon pricing faces stiff political opposition.

9. Vaikom Satyagraha

Kerala Chief Minister and Tamil Nadu Chief Minister are to jointly inaugurate the centenary celebrations of Vaikom Satyagraha.

Vaikom Satyagraha

- Vaikom is a serene town in Kottayam, Kerala.
- The Vaikom Satyagraha was launched on **March 30, 1924** against the ban imposed on members of marginalized communities in the surroundings of Vaikom Mahadevar Temple.
- It marked the *dawn of temple entry movements* across India.
- It was launched by leaders in Kerala such as **T.K. Madhavan, K.P. Kesava Menon and George Joseph**, on the advice of Mahatma Gandhi.
- A march comprising of 'upper caste' Hindus who supported the reform commenced in Vaikom and ended at the capital of Trivandrum.
- They marched with 25,000 signatures of 'forward caste' Hindus, for opening the Vaikom's temple roads to all castes.
- **Large-scale participation of women** was witnessed for the first time during the Satyagraha, marking the passage of women into the socio-political consciousness of the country.
- The protest sustained itself for more than one and a half years, leading to many arrests and satyagrahis being jailed.

- Even the Akalis from Punjab travelled to Vaikom to supply food to the protesters.

What is the role of Periyar?

- Leaders such as Neelakandan *Nampoothiri and George Joseph* requested Periyar to lead the protest.
- Periyar accepted the request and led the protest making the protest successful.
- *Thiru. Vi. Kalyanasundaram (Thiru.Vi.Ka.)* conferred the title *Vaikom Veerar (Hero of Vaikom)* on Periyar.
- Tamil Nadu played a pivotal role in Vaikom Satyagraha, which symbolised a struggle by the untouchables.
- Emperumal Naidu and Sivathanu Pillai were prominent leaders in Nagercoil, Tamil Nadu.

What are the impacts of temple entry movement?

- In 1925, the government of the Travancore princely state declared that people could enter three of the four streets around Vaikom temple thus bringing the protest to an end.
- It paved way for the temple *entry proclamation of Kerala in 1936.*
- In 1928, backward castes got the right to walk on public roads in all temples in Travancore.
- It led to various temple entry movements across India thereby promoting social justice and equality for all.

10. ICJ and Climate Justice

On March 29, the United Nations General Assembly passed a resolution that requested an advisory opinion from the International Court of Justice (ICJ) regarding the obligations countries have towards climate change reduction.

Vanuatu seeks climate reparations

- The resolution, which was passed by consensus, was pushed through by the Pacific Island of Vanuatu, which was devastated by Cyclone Pam in 2015.
- This resolution is significant because it invokes article 96 of the U.N. Charter and seeks to clarify the legal obligations of states to protect the climate system.

Resolution A/77/L.58: What does it seek?

The draft resolution (A/77/L.58) asks the ICJ to deliberate on two questions:

1. **Obligations of states:** Under international law to ensure the protection of the climate system for present and future generations
2. **Legal consequences:** For states that have caused significant harm to the climate system, particularly for Small Island Developing States (SIDS) and for people who are harmed?

Frameworks invoked by Vanuatu

The resolution refers to several international protocols, including the-

1. Paris Agreement
2. United Nations Convention on the Law of the Sea and
3. Universal Declaration of Human Rights

What do sponsors of the resolution want?

- The sponsors of the resolution expect an advisory opinion from the ICJ to bolster the efforts under the global climate pledge.
 - The opinion is also expected to clarify more contentious issues, such as-
1. Climate reparations by the developed world,
 2. Legal culpability for countries that don't achieve their NDC promises
 3. Climate support to the most vulnerable parts of the world

Where does India stand over this?

- India has been silent about the resolution, although it is generally supportive of climate justice and holding the developed world accountable for global warming.
- India did not co-sponsor the draft resolution, unlike its neighbors Bangladesh, Maldives, Nepal, and Sri Lanka.

If ICJ intervenes, what would change?

- **Only advisory opinion:** The ICJ is being asked for an advisory opinion, which would not be legally binding as an ICJ judgment.
- **Puts moral obligation:** The ICJ carries "legal weight and moral authority".
- **Symbolic significance:** ICJ's clarification of international environmental laws would make the process more streamlined, particularly as the COP process

looks at various issues like climate finance, climate justice, and the most recently agreed to “loss and damages” etc.

Conclusion

- The resolution passed by the UNGA requesting an advisory opinion from the ICJ is a step in the right direction towards clarifying the legal obligations of states to mitigate climate change and protect the environment for future generations.
- To ensure the success of this effort, countries need to continue to engage in diplomatic efforts and work towards shared goals.
- Countries should also actively participate in the ICJ process and respect the advisory opinion it delivers.

GS 2 : Polity, Governance, International Relations

1. State of extra-judicial killings in India

The Uttar Pradesh Special Task Force has recently encountered two persons who were wanted in connection with the Umesh Pal murder case.

Extra judicial killings

- It refers to the deliberate, unlawful killings of an accused person by any government authority outside of any legal framework. (Popularly known as “encounters”).
- It is illegal, as it violates the basic human rights guaranteed to every individual.
- The accused person in such cases is not even given a right to prove himself/herself innocent before the court of law.
- The physical torture, sexual harassment, or mental torture of the accused in custody (i.e. custodial violence) also comes under the ambit of extra-judicial killings.

What is the status of extra-judicial killings in India?

- According to a report, for the last 6 years the cases of encounter killings have increased nearly five-fold.

- India has seen a 15% decline in **registration** of encounter killing cases in the six years between 2016-17 and 2021-22.
- The cases shot up by 69.5% in the last two years from 2021-22 to arch 2022.

What are the reasons for extra-judicial killings?

- **Public support** - People often support these extra-judicial killings because they think that the court will not provide timely justice.
- **Political support** - Extra-judicial killings are considered as achievements of ruling political party and gather greater support from the public.
- **Work pressure** - Pressure from Government as well as Public in important cases results in brutal behaviour by the police on criminals for getting information or to get their confession.
- **Punitive violence** - Many police officials believe that the only way to control the crime and criminals is to torture the criminals so that people should have a state of fear in their mind when they are about to commit a crime.
- **Positive re-enforcement** - The officers executing these killings are considered heroes in society as the public thinks such killings to be the best way of cleaning up society.
- **Lack of proper training** - Absence of legitimate preparation of police authorities regularly increases the third-degree techniques.
- **Inefficiency of police** - Encounters are an easy way to create an image, that law and order are being maintained in the area.

What is the legislative status in India?

- **Legislation** - No law in India exclusively defines encounter killings.
- But it will be classified under Cases Registered against State Police Personnel for Human Right Violation in the National Crime Records Bureau (NCRB).
- **Indian Penal Code** - Sections from 96-106 of Indian Penal Code, 1860 deals with the Right to Private Defence.
- Under these sections, death in an encounter will not amount to a criminal offence, when it is done as self-defence.
- **CrPC** - Section 46 of the Criminal Procedure Code (CrPC), 1973 allows the police officers to use any degree of force which is required to arrest the accused or prevent the accused from escaping.
- **Supreme Court** - In 2014, the Supreme court in the People's Union for Civil Liberties Vs State of Maharashtra case formulated 16-point guidelines on extra-judicial killings.
- **National human Rights Commission** - In 1997, the National Human Rights Commission (NHRC) under the Chairmanship of Justice MN Venkatachaliah issued a guideline for encounter cases.

The Supreme Court in *Om Prakash Vs State of Jharkhand* (2012) stated that extra-judicial killings are not recognized as legal by our criminal justice administration system and they amount to State sponsored terrorism

What are the guidelines provided by the Supreme Court and the NHRC?

- **16-point guidelines** - In *People's Union for Civil Liberties vs State of Maharashtra*, 2014, the Supreme court provided 16-point guidelines to be followed during investigation of police encounters.
- The guidelines included the
 - Mandatory registration of FIR
 - Provisions for magisterial inquiry
 - Keeping the written records of intelligence inputs
 - Independent investigation by bodies such as the CID.
- The court directed that these norms must be strictly observed as a law declared under Article 141 of the Indian Constitution.

Article 141 says that the law declared by the Supreme Court shall be binding on all other courts in Indian territory.

- Prior to the Supreme court guidelines, the National Human Rights Commission (NHRC) under the Chairmanship of Justice MN Venkatachaliah issued a guideline for encounter cases in 1997.
- It deals with the procedure to be followed, obligation of states, compensation to be awarded, etc.

What are the steps to be taken?

- **Mandatory FIR** - To make amendments in CrPC to provide for mandatory registration of FIR where a public servant causes death of a person in self-defense.
- **UN Convention against Torture** - India should take immediate measures to ratify UN Convention against Torture and the enactment of Prevention of Torture Bill, 2017.

The UN Convention Against Torture (UNCAT) is an International human rights treaty adopted in 1984. India signed the treaty but not yet ratified it.

- **Implementation** - Ensure the strict implementation and monitoring of Supreme Court and the NHRC guidelines on fake encounter deaths.
- **Training Programme** - Training the police officials to handle every unforeseen situation and protect the accused in police custody is essential.

2. Ambedkar Vs Gandhian view on separate electorates

In the early 1930s, the issue of separate electorates for lower castes became a source of major debate between the two of India's tallest leaders: Dr BR Ambedkar and Mahatma Gandhi.

What is the system currently followed in India?

- India has a system of caste-based reservations.
- It sets aside a certain number of seats for people belonging to castes that historically experienced social and economic discrimination.
- Reservations are applicable on higher education, government jobs, and even political office.
- There are a certain number of seats reserved for scheduled castes (SCs) and (STs) in all legislative bodies, including Parliament.

What is the alternative suggested against reservation?

- The alternative advocated by Dr BR Ambedkar was the separate electorates.
- **Separate electorate** - It is a mode of election with double vote, one for Scheduled castes (SCs) to vote for an SC candidate and the other for SCs to vote for in the general electorate.

Indian Councils Act, 1909 introduced for the first time, the principle of communal representation in India and created a separate electorate for Muslims

What are the different views held by Gandhi and Ambedkar?

Ambedkar	Gandhi
Views on caste	
<ul style="list-style-type: none"> • Ambedkar rejected the institution of caste itself and emphasized political power in the hands of lower castes. 	<ul style="list-style-type: none"> • Gandhi advocated for reforming the caste system by abolishing untouchability.
On separate electorates	
<ul style="list-style-type: none"> • Ambedkar suggested separate electorates to empower lower castes. • Joint electorates might help to integrate lower castes with 	<ul style="list-style-type: none"> • Gandhi opposed the separate electorate as it would destroy Hinduism by wedging the community and help the British divide and rule.

Hindu fold, but it is not sufficient to challenge their submissive position.

- Gandhi felt that it would reduce the power that caste Hindu leadership enjoyed by breaking the consolidated Hindu fold.

What is the Poona Pact of 1932?

- **Gandhi's fast** - In 1932, Gandhi began a fast unto death in the Yerawada Jail against the British decision to create separate electorates based on caste.
- With pressure from Gandhi, Ambedkar signed the historic Poona Pact in 1932.
- According to this pact, Hindu joint electorate was retained and gave reserved seats to the depressed classes.
- It was signed by Ambedkar on behalf of the depressed classes and Madan Mohan Malviya on behalf of the Upper Caste Hindus.
- Ambedkar was never satisfied with the outcome of the Poona pact.

3. Women in Maoism

Women who join the Maoist movements in the hope of bringing about a revolution are often subject to the same structural violence that they are supposed to fight.

Maoism

- Maoism is a form of communism developed by Mao Tse Tung.
- It is a doctrine to capture State power through a combination of armed insurgency, mass mobilization and strategic alliances.
- The Maoists also use propaganda and disinformation against State institutions as other components to further their agenda.

Mao called this process, the '*Protracted Peoples War*', where the emphasis is on military line to capture power.

Who are the Indian Maoists?

- The largest and the most violent Maoist formation in India is the *Communist Party of India (Maoist)*.
- The CPI (Maoist) is an amalgamation of many splinter groups, of which the two most important groups are:
 - The Communist Party of India (Marxist-Leninist),

- People War and the Maoist Communist Centre of India.
- The CPI (Maoist) and all its frontal organizations have been banned under the Unlawful Activities (Prevention) Act (UAPA), 1967.

What is the participation rate of women in Maoist movements?

- Women constitutes 35-40% of the total cadre.
- Higher representation of women helps Maoists in establishing better connections with tribals and also in hiring more young people.
- Despite their higher participation, the number of women in top echelons of their leadership are negligible.
- There is only one woman in the, more than 20 member, Central Committee of the Communist Party of India (Maoist).
- Their representation in the Dandakaranya Special Zonal Committee (DKSZC) is also negligible.

What are the causes for high women participation?

- *Coercion* and threats from Maoists.
- *Gender inequality* and the Maoist's commitment towards women rights.
- *Police brutality* and atrocities against Scheduled Caste/Tribe (SC/ST)
- *Marginalization* from the rural economy and the perception of Maoism as relief from poverty and unemployment

What are the struggles faced by women in Maoist movements?

- **Sexual exploitation** - Though Maoists profess discipline and integrity, exploitation of women prevails in the party.
- The party has a code of conduct for solemnising marriage but no code for issues of divorce and polygamy.
- **Reproduction** - Male cadres are forced to undergo vasectomy either before marriage or immediately after marriage.
- In case a woman cadre gets pregnant, she has to undergo abortion.
- **Health challenges** - Loin cloths are still used as sanitary napkin.
- It is also limited and to be shared by two women.
- Women are not permitted to liberally use water and is considered taboo to use water from streams or ponds for washing.
- The food they provided for women has *low nutritional values*.

How to address the challenges?

- **Woman specific policies** - State has to address women's ground realities in the region that push them toward radicalization.
- **Utilize the opportunity** - State policies should focus on the disadvantageous position that they face in the party.
- **Welfare measures** - The current State schemes mostly focus on hard-power security responses and not the welfare demands of the populace itself.
- **Infrastructure** - To provide infrastructure in the Red corridor region.
- **Economic inequality** - Mainstreaming of Maoists by providing basic amenities and reducing economic inequalities.

4. India signs MoU with World Food Programme for sending wheat to Afghanistan

India signed an MoU with the World Food Programme (WFP) to send 10,000 metric tonnes of wheat to Afghanistan.

Reason: Utilizing WFP supply chain

- The MoU signed between India and the World Food Programme (WFP) paves the way for sending 10,000 metric tonnes of wheat for the people of Afghanistan.
- The WFP has a massive supply chain and logistics infrastructure in Afghanistan that could help in ensuring that the food supply reaches those who need it the most and no one is excluded.
- The MoU also ensures that the assistance is coordinated and delivered in an effective and efficient manner, and that it reaches the most vulnerable sections of the Afghan population.

What is World Food Programme (WFP)?

- The WFP is a humanitarian organization that is part of the United Nations system.
- It was established in 1961 and has its headquarters in Rome, Italy.
- The WFP is the world's largest humanitarian agency focused on combating hunger and promoting food security.

Scope of Operations

- The WFP operates in more than 80 countries, delivering food assistance to people in need.

- WFP programs reach over 97 million people each year, including children, pregnant and nursing women, and people affected by emergencies, such as conflict or natural disasters.
- It provides a range of food assistance, including in-kind food assistance, cash and voucher-based transfers, and specialized nutritious foods.

Funding and Support

- The WFP is funded entirely by voluntary contributions from governments, companies, and individuals.
- The organization works closely with donors to ensure that funding is used effectively and efficiently, and to ensure that it is directed to the areas and programs where it is needed most.

Governance and Structure

- The WFP is governed by an Executive Board, which is composed of 36 member states that are elected to three-year terms.
- The Executive Board provides oversight and strategic direction to the organization, and approves the WFP's programs and budgets.
- The WFP is headed by an Executive Director, who is appointed by the Secretary-General of the United Nations.
- The organization has more than 17,000 staff worldwide, including professionals in fields such as logistics, nutrition, and food security.

Impact and Achievements

- Over the years, the WFP has made significant contributions to addressing hunger and promoting food security worldwide.
- The organization has responded to numerous emergencies, providing food assistance to millions of people affected by conflict, natural disasters, and other crises.
- The WFP has also supported programs that help people access the food they need to lead healthy, active lives, and that promote sustainable agriculture and development.
- The WFP has been recognized for its efforts, receiving the Nobel Peace Prize in 2020 in recognition of its contributions to combatting hunger and promoting peace.

5. Autism Spectrum Disorder

On World Autism Day (April 2), there should be focus not only on raising awareness of the illness but also on the importance of providing a positive and supportive environment.

Autism Spectrum Disorder (ASD)

Autism affects 18 million people in India. ASD affects approximately 1% to 1.5% of children aged 2 to 9 years.

- **About** - Autism spectrum disorders (ASD) are a collection of disorders defined by issues such as social interaction and communication difficulties.
- People with ASD may behave, communicate, interact, and learn in ways that are different from most other people.
- **Cause** - It is a developmental disability caused by differences in the brain.
- It has environmental and genetic causes.
- **Fragile X Syndrome (FXS)** is the leading inherited cause of autism in 4% of the global population.
- **Transmission** -It is transmitted genetically for some people.
- **Symptom** -People with ASD often have problems with social communication, interaction and restricted or repetitive behaviors.
- People with ASD may also have different ways of learning, moving, or paying attention.
- **Diagnosis** -There is no medical test such as blood test to diagnose the disorder.
- ASD can sometimes be detected at 18 months of age or younger.
- **Treatment** -There is **no cure** for autism.
- Treatments for ASD seek to reduce symptoms that interfere with daily functioning and quality of life.
- Treatment plans usually involve multiple professionals and are catered to the individual.

What are the challenges?

- Low awareness
- Lack of basic services
- Poor diagnosis
- No national programme on autism

- Lack of systematic estimates
- Lack of central medical registry
- Cultural differences in who gets a clinical diagnosis of autism
- No medical insurance coverage for autism
- Variances in the availability of psychiatrists (less than 10,000 psychiatrists are available in India)

What measures can be taken?

- **Need for an all-India programme** - A national programme needs 3 essential components - assessment, intervention, and awareness.
- **Non-specialists** -Non-specialist workforce (Accredited Social Health Activist /Anganwadi workers, parents/caregivers) and appropriate digital technology can be used to widen the reach.
- **Early intervention** - Simple behavioral interventions that parents/caregivers can be trained on that can have a positive impact.
- **Creation of linkage** -Researchers, clinicians, service providers can be linked to the end-users in the autism community in India.
- **Public awareness** -Can serve to reduce stigma associated with autism and related conditions.
- **Private sector** - Partnership with the private sector would also be vital to take survey and support the victims.

6. Japan in Indo-Pacific Geopolitics

The recent visit of Japanese Prime Minister to India reinforces the centrality of Japan in the emerging geopolitics of the Indo-Pacific.

India-Japan relationship

- **Buddhism** -Exchange between Japan and India is said to have begun in the 6th century when Buddhism was introduced to Japan.
- **Peace treaty** -Japan and India signed a peace treaty and established diplomatic relations on 28th April 1952.
- This treaty was one of the first peace treaties Japan signed after World War II.
- **Yen loans** - Japan started providing yen loans to India in 1958 as the first yen loan aid extended by Japanese government.
- **Global Partnership between Japan and India** -Established by Prime Minister Atal Bihari Vajpayee in 2000.
- **Japan-India Annual Summit** -Since April 2005 Japan-India annual summit meetings have been held in respective capitals.

- **Global and Strategic Partnership** -Japan-India relationship was elevated to the "Global and Strategic Partnership when Prime Minister Manmohan Singh visited Japan in December 2006.
- **Special Strategic and Global Partnership** -In 2014, the bilateral relationship was upgraded to Special Strategic and Global Partnership.

What is Indo-Pacific Region?

- The Indo-Pacific region is a geopolitical area that spans two regions of the Indian Ocean and the Pacific Ocean.
- The region stretches from the west coast of the United States to the west coast of India.
- The Indo-Pacific is a 24 nation's regional framework comprising the tropical waters of the Indian Ocean, the western and central Pacific Ocean, and the seas connecting the two in the general area of Indonesia.

What is Japan's New Plan for a Free and Open Indo-Pacific (FOIP)?

- **Rules-based order** -Lays stress on the need to uphold the rules-based order and respect each other's territorial sovereignty
- **Guiding perspective** -Proposes a guiding perspective to be shared by the international community.
- **Cooperation and collaboration** -Work and embrace diverse voices and create an atmosphere of cooperation and collaboration rather than division and confrontation.
- **Rule-making through dialogue** -Should be encouraged for creating a cooperative atmosphere.
- **Like-minded countries** -Japan will work alongside other like-minded countries in the region with India being an indispensable partner.
- **Public and private funds** -Japan would mobilize a total of more than \$75 billion in public and private funds in the Indo-Pacific region by 2030 in infrastructure development.
- **Official development assistance (ODAS)** -Guidelines for ODA for the next 10 years and introduce an "offer-type" cooperation and a new framework for "private capital mobilization-type" grant aid.
- **Four pillars** -

What is the need for Japan's New Plan for a Free and Open Indo-Pacific (FOIP)?

To address the following issues

- Russia-Ukraine war
- Growing Chinese assertiveness in the South China Sea
- Food security and cyber space privacy
- Ensuring the freedom of the seas

7. On defamation law: a blow against freedom of speech and expression

Former Congress President Rahul Gandhi was sentenced to two years of prison over a 2019 defamation case.

Evolution of the defamation law in India

- At the beginning of the 17th century, there was frequent public disorder as Englishmen often challenged each other to violent duels to avenge personal insults.
 - This forced the authorities to intervene and prosecute defamation as a criminal offence and this was the origin of “criminal libel”.
- People had criticised “criminal libel” as “the greater the truth, the greater the libel.”
- In 1860, the British borrowed the idea of criminal libel into the newly formulated Indian Penal Code (IPC).
- **Section 499 of the Indian Penal Code (IPC)** criminalised intentionally defamatory statements.
- Such defamatory statements were only exempted if they were made for the “public good”.

Supreme Court’s views on defamation law

- The Supreme Court of India in 2016, dismissed a petition filed by Subramaniam Swamy challenging the constitutionality of Section 499 of the Indian Penal Code (IPC).
- The apex court held that the “**Right to Reputation**” was extended under Article 21 of the Constitution which guarantees the “Right to Life and Personal Liberty”.
 - The court declared that the “**Right to free speech**” guaranteed under **Article 19(1)(a)** had to be “**balanced**” against the “**Right to Reputation**” under Article 21.
 - However, the court did not explain how the two rights are to be balanced.
- Furthermore, the Supreme Court held that criminal defamation law protected the feeling of “fraternity or solidarity” between the members of society.

Critical evaluation of the Supreme Court’s views

- Critics believe that the observations made by the apex court which include the elevation of “reputation” to the level of a fundamental right, and to have it prevail over free speech, have no basis or backing in the text or the structure of the Constitution.
- Further, critics point out the fact that the court has radically expanded the scope of the “Right to Life and Personal Liberty” guaranteed under Article 21 and has used this expanded definition to force the state to undertake various social and welfare measures for the benefit of citizens.
 - However, in the case of defamation law, the court has used Article 21 to cut down the fundamental right to freedom of speech and expression instead of using it as a shield to protect the individual against State persecution.
- Experts have said that the principle of “constitutional fraternity” invoked by the court is not a part of **Article 19(2) of the Constitution**, which mentions reasonable restrictions the state can impose on the freedom of speech.
 - Critics have also argued that the term “Fraternity” mentioned in the Constitution’s Preamble is meant to complement civil rights, not to destroy them.
 - Thus, critics have questioned how free speech can be restricted by invoking the principle of constitutional fraternity.
- There has also been criticism over the silence of the court over Section 499 of IPC not allowing an “honest mistake” as a defence against defamation.

8. Clean-tech as the next big thing in rural India

Details:

- Several women from rural India have adopted clean energy-based livelihood technologies to catalyze their businesses. They use technologies like solar refrigerators, silk-reeling machines, biomass-based cold storage, bulk milk chillers, distributed renewable energy, etc.
- According to a study by Council on Energy, Environment, and Water (CEEW), it was found that out of the 13000 early users of clean tech livelihood appliances, around 80% are women.

Advantages of Distributed Renewable Energy:

- Apart from reducing gender-assigned laborious activities, Distributed Renewable Energy (DRE) helps women farmers and entrepreneurs by increasing income opportunities through mechanization.

- It is expected that by 2030, around 30 million women-owned Micro, small and medium enterprises (MSMEs) will employ nearly 150 million people.
- DRE livelihood technologies have immense potential to transform rural livelihoods, especially for women. For instance, it has a \$50 billion market opportunity in India.

Associated Concerns and Measures to boost Distributed Renewable Energy:

- DRE is perceived as a high-risk purchase, particularly among women users as they have a higher starting price and women users have lower risk appetite due to socio-economic reasons.
 - To address this challenge technology providers should make early users their demo champions/sales agents to market the products and provide credibility.
- It should be remembered that people want to touch and see high-tech and high-ticket-size products.
 - Thus, hyperlocal events and demos should be organized as they create spaces for women to network, become aware of the product and connect with people for procuring, financing, and using these machines.
- Limited avenues to avail financing for clean technology products remain a major challenge.
 - Provisions should be made to enable easy finance.
 - Moreover, technology manufacturers and promoters should also provide facilities for after-sales services and buy-backs.
 - Evidence of the economic viability of the product should be displayed and promoters should offer partial default guarantees.
- Only technology provision is not enough in rural areas.
 - It is important to support forward and backward market linkages.
 - To generate higher income, it is important to help the producers find and connect to consumption hubs in urban areas.
- Women also struggle due to their limited mobility and networks outside their village.
 - In this case, women can be collectivized or a business model can be established that will allow them to sell to an intermediary and ensure a regular revenue stream.
- It should also be noted that the private sector entities often lack the kind of reach and scale that can be provided by the government.
 - Thus, there should be policy convergence among various ministries and departments.

9. Taiwan- China: India in the Event of a Cross-Strait Conflict

- India needs to proactively consider its military, diplomatic, and economic responses to a potential cross-strait conflict between China and Taiwan.

Background

PLA's frequent military exercises near Taiwan: The People's Liberation Army (PLA) is conducting frequent military exercises near Taiwan, increasing the risk of escalation in the Taiwan Strait.

- **Forceful reunification:** Some analysts believe that China, under President Xi Jinping, is preparing for a forceful reunification campaign by 2027.

The impact of a cross-strait conflict between China and Taiwan on India

Disruption of trade: India's trade through the South China Sea (SCS) accounts for nearly 55% of its total trade with the Indo-Pacific region. A conflict in the Taiwan Strait could severely disrupt this trade, affecting India's economy. Additionally, trade with Taiwan, China (India's second-largest trading partner), East Asia, and some Southeast Asian countries would also be severely impacted.

- **Strategic implications:** As a member of the Quad, India would face serious strategic consequences in the event of a cross-strait conflict. New Delhi would be expected to respond in support of its partners, particularly the United States, which may lead to a significant shift in the regional balance of power and India's international commitments.
- **Escalation along the Line of Actual Control (LAC):** India's involvement in a conflict over Taiwan may prompt China to escalate tensions along the LAC, leading to an increased risk of military confrontation between India and China. This would put additional pressure on India's military and resources, as it would have to prepare for a potential two-front conflict.
- **Diplomatic challenges:** India's involvement in a conflict over Taiwan would strain its diplomatic relations with China and complicate its foreign policy priorities in the region. New Delhi would have to balance its commitments to its allies and partners with the need to maintain a stable relationship with Beijing.
- **Economic costs:** The economic fallout from a cross-strait conflict could be considerable for India, with potential disruptions to supply chains, investment flows, and regional economic integration efforts. This could

hinder India's economic growth and development objectives in the short to medium term.

- **Security concerns:** A cross-strait conflict could lead to increased military deployments, escalations, and proxy conflicts in the region, raising security concerns for India. This would necessitate greater vigilance and preparedness from the Indian military and intelligence agencies to address potential threats.
- **Humanitarian consequences:** In the event of a large-scale conflict, India may face the challenge of responding to humanitarian crises resulting from displaced populations, refugees, and the disruption of essential services in the region. This could put additional strain on India's resources and infrastructure.

India's likely responses

Military response: India could assist partner countries, including the US, by sharing experience and intelligence on dealing with the PLA. It could also offer its mainland for refuelling aircraft and access to its Andaman and Nicobar Island bases.

- **Diplomatic response:** India could participate in a United Nations General Assembly resolution condemning Chinese aggression.
- **Economic response:** India is unlikely to impose targeted sanctions on China due to the negative trade balance between the two countries.

India's proactive measures

- **Information sharing:** India can establish a secure communication channel with Taiwan to exchange vital intelligence and real-time information on Chinese military movements and strategies. This would help Taiwan to better anticipate potential threats and improve its defensive capabilities.
- **Training Taiwanese armed forces personnel:** India can secretly collaborate with Taiwan to train its armed forces personnel in specific operations and tactics. This may include joint exercises and training programs in areas like counterinsurgency, mountain warfare, and special operations, which could enhance Taiwan's military preparedness.
- **Consultative mechanisms:** India can set up consultative mechanisms with Taipei, Tokyo, and Washington to discuss and coordinate their strategic approaches towards deterring a Chinese attack on Taiwan. This collaboration

can lead to the development of joint strategies, contingency plans, and a coordinated response in case of a conflict.

- **Strengthening defense ties:** India can explore options to strengthen defense ties with Taiwan by providing it with military equipment, technology, and logistical support. This could help Taiwan build a more robust defense system and deter potential Chinese aggression.
- **Economic diversification for Taiwan:** India can play a significant role in helping Taiwan diversify its trade and economic dependencies away from China. By increasing bilateral trade, investment, and technological cooperation, India can provide Taiwan with the scale it needs to reduce its overdependence on Beijing.
- **Soft power diplomacy:** India can leverage its soft power and cultural ties to build stronger relationships with Taiwan, promoting people-to-people exchanges, educational collaborations, and cultural events. This would not only strengthen the bond between the two countries but also raise awareness and support for Taiwan's cause on the international stage.
- **Encouraging international support:** India can work with its allies and partners in the Quad, as well as other regional and global forums, to build a broader coalition supporting Taiwan's sovereignty and security. By advocating for Taiwan's inclusion in international organizations and platforms, India can help raise its global profile and encourage other countries to support Taiwan in the event of a conflict.

Conclusion

- While India would face challenges in the event of a cross-strait conflict, it is crucial for New Delhi to plan for the inevitable and proactively consider its military, diplomatic, and economic responses to such a crisis.

10. One Indian Audit & Accounts Department One System (OIOS)

Activation of the One Indian Audit & Accounts Department One System (OIOS).

Key Details:

- The Comptroller and Auditor General of India (CAG), Girish Chandra Murmu, on March 31, 2023, announced the full activation of the One Indian Audit & Accounts Department One System (OIOS).

- It is a web-enabled IT application with support for multiple languages, offline functionality and a mobile app, for the complete digitalisation of the audit process from April 1, 2023.
- It was first envisaged in late 2019-early 2020.
- It is the primary system of record for the entire chain of audit activities, from audit planning and design through audit execution to issue and follow-up of inspection reports to processing and finalisation of the CAG's audit reports and follow-up.
 - It covers all types of audit – compliance, financial and performance.
- All audit work across India will become paperless and will only be carried out digitally from April 1, 2023.
 - The only exception would be the Defence Audit offices as it requires more time because of security issues.
- About 90 audit reports are prepared through CAG's 130 offices across India and approved every year for submission to Parliament, state legislature or union territory legislature, containing findings on government business transacted during the preceding financial year (or earlier years).
- This will ensure accountability along with accuracy in the audit process.

11. Autism Spectrum Disorders: Prevalence in India and Way Ahead

- In India, the prevalence of autism spectrum disorders (ASD) is a widely debated issue due to a lack of systematic estimates. Most estimates have been derived from studies based on school children, revealing that over one crore Indians may be on the autism spectrum. However, there are notable cultural differences in diagnosing autism between countries, which highlights the need to assess the prevalence of autism spectrum disorders specifically in the Indian context.

Autism

- **Spectrum disorder:** Autism, also known as Autism Spectrum Disorder (ASD), is a neurodevelopmental disorder that affects communication, social interaction, and behaviour. It is called a spectrum disorder because the symptoms and severity can vary widely between individuals.
- **Common symptoms:** Some common symptoms of autism include difficulty with social interactions, such as maintaining eye contact or understanding nonverbal cues, delayed speech and language development, repetitive behaviors, and sensory sensitivities.
- **Cause:** Autism is believed to be caused by a combination of genetic and environmental factors, but the exact cause is not yet fully understood.

- **Cure:** There is currently no cure for autism, but early interventions and therapies can help individuals with autism lead fulfilling and independent lives.

Prevalence of Autism in India

- **Lack of systematic estimates:** Autism is a global issue and affects individuals of all cultures, ethnicities, and socioeconomic backgrounds. However, there is a lack of systematic estimates of autism prevalence in India.
- **Methods failed:** Researchers have attempted to estimate prevalence through government hospitals, but this method failed due to the absence of central medical registries.
- **Conservative estimates:** As a result, prevalence was estimated through school-based assessments. According to conservative estimates, well over one crore Indians are on the autism spectrum. This highlights the need for further research and attention to address the prevalence of ASD in India.
- **Cultural Differences and Diagnosis of Autism:**
- Notable cultural differences exist in the diagnosis of autism spectrum disorder. In the US and UK, the majority of children with autism spectrum diagnosis are verbal, with average or higher IQ, and attending mainstream schools.
- However, in India, a significant majority of children with a clinical diagnosis of autism also have intellectual disability and limited verbal ability. This difference is driven by sociological factors, such as access to appropriate clinical expertise, provisions for inclusion in mainstream schools, and availability of medical insurance coverage.

Challenges in Assessing Autism

- **Assessment tools:** Assessment of autism spectrum disorder is primarily behavioral, and most widely used autism assessment tools are not available in Indian languages.
- **Indigenous autism assessment tools challenges:** There has been a rise in the development of indigenous autism assessment tools. Despite the development of these tools, it can be challenging to compare across different assessment measures.

Demand and Supply in India

- **Shortage of mental health professionals:** Most autism assessment tools need to be administered by specialist mental health professionals. However, there is a significant shortage of mental health professionals in India, with less than 10,000 psychiatrists, a majority of whom are concentrated in big cities.

- **Delay is costly:** Delay in interventions can be costly for neurodevelopmental conditions such as autism.
- **Demand and supply gap need to be met:** This gap between demand and supply cannot be met directly by specialists alone, and parallel efforts to widen the reach of diagnostic and intervention services through involving non-specialists is required. Emerging evidence suggests the feasibility of involving non-specialists in autism identification and intervention through digital technology and training programs.

Way ahead: Need for an All-India Program

- **National program on autism:** The need of the hour is to develop a national program on autism in India that links researchers, clinicians, service providers to the end-users in the autism community.
- **Essential components:** This program needs to have three essential components that are joined up: assessment, intervention, and awareness.
- **Assessment:** Research is needed to develop appropriate assessments and design efficient implementation pathways.
- **Intervention:** Clinical and support service workforce needs to be expanded by training non-specialists such that a stepped-care model can be rolled out effectively across the nation.
- **Awareness:** Large-scale initiatives need to be launched to build public awareness that can reduce the stigma associated with autism and related conditions.

Conclusion

- There are challenges in diagnosing and assessing autism in India which highlights the need for a comprehensive and coordinated effort to address them. By expanding the clinical and support service workforce, training non-specialists, and developing appropriate assessments and interventions, India can improve outcomes for those on the autism spectrum and reduce the stigma associated with the condition. This national program needs to be informed by consultation with different stakeholders, with a primary focus on end-users within the Indian autism community.

12. Finland Joining NATO and its Implications

The induction of Finland into NATO is a significant setback for Russia and President Vladimir Putin, as it has long been neutral in Moscow's conflict with the West. The move has doubled Finland's frontier with Russia and has implications for global governance of the Arctic region.

Induction of Finland into NATO

- The recent induction of Finland into the North Atlantic Treaty Organization (NATO) is a significant development that has strategic implications for Russia and the Arctic region.
- Finland has traditionally been neutral in the prolonged conflict between Moscow and the West.
- Its inclusion in NATO is seen as a major setback for Russia and President Vladimir Putin, who has cited NATO's expansion closer to Russia's borders as a justification for aggression against Ukraine.

North Atlantic Treaty

- North Atlantic Treaty, often referred to as the Washington Treaty, states the parties to the treaty seek to promote stability and well-being in the North Atlantic area.
- The signatories affirm their faith in the purposes and principles of the UN Charter and express their desire to live in peace with all people and governments, the treaty states.

Background

- **Finlandisation:** Finland's neutrality during the Cold War made Finlandisation a part of the global diplomatic lexicon, referring to a small nation's political deference to its larger neighbor.
- **Russia's policies in the neighbourhood:** Many of Finland's small European neighbors have been at the receiving end of Russia's muscular regional policies over the past decade.
- **Ukraine invasion:** The Ukraine invasion has confirmed their worst fears, and they are seeking protection from the US and NATO.

Russia's Response

- **Countermeasures:** Unsurprisingly, Moscow has responded to Finland's inclusion in NATO by promising countermeasures.
- **Encroachment on national interest:** Dmitry Peskov, a Kremlin spokesman, called NATO's inclusion of Finland an encroachment on our security and on Russia's national interests.
- **Monitoring:** Moscow will be watching for any NATO military deployments in Finland.

Why does Russia fume over NATO?

- **NATO's expansion:** Russia views NATO's expansion into Eastern Europe as a threat to its security and influence in the region. The alliance's decision to accept former Soviet republics and Warsaw Pact members as members is seen by Russia as a direct challenge to its strategic interests.
- **Military exercises:** Russia has also expressed concern over NATO military exercises in the region, which it sees as a provocation and a show of force. NATO's decision to station troops and equipment in Eastern Europe has also been criticized by Russia.
- **Missile defense system:** Russia has been particularly critical of NATO's missile defense system, which it sees as a threat to its own nuclear deterrence capabilities. Russia argues that the system is designed to neutralize its strategic weapons and that it undermines global strategic stability.
- **Ukraine and Georgia:** Russia has accused NATO of interfering in the affairs of Ukraine and Georgia, two former Soviet republics that are seeking closer ties with the West. Russia sees NATO's support for these countries as an attempt to encircle and contain Russia.

Implications for India and the Arctic region

- **Real punch to the Western alliance in the Nordic region:** Finland has maintained a small but capable armed force that is well-trained and resilient, and its inclusion in NATO adds real punch to the Western alliance in the Nordic region.
- **High north is commercial attraction:** As the Arctic ice cap melts amidst global warming, the high north has become attractive commercially and contested geopolitically.
- **India is an observer of the Arctic Council:** India is an observer of the Arctic Council that seeks to promote wide-ranging cooperation in the polar north.
- **China raising profile in the Arctic:** The militarisation of the high north appears inevitable as Finland and Sweden turn from neutrals to Western allies and China raises its profile in the Arctic in partnership with Russia.
- **Global governance:** This might make global governance of the Arctic region increasingly problematic

Conclusion

- The induction of Finland into NATO is a significant development in the ongoing conflict between Russia and the West. The move has implications for the Arctic region, which is attracting global attention due to the melting of the Arctic ice cap. As a stakeholder in the region, India must closely monitor developments and prepare for any geopolitical consequences.

13. Issues with Central Bureau of Investigation (CBI)

Recently, on the occasion of diamond jubilee celebrations of the CBI, the Prime Minister said the country's premier investigative agency should not spare any corrupt person.

Central Bureau of Investigation (CBI)

- **Establishment** -Was set up in 1963 by a resolution of the Ministry of Home Affairs but now it works under **Ministry of Personnel, Pension and Public Grievances**.
- CBI is not a statutory body.
- **Santhanam Committee** -CBI was recommended by the Santhanam Committee on Prevention of Corruption.
- **Motto** -Industry, Impartiality and Integrity.
- **Powers** - It derives its power to investigate from the Delhi Special Police Establishment Act, 1946.
- **Composition** -CBI is headed by a **Director** and assisted by a special director or an additional director.
- It has a number of joint directors, deputy inspector generals, superintendents of police and all other usual ranks of police personnel.
- **Search committee** -CBI Director is appointed by search committee headed by the **Prime Minister** and comprising **Leader of Opposition** and the **Chief Justice of India (CJI)** or his representative.
- **Investigation** - CBI can conduct investigation in a state only with the consent of the concerned state government.
- There are 2 kinds of consent of States - Case-specific consent and General consent.
- However, the Supreme Court and High Courts can order CBI to investigate such a crime anywhere in the country without the consent of the State.
- **Functions** -CBI is the main investigating agency of the Central Government.
- Plays an important role in the prevention of corruption and maintaining integrity in administration.
- Investigates crime of corruption, economic offences and serious and organized crime other than terrorism.
- Provides assistance to the Central Vigilance Commission and Lokpal.
- Nodal police agency in India, which coordinates investigation on behalf of Interpol Member countries
- **CBI academy** - Located at Ghaziabad, Uttar Pradesh.

What are the issues with CBI?

- Being used as instruments of blackmail and intimidation by successive governments - Supreme Court in 2013 referred CBI as a “caged parrot”
- CBI’s conviction of cases rate has come down while its pendency in courts has risen
- Lack of infrastructure, manpower and modern equipment
- Lack of support from state government – 9 states have withdrawn general consent to the CBI
- Lack of social legitimacy and public trust
- Lack of credibility due to corruption scandals by top functionaries
- Lack of independence
- Lack of freedom to probe anyone on its own
- The advent of Lokpal diluted the powers of CBI
- No power to investigate at joint secretary level and above without permission from the government
- Tussle within CBI over appointments and removal of officers
- The posts in CBI are being lured for post-retirement jobs
- Structural constraints - To prosecute any MLA or state minister, the CBI needs sanction from the Speaker of the state Assembly or the Governor respectively.
- In the case of an MP, sanction is sought from the Speaker of Lok Sabha or Vice Chairman of Rajya Sabha.

What is the need of the hour?

- There is a need for an independent umbrella institution to bring various investigating agencies under one roof.
- The nexus between CBI and political executive should be broken.

14. India-Bhutan Relationship Built On Faith and Mutual trust

- India-Bhutan’s exemplary relationship has been a key factor in ensuring the stability and security of the region. The recent visit of Bhutan King Jigme Khesar Namgyel Wangchuck to India was focused on enhancing the bilateral relationship between the two countries. However, the unspoken part of the visit was the Bhutan-China boundary talks, which have gained momentum in recent times.

Exemplary India-Bhutan Relationship

- **Special and strategic relationship:** India and Bhutan share a special and strategic relationship with a border of over 600 km. The bond has been

strengthened since India's independence, and it has been a buffer between China and India.

- **India is Bhutan's largest development partner:** The relationship is not limited to rhetoric but extends to an institutional and economic framework. India is Bhutan's largest development partner, and Bhutan is India's biggest trade partner in the region.
- **Hydroelectricity, a crucial factor:** Hydroelectricity has become the biggest revenue earner of Bhutan, and India buys power generated in Bhutan. It makes Bhutan the country with the highest per capita income in South Asia today.
- **Historical and theological relations:** Bhutan is a Buddhist theocracy, monarchy, and modern state. The relationship between India and Bhutan is special from a historical, theological, strategic, and economic perspective.

Bhutan-China Boundary Talks

- **Considerable progress but no decision yet:** Before the King's visit to India, Bhutanese Prime Minister Lotay Tshering had said in an interview that Bhutan and China have made considerable progress on demarcating border lines. Bhutan has been having talks with China on the boundary question for years, and there has been no decision yet.
- **There will be adjustment of territory:** Bhutan and China are adopting a modern methodology to draw boundary lines on the ground, and there may be some adjustment of territory as a result of that.
- **India's strategic interests:** India's strategic interests are involved in the boundary talks between Bhutan and China. China has been seeking a toehold in Bhutan for decades. Bhutan is fully conscious of India's strategic needs.
- **Trijunction:** Where Bhutan decides its boundary with China (to the west) is of exceptional relevance to India because that is a trijunction of the three countries.

India's Strategic Interests

- **No compromise on national security:** India will not talk about Bhutan-China negotiations publicly; however, when it comes to India's national security, there will be no compromise.
- **Siliguri corridor:** Doklam plateau overlooks the Chumbi Valley, which overlooks the chicken's neck (Siliguri corridor). India says this not because Bhutan is threatening its cooperation with India on this front, but to send a message to China that we will draw a line here in conformity with our national interest.

Why India needs Bhutan?

- **Strategic location:** Bhutan is strategically located between India and China, which makes it an important buffer state for India. Bhutan's strategic location ensures India's security and helps in maintaining regional stability.
- **Water resources:** Bhutan is the source of several rivers that flow into India, including the Brahmaputra, the Sankosh, and the Manas. India needs access to these rivers for irrigation, hydroelectric power generation, and other purposes. India has helped Bhutan in developing its hydropower potential and has signed several agreements for the purchase of hydropower from Bhutan.
- **Trade and economic ties:** India is Bhutan's largest trading partner, and Bhutan relies heavily on India for its imports and exports. India provides Bhutan with various economic assistance and has helped Bhutan in its development process.
- **Cultural and historical ties:** India and Bhutan share a common cultural heritage and have historical ties dating back centuries. India has helped Bhutan preserve its cultural heritage and has supported Bhutan in its efforts to promote tourism.

Why Bhutan needs India?

- **Security:** Bhutan does not have a large army, and India provides security assistance to Bhutan. India has helped Bhutan in building its border infrastructure and has helped in the development of the Bhutanese army.
- **Economic ties:** India is Bhutan's largest trading partner, and Bhutan relies heavily on India for its imports and exports. India provides economic assistance to Bhutan, and Indian companies have invested in various sectors in Bhutan.
- **Infrastructure:** India has helped Bhutan in building its infrastructure, including roads, airports, and telecommunication networks. India has also helped Bhutan in developing its hydropower potential, and several hydropower projects in Bhutan have been built with Indian assistance.
- **Education and healthcare:** India has helped Bhutan in the field of education and healthcare. Many Bhutanese students study in India, and India provides scholarships and grants to Bhutanese students. India has also helped Bhutan in building hospitals and providing medical assistance.
- **Cultural and historical ties:** Bhutan and India share a common cultural heritage and have historical ties dating back centuries. India has helped Bhutan in preserving its cultural heritage and has supported Bhutan in its efforts to promote tourism.

Future of India-Bhutan Relations

- The Bhutan-India relationship has survived because of spiritual underpinnings, geography, economy, and connectivity, all of which strengthen the relationship.
- India and Bhutan have survived mainly because it was built on mutual trust, which means Bhutan has equally driven the relationship. India should pursue this relationship with trust and complete faith.
- India must reach out to the new generation in Bhutan, which is being influenced by social media negativity and wrong information about India.

Conclusion

- The India-Bhutan relationship has been a key factor in ensuring the stability and security of the region. The relationship between the two countries has been built on mutual trust and has been strengthened by an institutional and economic framework. India's strategic interests are involved in the boundary talks between Bhutan and China. India should pursue the relationship with trust and complete faith and should reach out to the new generation in Bhutan.

15. Principles of Natural Justice and Proportionality

- The Supreme Court lifted a broadcasting ban on a Malayalam news channel 'MediaOne'.
- The court blasted the government for silencing voices in the media who "speak truth to power" by branding them as "anti-establishment".

A quick recap of the case

- The Ministry of Information and Broadcasting (MIB) has earlier refused to renew broadcast license of a Malayalam news channel.
- The Ministry of Home Affairs had declined to grant security clearance to the channel's promoters citing alleged links between radical groups.
- Hence the news agency approached Kerala High Court, which upheld the ban on February 9, 2022
- The Supreme Court granted temporary relief and allowed it to resume operations.

Supreme Court's ruling

- The Supreme Court set aside earlier ban orders and upheld the channel's appeal on two procedural grounds, namely

1. Principles of natural justice and

2. Proportionality

Articles invoked in the judgment

- The Court stated that the burden shifts on the Centre to prove that the procedure followed was reasonable and in compliance with the requirements of Articles 14 and 21 of the Constitution.
- The Court used the standard of proportionality to test the reasonableness of the procedure in the present case and assessed the validity of public interest immunity claims based on the “structured proportionality standard”.
- The Court found that the reasons for denying security clearance to the channel were not legitimate purposes for the restriction of the right of freedom of speech protected under Article 19(1)(a) of the Constitution.

Key concepts involved

(1) Principles of natural justice

- The principles of natural justice are a set of procedural rules that ensure fairness and justice in administrative and legal proceedings.
- These principles are based on the fundamental idea that everyone is entitled to a fair hearing, and they are aimed at preventing arbitrary or biased decisions by decision-makers.
- The SC bench allowed the challenge to the MHA order and judgment of the High Court on account of the principles of natural justice constitutionalized by its judgment in its 1978 ruling in “Maneka Gandhi vs Union of India”
- Actions which violate procedural guarantees can be struck down even if non-compliance does not prejudice the outcome of the case.

(2) Proportionality

- The principle requires that the decision or action must be proportionate to the objective it seeks to achieve.
- In other words, the means employed to achieve the objective must be no more than necessary to achieve it, and the harm caused by the decision or action must not be excessive in relation to the benefit gained.
- The validity of the claim of involvement of national security considerations must be assessed on the test of whether there is material to conclude that the non-disclosure of information is in the interest of national security.
- Courts can assess the validity of public interest immunity claims based on the “structured proportionality standard”, said the SC.
- The SC observed that sealed cover proceedings infringe the principles natural justice and open justice.

Conclusion

- The Court's ruling has been welcomed by media organizations and civil society groups as a victory for freedom of speech and expression
- The Court observed that the duty to act fairly derived from common law is not exhaustively defined in a set of concrete principles, and the concept of natural justice "cannot be put into a 'straitjacket formula'".
- The ruling has been hailed as a victory for freedom of speech and expression, and a blow to attempts to stifle dissent and critical voices in the media.

16. Arunachal Pradesh: China's Cartographic Deception

- The Chinese leadership has been using cartographic deception as a weapon to violate the sovereign national boundaries of its neighbours, and India has been a victim of this deception since Independence. The recent rechristening of villages and areas in Arunachal Pradesh is another example of China's cartographic deception, and India must remain vigilant against such tactics.

Background: India-China relations

1. Historical context:

- India has been a victim of China's deception since its independence.
- Mao's Red Army sent messages to Indian Communists promising support in their violent liberation struggle to overthrow the government of Jawaharlal Nehru.
- In the early 1950s, China started staking claims to large parts of Indian territory.

2. Cartographic deception used by China:

- Cartographic deception is integral to the Chinese leadership's machinations.
- China has been indulging in cartographic deception by staking claims to large parts of Indian territory.
- The recent rechristening of villages and areas in Arunachal Pradesh by the Chinese cabinet is another example of that cartographic deception.
- Despite President Xi Jinping's claims of standing guard over the world order based on international law, China continues to use cartography as a weapon to violate sovereign national boundaries of its neighbours.

How cartography is used as a weapon?

- **Deliberate manipulation of maps:** The term use of cartography as a weapon refers to the deliberate manipulation of maps for political and strategic purposes. This can involve drawing new borders or redefining existing borders, claiming territory that was previously not contested or that belonged to another country, and renaming places to support these claims.
- **Psychological warfare technique:** It is often accompanied by historical revisionism, propaganda, and the creation of artificial historical links to justify these claims. This approach can be seen as a form of psychological warfare, intended to create confusion, weaken the opponent's resolve, and undermine its legitimacy in the eyes of the international community.

Historical background of Arunachal Pradesh

- **No contact with China:** Historically, Arunachal Pradesh had no contact with China, and there was never any Chinese presence there.
- **Shimla Agreement:** The McMahon Line, which became the international boundary between India and Tibet through the Shimla Agreement between the British and Tibetan governments in 1914, clearly puts Tawang, which fell south of the McMahon Line, out of Tibetan administrative control.
- **Claims over Tawang:** Attempts by pro-China historians to claim that parts of Western Arunachal Pradesh like Tawang were under the rule of Lhasa before 1950 are negated by historical records.

Chinese invasion of Arunachal Pradesh in 1962

- During the Chinese invasion of Arunachal Pradesh in 1962, they were extra-cordial with the locals and made special efforts to convince them about the greater racial affinity between them.
- However, despite all the deceptive maneuvers during the 49-day-long occupation, the Chinese could not win over the hearts and minds of the people of NEFA.

Conclusion

- India must remain vigilant against China's cartographic deception, as it was through a similar deception in 1962 that China annexed territory. India has dismissed the recent rechristening exercise by China, and rightly emphasised that Arunachal Pradesh is, has been, and will always be an integral and inalienable part of India. India must continue to stand firm against China's attempts to use cartography as a weapon to violate its sovereign national boundaries.

17. Supreme Court Judgement on MediaOne Case

The Supreme Court has ruled against the telecast ban imposed by the Union Government on Malayalam news channel MediaOne.

MediaOne case about

- **Cancellation of license** - The Information and Broadcasting Ministry (I&B) informed Media One news channel that its broadcast licence had been cancelled citing security reasons.
- **Powers of I&B Ministry** - The powers to regulate content rest only with the I&B Ministry based on the inputs from other ministries, as well as intelligence agencies.
- **Sectors-** Earlier, I&B Ministry had the powers to regulate content across TV channels, newspapers and magazines, movies in theatres and on TV, and the radio, barring the internet.
- The IT (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, extended its regulatory powers over internet content (digital news platforms and OTT platforms).
- **Emergency powers-** The I&B Ministry adopts emergency powers it has under the new IT Rules to block certain YouTube channels and social media accounts based on inputs from intelligence agencies.

What has the Kerala High Court inferred in the case?

- The writ petition was filed by Madhyamam Broadcasting Limited, the parent organization of Media One channel.
- The High Court endorsed the Government's stand that it was a national security issue and, therefore, there was no need to observe the principles of natural justice.
- The court chose to accept the submission of documents by the government in a sealed cover.
- A Division Bench of the Kerala High Court has also dismissed the appeal filed by MediaOne.

What is the stance of the Supreme Court (SC)?

- **Programme and Advertising Code** - The channel did not violate the Programme and Advertising Code prescribed under the Cable Television Networking (Regulation) Act 1995.
- **No evidence** - There was no evidence or material backing of nexus between Madhyamam Broadcasting Limited and Jamaat-e-Islami-Hind (JEIH).
- JEIH is not a banned organization.

- **Article 19(2)** - The SC observed that the channel was not given a chance to defend which violates Article 19(2).
- **Rule of law** - The state is using national security as a tool to deny remedies to the citizens thus violating the rule of law.
- **Proportionality** - The national security considerations assessment not properly put the test of proportionality.
- **Principles of Natural Justice** - The Court observed that there is an inherent value in securing compliance with the principles of natural justice.
- **National security** - Though confidentiality and national security are legitimate aims for limiting procedural guarantee, a blanket immunity from disclosure of all investigative reports cannot be granted.
- **Sealed cover procedure** - Sealed cover proceedings infringes the principle of natural justice and open justice.

18. What is behind China's renaming spree?

The government of China announced that it would "standardize" the names of 11 places in Arunachal Pradesh.

Details:

- On 2nd April 2023, the Chinese government announced that it would "standardize" the name of eleven places in Arunachal Pradesh.
- The Ministry of Civil Affairs in China published a list of 11 places along with a map displaying Arunachal Pradesh as a part of China's Tibet Autonomous Region.
- India has dismissed the renaming and highlighted that the move is unlikely to have any major impact on the border dispute.
- However, it has underlined the hardening Chinese stance on the boundary and the strained relationship between the two countries.

Details about the places:

- China claims approximately 90000 sq km of land in the eastern sector of the India-China boundary.
- All eleven sites are in the Indian territory and the notification has announced the names for public use in Mandarin, Tibetan, and English.
- Notably, China refers to the location of the site as "Zangnan", or "south Tibet".
- The new set of management rules guides the naming, renaming, and standardization of places.
- This is the third time after 2017 and 2021 that China has issued names for places in Arunachal.

- In 2017, it was seen as a retaliatory move after the Tibetan spiritual leader, Dalai Lama visited Arunachal Pradesh.
- In 2021, the list coincided with the new border law of China. The list included names of eight towns, four mountains, two rivers, and the Sela mountain pass.

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China's Stand:

- The Chinese government is hardening its stand on territorial disputes.

- The moves like renaming and the new border law highlight that Beijing is prioritizing the protection of national sovereignty and territory.
- The local-level authorities have also stepped up programmes to build new civilian settlements and border infrastructure.
- China has been very vocal about its claim in Arunachal Pradesh and has reiterated that any settlement would require India to give up territory in the east.

Implications on Boundary dispute:

- It is suggested that it is a symbolic gesture and might not have a real impact on the ground.
- However, it does point out the changing situations along the borders.
- In 1988, China and India agreed to normalize the ties and shelve the differences. They also appointed Special Representatives (SRs) in 2003 to find a solution to the dispute.
- The 2020's transgression by China has left the arrangements in tatters.
- A large number of troops from both sides are stationed in the forward areas and the disengagement talks have not yet achieved much.
- The move to rename areas in the state of Arunachal Pradesh has left the prospects of a settlement dimmer than ever.

20. New rules for online gaming

The Ministry of Electronics and Information Technology (MeitY) has recently notified the final rules for online gaming.

- Every state in India, **except Goa, Sikkim, and the Union Territory of Daman** explicitly prohibits any sort of gambling, betting or wagering on games of chance.
- Assam, Andhra Pradesh, Nagaland, Odisha, Tamil Nadu and Telangana have placed restrictions on games of skill as well.

Key features:

- Defines '**Online game**' as a game that is offered on the internet and is accessible by a user through a computer resource or an intermediary.
- The government will appoint **multiple self-regulatory organisations (SROs)** comprising industry representatives, educationists and other experts including psychology experts.
- It **prohibits any game that involves betting and wagering.**
- KYC verification is mandatory of online gamers of games involving real money.

- MEITY can also **notify agencies to factcheck false and misleading information** related to government business.

Responsibilities of Intermediaries:

- Intermediaries cannot host, publish or share any online game that can cause the user harm, or that has not been verified as a permissible online game by SROs.
- The intermediary will have to ensure that **no advertisement or surrogate advertisement or promotion of an online game** that is not permitted, is hosted on its platform.
- The intermediary will have to display a mark of verification by the SROs on such games; inform its users of the **policy for withdrawal or refund of deposit, manner of determination and distribution of winnings, fees and other charges.**
- The intermediary cannot give credit or enable finances by third parties to the users.

Functions of SROs:

- They will be responsible for declaring online games permissible on the basis of whether games allow wagers.
- The SRO can declare online real money games as permissible if it is satisfied that the online real money game does not involve wagering on any outcome.
- Permissibility will be determined with the simple principle of whether wagering is involved or not.
- It can **inquire and satisfy itself that the intermediary and the game comply** with the rules, the requirements under law are being competent to enter into a contract (**currently at 18 years**), and the framework safeguards against user harm.
- It can ensure that online game complies with the **measures to safeguard through parental controls, age-rating mechanism, and measures to safeguard users against the risk of gaming addiction.**

Significance of the rules:

- This industry is expected to generate revenues **in excess of Rs 29,000 crore in 2025 with over 65.7 crore users.**
 - It is estimated that more than 15,000 direct and indirect jobs will be created.
- The **GST and Income Tax** generated from this industry will add to the economic multiplier.
- Potential to attract significant global investments – current investments in gaming companies like Dream11 are good indicators.

- The revenue of the **Indian mobile gaming industry** is expected to reach **\$5 billion in 2025**.
- The industry grew at a **compound annual growth rate (CAGR) of 38%** in India between 2017-2020, as **opposed to 8% in China and 10% in the US**.
- It is expected to grow at a **CAGR of 15% to reach Rs 153 billion in revenue by 2024**, as per a report by **VC firm Sequoia and management consulting company BCG**.

Legality of Online Games in India:

- **Legal Jurisdiction:** The state legislators are, **vide Entry No. 34 of List II (State List) of the Seventh Schedule of the Constitution of India**, given exclusive power to make laws relating to betting and gambling.
- **Types of Games in India:** Most Indian states regulate gaming on the basis of a distinction in law between 'games of skill' and 'games of chance'.
- **Test of Type of Game:** As such, a 'dominant element' test is utilized to determine whether chance or skill is the dominating element in determining the result of the game.
 - This '**dominant element**' may be determined by examining whether factors such as superior knowledge, training, experience, expertise or attention of a player have a material impact on the outcome of the game.
- **Status of Type of Games Allowed:** Staking money or property on the outcome of a 'game of chance' is prohibited and subjects the guilty parties to criminal sanctions.
 - However, placing any stakes on the outcome of a 'game of skill' is not illegal per se and may be permissible.
 - It is important to note that the Supreme Court recognized that no game is purely a '**game of skill**' and almost all games have an element of chance.
- **Common Gaming House:**
 - Another concept common to the gaming law in most states is the idea of a '**common gaming house**'.
 - Owning, keeping, or having charge of a common gaming house or being present for the purpose of gaming in any such common gaming house is ordinarily prohibited in terms of these state gaming laws.
 - A common gaming house is defined as any house, walled enclosure, room, or place in which instruments of gaming are kept or used for profit or gain.
 - Pertinently, courts have clarified in the past that the mere charging of an extra fee to facilitate playing the game and/or to maintain the facilities may not necessarily be seen as making a profit or gain.

Issues associated with online gaming:

- **Gaming addiction:** Numerous people are developing an addiction for online gaming. This is destroying lives and devastating families.
 - Compulsive gaming by children is affecting their performance in schools and impacting their social lives & relationships with family members.
- **Impact on psychological health:** Online games like PUBG and the Blue Whale Challenge were banned after incidents of violence and suicide.
 - This addiction is also said to be causing near-sightedness in our youth.
- **Threat to Data privacy:** Inadvertent sharing of personal information can lead to cases of cheating, privacy violations, abuse, and bullying.
- **Betting and gambling:** Online games based on the traditional ludo, arguably the most popular online game in India, have run into controversy, and allegations of betting and gambling.

Way Forward:

- Build checks and balances to prevent the youth from becoming pathological gamers
- Various high courts have nudged state governments to regulate the virtual gaming landscape.
- The Centre, in a recent advisory to states, has laid out useful dos and don'ts to educate parents and teachers.
 - Incidentally, the Chinese, as is their wont, have announced rules to limit online video games for those under 18 to three hours a week. The Chinese state media has called online gaming the “**opium of the mind.**”
- There is an urgent need to regulate this industry suitably.
- The government should **ensure that KYC norms are strengthened.**
 - Each game should follow a **well-established age-rating mechanism** and minors should be allowed to proceed only with the **consent of their parents OTP verification on Aadhaar could potentially resolve this.**
- No in-game purchases should be allowed without **adult consent and wherever possible, the in-game chat option should be disabled.**
- Gaming companies should proactively **educate users about potential risks and how to identify likely situations of cheating and abuse.**

21. India-U.S. relationship: Critical Next Six Months

- The India-U.S. relationship will be crucial in the next six months with engagements set to happen between the two countries on various forums like the G20, Quad, and I2U2.

Divergence and Convergence

- The appointment of Eric Garcetti as the U.S. Ambassador to India signals the potential for greater partnership, but there are also **differences** to be overcome.

1. The U.S. may want India to change its stance on the Ukraine crisis.
2. India may want a stronger position against China.

- However, the two countries share strong areas of **convergence** such as

1. The India-U.S. Initiative on Critical and Emerging Technology and
2. The Indo-Pacific partnership aimed at promoting security, economic growth, and connectivity in the region.

I2U2

- In July 2022, India, Israel, the United States (US), and the United Arab Emirates (UAE) in a hybrid summit announced the establishment of a new multilateral grouping called the I2U2.
- The four countries envision their alliance as an ad-hoc, informal, issue-specific and geoeconomic initiative.

Realignment of U.S. Supply Chains

- **Disrupted supply chains:** In recent years, there has been growing interest in diversifying supply chains away from China due to geopolitical tensions, trade disputes, and concerns about over-reliance on a single country.
- **India is emerging as attractive destination:** India's growing consumer market makes it an attractive destination for U.S. businesses looking to expand their customer base.

Ups and Downs in India-U.S. relationship

- The India-U.S. relationship has had its ups and downs over time, with key moments such as the nuclear deal, liberalisation of markets, and the outsourcing of Indian techies for U.S. companies.
- The U.S. has also played an important role in making India an IT superpower.

- The two countries are also partners in combating climate change and aligned on the importance of space technology.

Trust Deficit

- In the past, there has been a trust deficit between India and the U.S., with Indians feeling that the U.S. has not always supported India and has instead supported Pakistan.
- The U.S. has flagged issues related to terrorism, human rights, and democracy in India. However, the two countries can become stronger together by building on their strategic partnership.

Conclusion

- The next six months will be critical for India-U.S. ties, with both countries looking to enhance collaboration and partnership. While there are differences in opinions to be addressed, the two countries also share strong areas of convergence that can be leveraged to strengthen their strategic partnership.

22. T.N. House resolution asks Centre to set time limit for Governor for clearing Bills

- The Tamil Nadu Legislative Assembly has passed a resolution that sought the Union government and the President to issue instructions to the State Governor to give assent to the Bills passed by the Assembly “within a specific period”.
- The resolution also urged the Union government and the President to specify a time limit for Governors to give their assent to Bills passed by the legislators.
- Accusing the Governor of functioning with political motives, the Chief Minister of Tamil Nadu cited the observations made by the Rajamannar Committee which said that “it is an appropriate time to abolish the post of Governor and the Governor should be a detached figure”.
- Recently the Governor of Tamil Nadu said that if a Governor withholds assent to a Bill passed by the Assembly, it means the “Bill is dead”.
- The Chief Minister of Tamil Nadu also talked about the need for amending the Constitution to change the requirement for the laws passed by an elected Assembly to get assent from a “nominated” Governor as it goes against the spirit of the Constitution.

23. The 17th Lok Sabha: A Short-Lived Parliament with Low Productivity

- The 17th Lok Sabha is set to complete its five-year term in 2024. However, with only 230 sitting days so far, it is unlikely to surpass the 331 days of the shortest full-term Lok Sabha since 1952. The latest session, the Budget session, was marked by minimal legislative activity and continuous disruptions, with only one item, the Motion of Thanks on the President's Address, being discussed.

Low Productivity of the 17th Lok Sabha

- The Lok Sabha has functioned for only 33% of its scheduled time (46 hours) during the Budget session, with the Rajya Sabha working for 24% (32 hours).
- The second part of the session was even more unproductive, with the Lok Sabha working for only 5% and the Rajya Sabha for 6% of their scheduled time.
- The number of Bills introduced and passed has also declined significantly since the first session, with fewer than 10 Bills being introduced or passed in each of the last four sessions.
- The latest Budget session was also one of the shortest since 1952, with the Lok Sabha spending only 18 hours on financial business, compared to an average of 55 hours in previous Budget sessions of the 17th Lok Sabha.

Lok Sabha	Term	Total Sitting Days	Bills Introduced	Bills Passed	Average Sitting Days per Year
15th	2009-2014	357	244	181	71
16th	2014-2019	331	247	156	66
17th	2019-2024	Less than 331 (projected)	150 (as of April 2023)	131 (as of April 2023)	58 (projected)

Lack of Debates and Discussions

- **Short-duration discussions:** The Rules of Procedure of both Houses of Parliament provide for various devices that can be used to draw attention to matters of public importance and hold the government accountable. However, in the 17th Lok Sabha, only 11 short-duration discussions and one half-an-hour discussion have been held so far, and none were held during the latest session.
- **Question Hour:** This is despite the fact that the latest session saw the least amount of time spent on questions in the current Lok Sabha. Question Hour

functioned for only 19% of the scheduled time in the Lok Sabha and 9% of the scheduled time in the Rajya Sabha.

Why the Lok Sabha's productivity has been low?

- **Disruptions and Protests:** The 17th Lok Sabha witnessed frequent disruptions and protests from opposition parties, leading to a significant loss of time and decreased productivity. Some of the major issues that led to disruptions include the Citizenship Amendment Act (CAA), National Register of Citizens (NRC), and farm laws.
- **Lack of Consensus:** The ruling party enjoyed a clear majority in the Lok Sabha, but there was still a lack of consensus on many key issues, resulting in a delay in passing important bills and legislation.
- **COVID-19 Pandemic:** The COVID-19 pandemic also contributed to the low productivity of the Lok Sabha as many sessions were delayed or cancelled due to safety concerns.
- **Speaker's Decision:** The decision of the Speaker of the Lok Sabha to disallow opposition MPs from raising certain issues also resulted in protests and disruptions, further reducing the productivity of the house.
- **Shorter Sessions:** The 17th Lok Sabha had shorter sessions compared to previous Lok Sabhas, which also contributed to lower productivity. Many important bills and issues were left pending as there was not enough time to discuss and debate them thoroughly.

Implications of low productivity of the Lok Sabha

- **Delay in passing important bills:** When the Lok Sabha is unable to function effectively, it can lead to a delay in passing important bills, which may have an adverse impact on the economy and governance. For example, crucial bills related to taxation, infrastructure, and social welfare may get delayed, affecting the overall progress of the country.
- **Poor quality of legislation:** When the Lok Sabha is unable to function effectively, it may lead to poor quality of legislation. There may be a lack of debate and discussion, leading to hasty decision-making and poor-quality laws that may have unintended consequences.
- **Damage to democratic institutions:** When the Lok Sabha is unable to function effectively, it can damage the democratic institutions of the country. It can erode the trust of citizens in the democratic process and lead to a feeling of disenchantment and disengagement among the people.
- **Wastage of taxpayers' money:** When the Lok Sabha is unable to function effectively, it leads to wastage of taxpayers' money. The salaries and allowances of Members of Parliament are paid from the public exchequer,

and if they are not able to discharge their duties effectively, it amounts to a waste of taxpayers' money.

- **Negative impact on investor confidence:** When the Lok Sabha is unable to function effectively, it can have a negative impact on investor confidence. Investors may be hesitant to invest in the country, leading to a slowdown in economic growth and development.
- **Lack of accountability:** When the Lok Sabha is unable to function effectively, it may lead to a lack of accountability. Members of Parliament may not be held accountable for their actions, and the executive may be able to push through decisions without proper scrutiny or oversight.

Conclusion

- The 17th Lok Sabha has been marked by low productivity and a lack of debates and discussions, despite the availability of mechanisms to hold the government accountable. The upcoming year is unlikely to see a significant increase in the number of sitting days. This lack of productivity and accountability could undermine the role of Parliament in a democracy and the ability of the government to pass important legislation.

24. What is the new U.K. policy on refugees?

The U.K. has proposed a new policy to regulate refugees.

Details:

- The U.K. government is proposing a new, stricter policy to deal with asylum seekers. It is one of the five key policy priorities announced by Prime Minister Rishi Sunak.
- The proposed plan intends to deport to the origin or remove asylum seekers arriving in the U.K. by boat to a third country.
- The new policy is sharply criticized by UNHCR and the European Union. It is argued that the new policy is incompatible with international laws like the 1951 Convention Relating to the Status of Refugees and the European Convention on Human Rights (ECHR).
- Though the Illegal Migration Bill (IMB) is not yet passed in the U.K. Parliament, once done it will have retrospective applicability from 7th March 2023.

Political Context of the Bill and recent trends:

- Regulation of immigrants(particularly undocumented workers and asylum seekers) has always been a sensitive issue in the U.K.
- The Conservative Party has always been a strong advocate for tighter immigration policies to protect U.K. jobs.
- The COVID-19 pandemic and the consequent economic distress in developing countries along with the displacement of certain communities in countries like Afghanistan, Iran, and Iraq, has resulted in even more asylum seekers arriving in the U.K.
- Approximately 45755 refugees arrived in small boats across the English Channel. The “small boat arrivals” comprised nearly 45% of the total asylum applications in 2022. It was close to 89000 highest since 2010.
- The top sources of asylum applications are Albania, Afghanistan, Iran, Iraq, and Syria.
- In 2022, the U.K. government returned asylum decisions for nearly 29150 applicants and granted some form of protection to 17747 people (61% of the total number).
- Earlier measures adopted by the government to deal with asylum seekers were:
 - In December 2021, the U.K. passed the Nationality and Borders Bill. It empowered the government to remove asylum seekers to a “safe” third country for “offshore asylum processing” and also set a precedent to “push back boats at sea”.
 - In April 2022, the U.K. and Rwanda signed a Memorandum of Understanding to relocate asylum seekers. It was strongly criticized by the UNHCR.

Features of the Bill:

- The Bill allows the Home Secretary to detain and remove those arriving in the U.K. illegally, either to Rwanda or another “safe” third country.
- It will deny migrants the right to bail or judicial review for the first 28 days of their immigration detention.
- Once passed, the law will only allow migrants who are minors, medically unfit, or at risk of serious harm in the country of their removal to delay their departure from the U.K.
- The bill also intends to set a cap on the number of refugees permitted to settle in the U.K. through “safe and legal routes”.
- A small number of refugees can enter the U.K. through the U.K. Resettlement Scheme, the Community Sponsorship Scheme, the Refugee Family Reunion, and the Mandate Resettlement Scheme.

Proposed bill vis-a-vis Human rights law:

- The bill is incompatible with international laws. For instance, in the context of non-refoulement.
 - Non-refoulement is an idea encapsulated in the Refugee Convention and the ECHR (the U.K. is a signatory to both).
 - It means that refugees should not be returned to a country where they face threats to life and liberty.
- However, as per the U.K. High Court, the Rwanda deportation plan does not violate human rights conventions.

25. Role of Parliamentary Committees

This article discusses the importance and functions of parliamentary committees in India.

- As little as 25% of the Bills introduced were referred to committees in the 16th Lok Sabha, as compared to 71% and 60% in the 15th and 14th Lok Sabha respectively.
- This represents a declining trend of national legislation being subjected to expert scrutiny.

Parliamentary Committee

- A committee appointed or elected by the House or nominated by the Speaker that works under the direction of the Speaker and presents its report to the House or the Speaker.
- Two kinds of committees: Standing Committees and Ad hoc Committees.

(1) Standing Committees

- Permanent and regular committees constituted from time to time in pursuance of the provisions of an Act of Parliament or Rules of Procedure and Conduct of Business in Lok Sabha.
- The work of these Committees is of continuous nature.
- Examples include the Financial Committees and DRSCs.

(2) Ad hoc Committees

- Appointed for a specific purpose and cease to exist when they finish the task assigned to them and submit a report.
- The principal Ad hoc Committees are the Select and Joint Committees on Bills.
- Examples include the Railway Convention Committee and Joint Committee on Food Management in Parliament House Complex.

Why need Parliamentary Committee?

- Parliament scrutinizes legislative proposals (Bills) in two ways: discussion on the floor of the two Houses and referring the Bill to a parliamentary committee.
- Since Parliament meets for 70 to 80 days in a year, there is not enough time to discuss every Bill in detail on the floor of the House.

Role of the committee in the passage of a Bill

- The debate in the house is mostly political and does not go into the technical details of a legislative proposal.
- Referring a Bill to a parliamentary committee takes care of the legislative infirmity of debate on the floor of the House.
- However, referring Bills to parliamentary committees is not mandatory.

Select Committee

- India's Parliament has multiple types of committees.
- Departmentally related Standing Committees focus on the working of different ministries.
- Each committee has 31 MPs, 21 from Lok Sabha and 10 from Rajya Sabha.
- The main purpose is to ensure the accountability of Government to Parliament through a more detailed consideration of measures in these committees.

When does a committee examine a Bill?

- Bills can reach a committee through a recommendation by the minister piloting the Bill or the presiding officer of the House.

What happens when a Bill goes to a Committee?

- The committee undertakes a detailed examination of the Bill, inviting comments and suggestions from experts, stakeholders and citizens.
- The government also appears before the committee to present its viewpoint.
- The committee's report makes suggestions for strengthening the Bill.
- While the committee is deliberating on a Bill, there is a pause in its legislative journey.
- The Bill can only progress in Parliament after the committee has submitted its report.

What happens after the report?

- The report of the committee is of a recommendatory nature.
- The government can choose to accept or reject its recommendations.
- Select Committees and JPCs have an added advantage of including their version of the Bill in the report.
- The minister in charge of that particular Bill can move for the committee's version of the Bill to be discussed and passed in the House.

Importance of these Committees

- Parliamentary committees analyze the impact that a specific piece of legislation may have on governance indicators.
- It recommends the government to take an 'Action Taken' report for the House to judge the progress made on the suggestions of the committee.
- Though committee reports aren't binding on the government, it helps the legislature ensure oversight of the executive.

26. The Coastal Aquaculture Authority (Amendment) Bill 2023

The Government has recently introduced the Coastal Aquaculture Authority (Amendment) Bill 2023 to promote ease of doing business.

Coastal Aquaculture

- Coastal aquaculture refers to culturing or cultivating, under controlled conditions in ponds, pens and enclosures or in coastal areas of shrimp, prawn, fish or any other aquatic life in saline or brackish water.
- Coastal aquaculture does not include freshwater aquaculture.

India is the 3rd largest fish producing country in the world accounting for 8% of global production and contributing about 1.09% to the country's Gross Value Added (GVA) and over 6.7% to the agricultural GVA.

What is the Coastal Aquaculture Authority Act 2005?

- **Coastal Aquaculture Authority** - The Act introduced the Coastal Aquaculture Authority (CAA).
- The main objective of the Authority is to regulate coastal aquaculture activities in coastal areas in order to endure sustainable development without causing damage to the coastal environment.
- The authority consists of a Chairperson who is a current or former HC judge being an expert in coastal aquaculture.

- The members will be nominated by the
 - Central Department of Ocean Development
 - Ministry of Environment and Forests
 - Ministry of Agriculture
 - Ministry of Commerce
 - 4 members representing coastal States on a rotation basis and one member secretary.
- **Coastal area** - It refers to the area declared as the Coastal Regulation Zone (CRZ), and includes such other area as the Central Government may notify under Environment Protection Act 1986.

What are the new provisions of the amendment bill 2023?

- **Definition** - It broadens the definition of coastal to include rearing and cultivation of any life stages of fish including crustacean, mollusc, finfish, seaweed or any other aquatic life.
- **Environment friendly** - It encourages environment friendly aquaculture such as cage culture, seaweed culture, bi-valve culture, marine ornamental fish culture and pearl oyster culture.
- It has the potential for creating employment opportunities for coastal fisher communities especially fisherwomen.
- **Brood stocks** - It encourages the establishment of facilities in areas having direct access to seawater to produce genetically improved and disease-free brood stocks and seeds for use in coastal aquaculture.
- Brood stock or brood fish are a group of mature individuals used in aquaculture for breeding purposes.
- **Brood Stock Multiplication Centre** - The center will be used to rear marine organisms under strict biosecurity and disease surveillance.
- **Usage of antibiotics** - The Bill seeks to prevent the use of antibiotics and pharmacologically active substances which are harmful to human health in coastal aquaculture.
- **Biosecurity** - It introduces measures for analyzing and preventing the risk of introducing or spreading harmful organisms like viruses and bacteria within the coastal aquaculture unit.

27. Maternity Benefits (Amendment) Act, 2017

Recently, the Supreme Court has agreed to hear a Public Interest Litigation (PIL) which challenges the Section 5(4) of the Maternity Benefit Act, 1961 of being discriminatory on adoptive mothers

What is the section 5(4) of Maternity Benefits (Amendment) Act, 2017?

- Sec 5(4) was not in the original act of 1961 and was later inserted in the amendment act, 2017.
- It states that a woman who legally adopts a child below the age of 3 months or a commissioning mother shall be entitled to maternity benefit for 12 weeks.
- Commissioning mother refers to a surrogate mother and has been defined as a biological mother who uses her egg to create an embryo implanted in any other woman

Under the act, a woman adopting a child older than 3 months gets no benefits

What are the issues with Sec 5(4)?

- **Adoptive mothers** - It is discriminatory and arbitrary towards mothers who adopt children above the age of 3 months.
- **Orphaned Children** - It is discriminatory against the orphaned, abandoned or surrendered children above the age of three months.
- **Discriminatory** - The act allow 26 weeks of paid leave for biological mothers whereas only 12 weeks for adopted mothers.
- **Incompatibility** - It is incompatible to the objective of the Maternity Benefit Act as well as the Juvenile Justice Act, 2015.
- **Adoption procedure** - Due to the prevailing delays in adoption procedure, it is almost impossible for a mother to adopt a child less than 3 months old.

Maternity Benefits (Amendment) Act, 2017

- It extends women's paid maternity leave from 12 to 26 weeks.
- Of these, up to 8 weeks can be taken pre-delivery.
- Enterprises with 50 or more employees must provide crèches.
- They should allow the mother 4 crèche visits, daily.
- The costs of these benefits are to be borne solely by employers.
- It allows women to work from home after availing the maternity leave.
- Women with 2 or more children get reduced entitlements.

What are the concerns with the Act?

- **Unorganised sector** - The Maternity Benefits Act, 2017 does not apply to the unorganised sector.
- Around 93% Indian women workers are in the informal sector.
- **Cost** - The high costs of maternity leave drive companies to discriminate against women in higher-level jobs.
- **Childcare** - Childcare is treated solely as women's responsibility.
- In India, central government employees get only 15 days of paternity leave.
- **Reduced roles** - A woman returning to work after a gap year due to maternity has to reconcile to reduced roles.

What could be done?

- **Gap management structure** - Organizations need to build a gap management structure to handle maternity breaks.
- **Incentive to Employers** - Give employers an incentive to hire more women in form of tax benefits, or women centric schemes.
- **Attitudinal shift** - For true integration and inclusiveness of women at all levels, there needs to be an attitudinal shift and a reorientation of government policies at the implementation level.
- **Fund for women** - The Centre promises to set up a fund for women in the unorganised sector under the Code of Social Security, 2020.
- State governments should also set up and administer separate social security funds for unorganised workers.
- **Gender parity** - Men and women have to shoulder the responsibility of child care roles.
- **Economic right** - Redefine maternity as a fundamental economic right because women are bringing the nation's future workforce.

28. The Inter-services Organizations Bill, 2023

Recently, the Inter-services Organisations (Command, Control and Discipline) Bill, 2023 was introduced in Lok Sabha which empowers the central government to constitute Inter-services Organisation.

Current setup

- Presently, the service personnel of Air Force, Army and Navy are governed by
 - The Air Force Act, 1950
 - The Army Act, 1950
 - The Navy Act, 1957
- Only officers of the respective services are empowered to exercise disciplinary powers over the respective service personnel.
- This has a direct impact on command, control and discipline of the Inter-services Organisations (ISOs) and joint training establishments.
- In simple words, Commander-in-Chief or Officer-in-Command of such ISOs are not empowered to exercise powers over the personnel belonging to other services.

Inter-services Organisations (ISOs) include Andaman and Nicobar Command and Defence Space Agency and **Joint training establishments** includes National Defence Academy and National Defence College

Challenges in the current setup

- **Parent unit** - The personnel serving in the ISOs need to be reverted to their parent Service units for any disciplinary or administrative action.
- **Negatives** - This is both time consuming and have financial implications relating to the movement of the personnel.
- **Multiple proceedings** - It results in multiple sets of proceedings when the enquiry involves the same set of facts and circumstances but involves personnel belonging to different services.
- **Standard of discipline** - Multiple proceedings demands expeditious disposal of cases which eventually affects the standard of discipline.

What is the Inter-services Organizations Bill, 2023?

- It aims to address these impediments to ensure discipline and faster disposal of cases without disturbing the unique service conditions or amending the service Acts.

Key provisions of the bill

- **Establishment** - With the existing ISOs, the bill empowers the Union government to set up ISOs.
- These ISO can include a joint services command comprising personnel belonging to at least 2 of the 3 services.
- **Head of ISOs** - Commander-in-chief or the officer-in-command will be the heads of ISOs and it empowers them to exercise command and control over the personnel serving in an ISO or attached to it.
- **Superintendence** - The superintendence of these ISOs will be vested in the Central Government.
- **Parent Act** - Personnel will continue to be governed by their respective service Acts while serving in or attached to an ISO.
- **Impact on theaterisation** - The Bill ensure better management of theatre commands once they are operationalised.

Theaterisation of Armed Forces is a concept in which the three services will work as a single entity looking after security challenges in a specified geographical territory under an operational commander.

What are the impacts of the bill?

- Expedite disposal of cases
- Saving of time and public money by avoiding multiple proceedings
- Greater integration amongst armed forces personnel
- Addresses security challenges in a specified geographical territory

29. Evaluation of PM MUDRA Yojana

Recently Pradhan Mantri MUDRA Yojana (PMMY) completed 8 years contributing immensely to the inclusion of several communities that have traditionally been underrepresented as an entrepreneur.

Pradhan Mantri MUDRA Yojana (PMMY)

- PMMY provides collateral-free loans up to 10 lakh to the non-corporate, non-farm small/micro enterprises initially.
- PMMY was launched in 2015 with the objective to encourage young person to become 1st generation entrepreneurs.
- These loans are extended by Banks, NBFCs, Micro finance Institutions (MFIs) and other eligible financial intermediaries as notified by MUDRA Ltd.
- MUDRA has created three products namely 'Shishu', 'Kishore' and 'Tarun'.

What are the achievements of PMMY?

- **New Entrepreneurs** - The Mudra Scheme has created 8 crore new entrepreneurs.
- **Bridging the gap** - The scheme has potentially bridged the gap of India's microfinance and banking sectors providing loans to micro entrepreneurs.
- **Sub-culture of poverty** - The PMMY has reduced the sub culture of poverty in short span of time.
- **Banking in unbanked areas** - PMMY provided loans to bottom half of India providing loans to the unbanked areas.
- **Innovation** - It induced innovation, creative ecosystem and also the risk-taking appetite of entrepreneurs which generated lot of employment opportunities.
- **1st time entrepreneurs** - The share of Shishu loans is the highest (40%) suggesting that the PMMY has largely supported first-time entrepreneurs.
- **Inclusion** - PMMY has benefitted all segments of Indian society such as general, schedule caste/tribe (SC/ST) groups and other backward classes (OBCs).

- SC/ST and OBC categories account for a total of 51 per cent of all Mudra accounts.
- **Women empowerment** - The share of accounts held by women is 69%.
- In 2022 disbursements of loans to women entrepreneurs registered an average growth of 28%.
- **Equal distribution** - Since it is a national scheme, it has shown balanced penetration and economic growth across India.
- States such as Uttar Pradesh, Odisha and Bihar have recorded all-round gains from the PMMY.

Overall, the PMMY has achieved its objectives of equitable and fair spatial distribution of benefits during these 8 years.

What are the future aspirations?

- Timely utilization of benefits of 5G technology and e-commerce.
- More awareness about Mudra cards and further penetration in to remote areas.
- Scheme can be extended to personal sector other than farms and factories.
- They can start a loan funding of less than Rs 50,000 so that the gap of 0-50k can be fulfilled.

30. What is Civil Union, how is it different from Marriage?

- The Indian judiciary is currently hearing arguments about the legal recognition of same-sex unions under the Special Marriage Act.
- The Centre has contested the maintainability of the petitions, and the judiciary's right to confer legal recognition on the "socio-legal institution" of marriage.
- However, the CJI has clarified that the scope of the hearing would be limited to developing a notion of a Civil Union that finds legal recognition under the Act.
- This article explains what civil unions are, how they differ from marriage, and which countries allow them.

Civil Union

- A civil union is a legal status that allows same-sex couples specific rights and responsibilities normally conferred upon married couples.
- Civil unions resemble marriages and bring with them employment, inheritance, property, and parental rights, among other things.

How is a civil union different from marriage?

- In the US, prior to the Supreme Court's landmark ruling in "**Obergefell v. Hodges**" in 2015, a majority of the states had civil union laws that allowed same-sex couples to marry without providing them formal recognition of the same.
- Civil unions were recognised solely by issuing states and not by federal law, which meant that such couples could not enjoy the benefits of being in a civil union uniformly across all states.
- After the legalisation of same-sex marriages, several civil unions were converted into marriages.

What other countries allow civil unions?

- Several countries allow civil unions.
- Before Sweden legalised same-sex marriages in 2009, LGBTQ couples there could apply for civil unions and enjoy benefits such as the right to adopt.
- In Norway, couples could enter into civil unions from 1993, which gave way to a new law 15 years later allowing such couples to marry, adopt, and undergo state-sponsored artificial insemination.
- In Austria, same-sex couples could form civil partnerships between 2010-2017 until a court ruling deemed civil unions discriminatory, and such marriages were legalised.
- Similarly, countries like Brazil, Uruguay, Andorra, and Chile recognised the right of same-sex couples to enter into civil unions even before they formally recognised their legal right to marriage.

31. Nagaland's municipal tightrope

- The Nagaland government decided to be in contempt of the Supreme Court rather than going against the community-based organisations and facing their wrath by repealing the Nagaland Municipal Act of 2001.
- The move led to the cancellation of the State Election Commission's notification for conducting the Urban Local Bodies (ULBs) elections in Nagaland with 33% of the seats being reserved for women.
- However, the Supreme Court has stayed the notification cancelling the ULB elections body polls.
- Further, in the Legislative Assembly elections held in 2023, two women were elected to power for the very first time in Nagaland.

Opposition to ULB polls

- Nagaland is said to be the only State in the country where Urban Local Bodies seats are not reserved for women which are mandated under clause IV of the 74th Constitutional Amendment Act of 1992.
- The key reason for not extending the reservation to women is that several traditional tribal and urban organisations have opposed the 33% reservation of seats for women.
- These organisations believe that such reservations would violate the special provisions extended to Nagaland through **Article 371A** of the Constitution.
- According to Article 371A, no Act of Parliament would apply to the religious or social practices of the Nagas, their customary laws, administration of civil and criminal justice, and ownership and transfer of land and resources.
- Apex tribal hohos (bodies) argue that women have not been part of decision-making bodies as per their customs and traditions.
- The first and only ULB elections in the State were held in 2004 without reservation for women.
 - In 2006, the State government amended the Municipal Act of 2001 to extend 33% reservation for women as mandated by the 74th Constitutional Amendment.
 - This led to widespread opposition from local organisations which forced the government to postpone the ULB polls in 2009.
 - Again in 2012, efforts to conduct the elections were met with strong protests.
 - Later in September 2012, the State government enacted a resolution to exempt Nagaland from **Article 243T** of the Constitution which mandates the reservation for women in ULB elections.
 - The resolution to exempt the state from Article 243T was revoked in 2016 and elections with 33% reservation were notified. This notification resulted in widespread protests and large-scale violence and the government declared the process to conduct the election null and void in February 2017.

Latest developments

- Due to the pressure from the Supreme Court, the current Nagaland government after consulting various stakeholders such as churches, NGOs, and tribal bodies, established the ground for conducting elections in March 2022.
- The State Election Commission March notified the election dates.
- However, the tribal hohos and various civil society organisations opposed the move and cautioned the government that they would boycott the polls until the Municipal Act which extends reservations for women is reviewed and rewritten as per the will of the Naga people.

- Due to public pressure, the government has repealed the Municipal Act as the people “cannot be compelled” to participate in the elections.

Path ahead

- Various tribal and civil society organisations demand a “guarantee” that extending reservations to women would not violate the provisions of Article 371A.
 - They say that before conducting the ULB elections, the duration of the reservation must be capped at two tenures and have demanded that the post of chairperson must not be reserved for women.
- The Naga Mothers’ Association (NMA) has held that the State government should have listened to or consulted women’s organisations before taking such decisions.
 - Various women organisations have argued that reservations do not infringe upon Article 371A of the Constitution.
- The Supreme Court has also criticised the State government for adopting an “ingenious method” of repealing the Municipal Act to escape the court’s orders.
- The Supreme Court also pointed out that nothing so far has emerged w.r.t. Article 371A that denies the right of equality to women.

32. Highlights of Group of Seven (G7) Summit

G7 sets renewables target, however, no timeline for fossil fuel phase out.

Key proposals of the meeting

- **Energy transition** - G7 collectively decided to increase offshore wind capacity by 150 gigawatts and add solar capacity of over 1 terawatt.
- **Fossil fuels** - To ‘accelerate the phase out of’ unabated fossil fuels but failed to share a timeline for the phase out, including for unabated domestic coal.
- To ‘fully or predominantly’ decarbonise power sector by 2035.
- To eliminate inefficient fossil fuel subsidies by 2025 or sooner.
- **Critical minerals** - To resolve vulnerabilities and diversify the source of these critical minerals.
- **Climate finance** - Committed to work on the decisions agreed upon at COP27 to establish new funding arrangements, including a fund to assist developing countries.
- To accelerate efforts for financing adaptation.
- **Carbon markets** - ‘Principles of High-Integrity Carbon Markets’ have been proposed to ensure high-integrity carbon markets.

- **Industrial decarbonisation** - Recognised the risk of carbon leakage, where companies simply move their operations to countries with less stringent climate policies.
- Pledge to end new plastic pollution by 2040.

Why the meeting is not constructive?

- **Fossil Fuels** - While G7 ministers recognised the need to scale up renewable energy, their commitment to phase out of fossil fuels is frivolous and full of loopholes.
- **Rich countries** - They are shirking their responsibility to provide adequate finance to help poorer nations adapt to and recover from the losses and damages caused by climate disasters.
- The energy-transition ambition is not equally shared among the members.
- **Japan** - It has been an outlier because of its reluctance to phase out fossil fuels and instead rely on carbon capture and the use of hydrogen in promoting low-carbon technologies.
- **Canada** - While Canada pushed for stronger language on coal phase-out, the statement on fossil fuels was watered down due to Japan's opposition.
- Overall, the commitments made on energy transitions, with targets being set for solar and wind capacity additions are more than what was initially expected.
- However, this may not be enough to keep the 1.5 degrees Celsius target achievable.

What are the challenges in phasing out fossil fuels?

- The past commitments to energy transition were not achieved.
- No timeline to eliminate the phase out of fossil fuels.
- Lack of consensus in deciding the alternate energy.
- Loopholes in policy measures to phase out fossil fuels.
- The energy-transition ambition is not equally shared among the members.
- Geopolitical concerns for critical mineral extraction from poor countries.
- Lack of comprehensive action plan on carbon leakage.
- Low-carbon technologies and renewable hydrogen were not given due importance.

33. India's population to edge ahead of China's by mid-2023, says UN

The State of World Population Report 2023 has confirmed that India is expected to edge past China to become the world's most populous country by mid-2023. **India is set to become the most populous country**

- According to the latest report, India's population is estimated to be 1,428 million by mid-2023 which is marginally ahead of China's 1,425 million.
 - The U.S. is placed third on the list of most populous countries with an estimated population of 34 crores.
- The 2022 edition of the State of World Population Report had estimated China's population to be 1,448 million by mid-2022 which was more than that of India's 1,406 million population.
- Experts believe that the emergence of India as the world's most populous country in 2023 is mainly attributed to a sharp decline in China's population.
 - China witnessed a reduction of 23 million (i.e. 2.3 crores) in just one year.
- Although the numbers released by the reports are only estimates, the UNFPA reports are considered reliable indicators of global population trends.
 - The Decennial Census numbers are considered to be the most reliable in India and the 2021 Census exercise was postponed due to the COVID pandemic.
 - However, the Census office released population projections for the years 2012 to 2036, according to which, India's population in 2023 was estimated to be only 1,388 million which is significantly less than the numbers projected by the State of World Population report.
- According to the latest State of World Population report, if India's population continues to increase at the current pace which is close to 1% every year, then the population would double from the present value in the next 75 years.

Other key findings of the report

- The report notes that the global population has reached the 800-crore mark by November 2022.
- The report also highlights the fact that population trends across the world indicate slower growth and ageing societies contrary to the concerns about exploding numbers.
- Further, it reveals that only eight countries namely the Democratic Republic of Congo, Egypt, Ethiopia, India, Nigeria, Pakistan, the Philippines and the United Republic of Tanzania would account for half the projected growth in global population by 2050.
- As per the report, the countries with the highest fertility rates were: Niger (6.7), Chad (6.1), the Democratic Republic of Congo (6.1), Somalia (6.1), Mali (5.8) and the Central African Republic (5.8).
- And, the territories with the lowest birth rates were Hong Kong (0.8), South Korea (0.9), Singapore (1.0), Macau and San Marino (1.1) and China (1.2).

□ The report also suggests that two-thirds of the population live in a country where lifetime fertility corresponds with zero growth and this is considered a milestone and indicates advances in medicine, science, health, agriculture and education.

Way forward for India

- The report has called for a radical rethink of the policies adopted by the countries to address changing demographics and cautioned against the use of family planning as a tool for achieving fertility targets.
 - At a time when various states such as Assam are looking at imposing two-child norms, the report says that such type of family planning targets could result in gender-based discrimination and increased instances of prenatal sex determination leading to sex-selective abortion.
 - Furthermore, the imposition of such targets could cause an imbalance in sex ratios, denial of the paternity of girl children, violence against women for giving birth to girl children, etc.
- India has a time-bound opportunity to reap benefits from its demographic dividend as about 50% of its population is below the age of 25.
- India must look to maximise the opportunities and convert them into economic benefits by investing in improving the healthcare and education facilities along with creating employment opportunities for young people and also undertaking targeted investments for women and girls.
- Additionally, efforts must be underway to initiate the Census 2021 exercise which has been postponed multiple times in the last two years.
 - The delay in completing the 2021 Census could have adverse impacts on various sectors and also the overall growth prospects.
- The National Panchayat Awards were given to the **best-performing Panchayats** by assessing their performance in the **attainment of SDGs**.
- These **annual awards** were first instituted in 2011.
- The Awardee Panchayats are awarded under various categories namely:-
 - **Deen Dayal Upadhyay Panchayat Satat Vikas Puraskar (DDUPSVP)** for the performance under individual LSDG themes
 - **Nanaji Deshmukh Sarvottam Panchayat Satat Vikas Puraskar (NDSPSVP)** for the aggregate performance under all 9 LSDG themes and green initiative-related Special Categories
 - **Gram Urja Swaraj Vishesh Panchayat Puraskar**
 - **Carbon Neutral Vishesh Panchayat Puraskar** were felicitated by the dignitaries and the award money was transferred digitally to the Awardee Panchayats on this occasion.

NIRNAY app:-

- National Initiative for Rural India to Navigate, Innovate and Resolve Panchayat decisions (NIRNAY), is a mobile application of the **Ministry of Panchayati Raj**.
- It is aimed at **empowering rural communities during the National Conference**.
- It provides easy **access to critical information** discussed during a Gram Sabha.
- It will be a game-changer for rural communities in India by acting as a **means of verification of facts** where necessary or in case of queries that may arise regarding the resolutions undertaken during the Gram Sabha.
- This would bring in **more transparency and increase efficiency** in the functioning of Panchayats, which play a vital role in decentralized participatory democracy.
- It is a significant step towards realizing the vision of '**Minimum Government, Maximum Governance**' at the grassroots level.
- It is expected to **accelerate the pace of rural transformation** to achieve the vision of Gram Swaraj laid down by **Mahatma Gandhi**.

34. SCO members must pool resources, expertise on disaster resilience

- The Union Home Minister of India has urged the members of the Shanghai Cooperation Organisation (SCO) to adopt a collective approach to disaster resilience by pooling resources and expertise.
- The SCO consists of eight member states namely China, India, Kazakhstan, Kyrgyzstan, Russia, Pakistan, Tajikistan and Uzbekistan.
 - India has assumed the presidency of the SCO in 2022.
- The Union Home Minister chaired a meeting on the prevention and elimination of emergency situations and addressed the heads of department of SCO member states.
 - Pakistan attended the meeting virtually.
- The Minister further added that the SCO is probably the largest regional organisation in the world as it represents about 40% of the global population, close to 25% of the global GDP and around 22% of the world's total land area.
- He also said that India believes that no hazard is small or big, and it does not leave anyone behind and India has now developed more accurate and timely early warning systems for disasters such as drought, floods, heat waves, cyclones, etc.
 - Furthermore, the India-led Coalition for Disaster Resilient Infrastructure (CDRI) has about 39 members from across the world.
 - The Tsunami Early Warning System for the Indian Ocean Rim countries set up by the Indian National Centre for Oceanic Information Services serves close to twenty other countries.

35. Nagaland Municipal Act

The Nagaland government amended the Nagaland municipal act 2001, which breached the Supreme Court order to avail 33% reservation to women in local body election.

Special provisions to Nagaland

The article 371A under part 21 of the constitution provides for the special provisions to the Nagaland. The special provisions are

- **Limitation to parliament** - In the following matters the parliament cannot make any laws
 - Religious or social practices of the Nagas,
 - Naga customary law and procedure,
 - Administration of civil and criminal justice involving decisions according to Naga customary law and
 - Ownership and transfer of land and its resources.
- **Governor's special responsibility for law and order** - Internal disturbances occurring in the Naga Hills-Tuensang Area has governor's individual judgment and his decision is final.
- **A regional council** - Consisting of 35 members should be established for the Tuensang district of the state.
- **Tuensang district** - Members in the Nagaland Legislative Assembly from Tuensang district are not elected directly by the people but by regional councils.

What is the issue now?

- **Election without women reservation** - The first and only civic body election in Nagaland was held in 2004 without any reservation of seats for women.
- **Amendment to 2001 Municipal Act** - The act was amended to include 33% reservation for women in line with the 74th Amendment.
- This triggered widespread opposition forcing the government to indefinitely postpone the ULB polls in 2009.
- **Resolution to exempt article 243T** - Nagaland Government repealed the Nagaland Municipal Act 2001 to annual the 33% women reservation.
- **Article 371A** - The government repeal the Nagaland Municipal Act 2001 citing the provisions in article 371A.
- **Article 243T** - The amendment of Nagaland Municipal Act 2001 violated the provisions of article 243T.

- **State Election Commission** - Cancelled the elections to Nagaland's 39 urban local bodies (ULBs) with 33% of the seats reserved for women.

What is the supreme courts stand on this issue?

- Supreme Court have stayed the order of election commission, directing the Nagaland state Election Commission to hold local body election with 33% women's reservation.
- SC also noted that nothing so far has emerged from the Naga customary laws that limits the advancement of women.

What can be done?

- There should be open consultations and talks between hohos (apex tribal bodies of Nagas) and the Naga Mothers' Association (NMA).
- The Naga Mothers' Association (NMA) should be given a chance to voice out their opinions.
- The leaders of the various tribal organizations should be educated about the positive impacts of the political advancement of the women.

36. Why were political parties not informed about defective VVPATs, demands Congress

Election Commission has identified 6.5 lakh VVPAT machines as defective.

- The opposition has slammed the Election Commission (EC) for not informing about the defective Voter Verifiable Paper Audit Trail (VVPAT) machines.
 - EC has identified 6.5 lakh defective VVPATs.
- It was highlighted by the opposition party that the number of defective machines is more than one-third of the number used in the 2019 Lok Sabha election.
- The Congress Party's Spokesperson said that "defects at such a large scale require full transparency to restore public faith and trust in the electoral process."
- The EC was also accused of not abiding by the standard operating procedure.
 - According to the procedure, the field officer is responsible for identifying defects.
 - In case of a new VVPAT machine, the District Election Officer carries out a "first level check".
 - If any defect is found, the machine is returned to the manufacturer within 7 days, in coordination with the Chief Election Officer.

37. The LoC agreement of 2007 deserves a relook

Background Details:

- According to former special envoy Satinder Lambah, the Line of Control (LoC) agreement (2007) was ready to be signed by then Prime Minister Manmohan Singh and Pakistan President General Musharraf.
- However, it was disrupted by the stand-off with the judiciary in Pakistan (2007) and the Mumbai 26/11 attacks (2008).
- Mr. Lambah publicly referred to the settlement in 2014. He further made it clear that India would never agree to give away any territory.
- In his book, he further expanded the idea that the “Line of Control has to be respected like a normal border between the two countries”.
- It should be noted that any initiative to restart the dialogue between both countries has been hampered by terrorist attacks.
- Moreover, Pakistan’s proposal to restore ties was impacted by India’s act to amend Article 370.
- The relationship between the two land neighbours is grim as:
 - There is no political contact at any level.
 - There is a lack of trade activities.
 - There is an absence of direct travel links by air, road, or rail.
 - Moreover, there are no High Commissioners in each other’s countries.
- The relations would further weaken after the recent terror attack in Poonch.
- Other associated concerns:
 - Unjust arrests and continued security crackdown on politicians and civil society.
 - Stringent lockdowns and Internet bans.
 - Targeting journalists.
 - Cross-border terrorism and attacks on Kashmiri Pandits.

India-Pakistan Engagement:

- Despite ruptures in India-Pakistan ties, the relationship always veers towards engagement.
- All Indian Prime Ministers have continued to seek engagement with Islamabad and have often resorted to back-channel processes.
 - The back-channel mechanism is believed to be run between India’s National Security Adviser and Pakistani intelligence.
 - They focus on preventing hostilities. For instance, the post-Balakot strike in 2019, the LoC ceasefire agreement of 2021, etc.
- The two sides have also discussed matters like the reappointment of High Commissioners and the restoration of visas and people-to-people ties.
 - Notably, the Indian Home Minister has also hinted the initiatives like the Kartarpur Corridor, and Sharda Peeth Corridor (a corridor to the temple in Pakistan-occupied Kashmir’s Neelum Valley).

Way Ahead:

- India and Pakistan should revisit the LAC agreement. However, there have been many changes in the last 15 years. For instance,
 - India revoked J&K's special status and Statehood (August 2019).
 - It also revoked Article 35(A).
 - Gender parity in property inheritance was already implemented in 2002. The J&K High Court directed against the provision of taking away property rights of women who married outside the State.
- The residents of J&K should be given a fair chance to prosper without the constant overhang of war and a proxy war.
- The non-territorial agreement should be revisited and adopted by both sides.

Conclusion:

- The LoC has remained stable for almost half a century. Any military operations in LoC are unlikely to occur.
- Moreover, Pakistan's own internal crises (political and economic) puts it on a weak wicket.
- The bigger challenge for India is the Chinese threat at the Line of Actual Control.

38. To cut at root of narcotics, Centre plans drive against poppy, cannabis

- In the direction of making India "drug-free" by 2047, the Ministry of Home Affairs intends to link recovery and usage of narcotics and banned substances to the annual appraisal report of a District Superintendent of Police of the area.
- This will fix responsibility and bring accountability.
- As per the Narcotics Control Bureau (NCB), approximately 35592 acres of poppy cultivation and around 82691 acres of cannabis were destroyed in India in the last three years.
- Some of the states where the crops were destroyed are Arunachal Pradesh, Manipur, Maharashtra, Gujarat, Madhya Pradesh, Rajasthan, etc.
- Manipur government introduced an alternative livelihood scheme for farmers growing poppy illegally. It also provided cash incentives to destroy illegal crops.
- Moreover, drones were used to analyze the destruction of illegal crops in remote regions.
- About 2412 persons (including 224 foreigners) were arrested by the NCB in the last three years.

- The Union Home Ministry encourages liberal implementation of the Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances (PITNDPS) Act, 1988.
 - It has a provision to detain a person for up to two years without a court's intervention.
 - The orders can be passed by the Central/State government or any officer of the Central government not below the rank of Joint Secretary.
- Anti-Narcotics Task Forces (ANTF) have been created by all the states of the country.
- In 2022, NCB conducted a financial investigation for 33 cases in which property worth ₹17 crores was frozen.
- The National Narcotics Coordination portal highlights the source and destination of the drugs, maintaining information up to the district level.
- NIDAAN database stores the photographs, fingerprints, court orders, information, and details of all suspects and convicts arrested under the Narcotic Drugs and Psychotropic Substances (NDPS) Act.
- Moreover, special training is provided to public prosecutors to deal with such cases.

39. 50 years of Kesavananda Bharati Case

Fifty years ago, on April 24, 1973, the Supreme Court delivered its judgment in Kesavananda Bharati Sripadagalvaru and Ors vs. State of Kerala and Anr, the landmark case that redefined the relationship between Parliament and the Constitution.

Kesavananda Bharati Case (1973)

- The Kesavananda Bharati judgement, was a landmark decision of the Supreme Court that outlined the basic structure doctrine of the Indian Constitution.
 - The case is also known as the Fundamental Rights Case.
 - The SC in a 7-6 decision asserted its right to strike down amendments to the constitution that were in violation of the fundamental architecture of the constitution.
 - The Court asserted through the Basic Structure doctrine that the constitution possesses a basic structure of constitutional principles and values.
 - Key outcomes were:
1. **Basic Structure Doctrine:** It is a principle that limits Parliament's power to amend the Indian Constitution. It holds that certain fundamental features of the Constitution, such as the principle of separation of powers, cannot be amended by Parliament.

2. **Judicial Review:** The Court partially cemented the prior precedent *Golaknath v. State of Punjab*, which held that constitutional amendments through Article 368 were subject to fundamental rights review, but only if they could affect the 'basic structure of the Constitution'.
3. **Exceptions to Judicial Review:** At the same time, the Court also upheld the constitutionality of the first provision of Article 31-C, which implied that amendments seeking to implement the Directive Principles, which do not affect the 'Basic Structure,' shall not be subjected to judicial review.

Criticism of the doctrine

- **Dilution of powers:** The basic structure doctrine has been criticized for diluting the principle of separation of powers and undermining the sovereignty of Parliament.
- **Ambiguous nature:** It has also been criticized as a vague and subjective form of judicial review.

Landmark cases of the doctrine

- **Indira Gandhi v Raj Narain (1975):** The Supreme Court applied the principle laid down in the *Kesavananda* ruling for the first time in this case. It struck down The Constitution (39th Amendment) Act, 1975, which barred the Supreme Court from hearing a challenge to the election of President, Prime Minister, Vice-President, and Speaker of Lok Sabha.
- **Minerva Mills Ltd vs. Union of India (1980):** The Supreme Court struck down a clause inserted in Article 368, which said "there shall be no limitation whatever on the constituent power of Parliament to amend by way of addition, variation or repeal the provisions of this Constitution."
- **P Sambamurthy v State of Andhra Pradesh (1986):** The Supreme Court struck down a portion of the 32nd Amendment (1973), which constituted an Administrative Tribunal for Andhra Pradesh for service matters, taking away the P jurisdiction of the High Court.
- **L Chandra Kumar v Union of India (1997):** The Supreme Court struck down a portion of the 42nd Amendment, which set up administrative tribunals excluding judicial review by High Courts.

Significance of the Judgment and the doctrine

- **Strengthen judicial review:** The doctrine forms the basis of the power of the Indian judiciary to review and override amendments to the Constitution of India enacted by the Parliament.
- **Clarification about Article 368:** Article 368 postulates only a 'procedure' for amendment of the Constitution. The same could not be treated as a 'power'

vested in the Parliament to amend the Constitution to alter the 'core' of the Constitution, which has also been described as the 'basic structure' of the Constitution.

- **Not antithetical to legislative authority:** Justice Shastri said Judicial Review was undertaken by the courts "not out of any desire to tilt at legislative authority in a crusader's spirit, but in the discharge of a duty laid down upon them by the Constitution".
- **A system of checks and balances:** The Kesavananda Bharati verdict (1973) made it clear that judicial review is not a means to usurp parliamentary sovereignty. It is a "system of checks and balances" to ensure constitutional functionaries do not exceed their limits.

40. China's Diplomacy in Central Asia

The China and the five Central Asian republics (C+C5) grouping trade meeting indicated the growing diplomatic ties of china with Central Asia region.

Status of china's relation with Central Asia

- **Ancient Silk Route** - Provided trade, cultural, and people-to-people links with the Central Asian region with china historically.
- **Break-up of the Soviet Union** - This gave an opportunity to China to formalize the ties with Central Asia.
- **Shanghai Cooperation Organization (SCO)** - China's relationship with the region was institutionalized with SCO.
- **Trade route** - The central Asia provided trade route to Europe for China.
- **Chinese investments** - Have helped to upgrade Soviet-era infrastructure and carry out development works in these countries.
- **Belt and Road Initiative** - There are 51 BRI projects located in the region, which provides transit hub for China's trade with Europe.
- **C+C5 summit** - A grouping of China + Uzbekistan, Kazakhstan, Tajikistan, Turkmenistan, and Kyrgyzstan.
- This summit is the latest development of series of Chinese engagement with Central Asia.

What is the status of India's relation with Central Asia?

- **Summit of the C5** - Prime Minister Narendra Modi hosted a virtual summit of the C5 in 2022.
- India's first engagement with the Central Asian nations collectively at the highest level.

- **Shanghai Cooperation Organization (SCO)** - India being one of the member of SCO influence its decision on the region which are mostly related to security concerns.
- **Chabahar port** - Provides the trading route via sea.
- **Air corridors** - India should try the air corridors to overcome the hurdles of land route.

What are the challenges to India's relation with Central Asia?

- Non availability of land trade route since its access being denied by Pakistan
- Even though Chabahar port provide sea trade it is not fully developed yet
- The Central Asia have well established relationship with china and Russia leaving less room for India
- Even though India a member of SCO its decision are limited to security concerns
- The Russia and china are cultural and historically connected unlike India so it's hard to develop a deep relationship with the region

GS 3 : Economy, Science and Technology, Environment

1. Photovoltaic Waste Management

The solar photovoltaic waste has been increasing in recent times and there are policy gaps in addressing it.

Solar photovoltaic

- Photovoltaics (often shortened as PV) gets its name from the process of converting light to electricity which is called the *photovoltaic effect*.
- A single PV device is known as a cell.
- These PV cells such as semiconductor materials *such as silicon, and selenium*.
- When the light falls, the selenium compound releases electrons that are sufficient to maintain the flow of current through the external circuit.

What is photovoltaic waste?

- The solar photovoltaic contain elements such as silver, tin, lead, glass sheet, aluminum frame, copper wires, panel encapsulant and silicon wafers.
- Leaching of toxic metals (such as lead and cadmium) into the soil contaminates the local water.

- Gradual incineration of the panel encapsulant releases sulphur dioxide, hydrogen fluoride and hydrogen cyanide into the atmosphere.
- According to International Renewable Energy Agency (IRENA) India could generate 50,000-3,25,000 tons of cumulative photovoltaic waste by 2030 and more than 4 million tons by 2050.
- India is expected to become one of the top five leading photovoltaic waste producers globally by 2045-2050.

R.K. Singh committee had been constituted to propose an action plan to evolve a “circular economy” in solar panel through reuse/recycling of waste generated.

What measures were taken for the reduction of PV waste?

- **Revised electronic waste (e-waste) management Rules in 2022**-Brought solar photovoltaic cells, panels, and modules under its ambit.
- **Green Credit Programme**-Aims to promote green growth and sustainable practices addressing solar photovoltaic wastes.

What are the challenges?

- **Lack of commercial recovery units**-Lack of commercial raw material recovery facility for solar e-waste operations in India.
- **Informal units**-Growing informal units in handling photovoltaic waste
- **Landfills** -The 80% of photovoltaic waste are landed in landfills
- **Lack of policy**-No policy in the collection, storage, recycling, and repurposing of photovoltaic waste.
- The solar wastes are included in the e-waste but there is no separate policy for it.
- **Lack of markets**-The market to repurpose or reuse recycled photovoltaic waste is less in India.
- **Lack of institutions**-A body to measure, monitor, and report solar photovoltaic waste is absent.

2. India's Semiconductor Dreams: A Strategic Shift in Focus and Incentives

- India's semiconductor policy should shift focus from attracting global giants like Intel to leveraging existing facilities and developing domestic solutions for electronics markets.

Background

- The US Department of Commerce and India's Ministry of Commerce and Industry recently signed a memorandum of understanding to ensure subsidies do not hinder India's semiconductor ambitions.
- However, the likelihood of Intel investing in a greenfield 300mm wafer fabrication plant in India remains low due to its focus on fabs in the US.

Facts for prelims: Semiconductors

- Semiconductors are materials that have properties that are in between those of conductors (such as copper) and insulators (such as rubber).
- They have the ability to conduct electricity under certain conditions, but not under others.
- The conductivity of semiconductors can be manipulated through the introduction of impurities or doping with other materials. This process alters the electronic properties of the material and creates regions of excess or deficit of electrons, called p-type and n-type regions respectively. The interface between these regions is known as a p-n junction, which is a fundamental building block of many semiconductor devices.

Applications

- Semiconductors are a fundamental component of modern technology and have significant importance in many areas of our daily lives.
- **Electronics industry:** Semiconductors are a crucial component in the electronics industry, which is one of the fastest-growing industries in the world. Semiconductors are used in a wide range of electronic devices, from smartphones and computers to medical equipment and home appliances.
- **Miniaturization:** The ability to miniaturize electronic components using semiconductors has led to the development of smaller, more powerful, and more energy-efficient devices. This has enabled the development of portable devices, such as smartphones and laptops, which have become an essential part of our daily lives.
- **Energy efficiency:** Semiconductors have enabled the development of energy-efficient devices, which are crucial in the context of climate change and global warming. Energy-efficient lighting, for example, uses semiconductor materials such as LEDs, which consume far less energy than traditional incandescent bulbs.
- **Renewable energy:** Semiconductors are also essential in the development of renewable energy technologies such as solar cells and wind turbines. Solar cells, for example, use semiconductor materials to convert sunlight into electrical energy.

- **Medical applications:** Semiconductors are also used in a wide range of medical applications, from imaging devices to implantable medical devices. In particular, semiconductor-based biosensors are becoming increasingly important for disease diagnosis and monitoring.

All you need to know about India's semiconductor policy

India has launched a new semiconductor policy called the National Policy on Electronics (NPE) in 2019, with the aim of creating a globally competitive electronics manufacturing industry in the country.

- The policy aims to attract investment in semiconductor fabrication units, also known as fabs, and encourage the development of a domestic ecosystem for semiconductor design and manufacturing.

The key objectives of the policy

Attracting investment: The policy aims to attract global semiconductor companies to set up manufacturing units in India by providing them with incentives such as financial support, tax incentives, and land at subsidized rates.

- **Promoting domestic manufacturing:** The policy aims to promote domestic manufacturing of semiconductor components by providing incentives such as production-linked incentives, subsidies, and preferential market access to products made in India.
- **Developing human resources:** The policy aims to develop a skilled workforce in the semiconductor sector by providing training and education programs in collaboration with leading academic institutions.
- **Encouraging research and development:** The policy aims to encourage research and development in the semiconductor sector by providing financial support to research institutions and startups.

India's semiconductor policy: What it needs?

1. India's Semiconductor History

- The Semi-Conductor Laboratory (SCL) was established in Mohali in 1983 to create an electronics ecosystem.
- Market liberalization in 1991 and a fire in 1989 derailed these plans, but the facility still has the potential to support India's semiconductor ecosystem.

2. Shifting Focus:

- The Ministry of Electronics and Information Technology (MeITy) has been trying to attract Intel to India, but their efforts may not be fruitful.
- A better approach would be to leverage SCL's existing assets and focus on the More than Moore segment of semiconductors (>180 nm node) for automotive electronics, PV-Inverters, 5G infrastructure, and railway electronics.

3. Incentives and Subsidies:

- Subsidies should target fabless design houses with proven designs willing to fabricate at the SCL in the 180nm+ node.
- Incentives should also be provided to global design companies with products aimed at India-specific markets.
- The existing DLI/PLI schemes do not provide such incentives, and a course correction is needed.

4. Leveraging Existing Infrastructure:

- Efforts to open up subsidies to global small and medium-sized enterprises in the upstream supply chain are welcome.
- However, coupling these efforts with the defined incentives and targeted upgrades is essential for success.

5. **Leadership and Execution:** To achieve this vision in the next five years, the SCL needs a full-time director with prior "More than Moore" foundry experience, as opposed to a career scientist from the Department of Space.

Conclusion

- India's semiconductor policy should shift focus from attracting global giants like Intel to leveraging existing facilities and developing domestic solutions for electronics markets. This will require a strategic shift in focus, targeted incentives, and strong leadership. Failure to act may result in India missing out on the semiconductor fabrication bus once again.

3. Significance of Biomass

Recently, Ministry of Power revised the policy on biomass thus obligating the thermal power plants to increase the use of biomass pellets.

Biomass pellets

- Biomass pellets are any materials can burn.
- It includes

- Agricultural waste such as crop stalk and straw material, rice husk, cotton stalk, coffee husk, alfalfa straw, coconut shell, palm shell, sugarcane bagasse.
- Forestry residue such as sawmill residue, branches, bark, leaves.
- Solid waste such as junk paper, waste plastic, cardboard.

Biomass Co-firing Policy

- Biomass co-firing is a method for efficiently and cleanly converting biomass to electricity by adding biomass as a partial substitute fuel in high-efficiency coal boilers.

Biomass Co-firing Policy

- **Aim** -To meet India's renewable energy targets and lowering greenhouse gas emissions from the power sector.
- **Revised policy 2021** -Mandates the use of 5% biomass pellets made primarily of agro-residue along with coal in thermal power plants with effect from 1 year from the date of issue of the policy.
- Thermal power plants shall increase the usage to 7% with effect from 2 years after the date of issuance of this policy.
- **Cutting coal supply** -Government is considering cutting coal supply for those thermal power plants that do not comply with the policy on biomass co-firing.

What is the significance of biomass?

- Enable generation of green electricity
- Cut down coal consumption
- Create employment
- Reduce CO₂ emissions and air pollution
- Help in achieving India's global commitment towards 45% emission reduction by 2023
- Cheaper than imported coal and reduce stubble burning
- Economic alternative for all thermal power plants

What are the challenges in using biomass?

- Providing a single window for clearances
- Lack of steady and consistent supply of biomass
- Varied availability and quality of biomass across India
- Difficult to store since they attract moisture

- Lack of infrastructure in transport and storage of biomass
- The process to retrofitted biomass co-firing equipment is expensive
- Lack of market for biomass pellets

What measures were taken for promotion of biomass in power plants?

- **Pellet manufacturing sector** -Being encouraged to bridge the demand-supply gap of biomass pellets.
- **Financial assistance schemes** -For biomass pellet manufacturing units from Ministry of New and Renewable Energy and Central Pollution Control Board.
- **Priority Sector Lending (PSL)** -Biomass pellet manufacturing have been included in the priority sector lending.
- **E-Marketplace** - The biomass pellets can be procured through the government e-Marketplace by the thermal power plants.
- **SAMARTH (Sustainable Agrarian Mission on use of Agro Residue in Thermal Power Plants)** -Provides for co-firing of biomass waste in Thermal Power Plants.
- **Energy Conservation (Amendment) Act 2022** -Specifies that all thermal power plants will have to use renewable fuel sources either as energy or feedstock.

What is the need of the hour?

- Robust regulatory framework that offers incentives and support for biomass co-firing.
- Creation of competitive market for biomass in order to ensure equitable pricing and distribution.
- A framework to support inter-ministerial coordination.
- The Biomass Co-firing Policy needs to be backed by a strong policy and regulatory framework that provides incentives and support for biomass co-firing.

4. Small Cats and its Significance

Recently, Global Tiger Forum (GTF) has launched small wild cats conservation programme in India for the protection of small cats.

Small cats

- **Evolution** -The evolution of small wild cats started some 35 to 28.5 million years ago.

- **Family** -Small wild cats are member of the cat family (Felidae).
- **Uniqueness** -Small cats are distinguished from the big cats by their ossified hyoid bones.
- The ossification of bones linked to the sound box permits small cats only to “purr” and not roar like their larger relative.
- **Weight** -Small in size with a maximum weight of 25 kg.
- **Gestation period** - 70 to 90 days.
- **International Union for Conservation of Nature (IUCN)** -The IUCN red listing for India’s small cat species ranges from “least concerned” to “near threatened”.
- **Distribution** -Globally 41 species of small wild cats are recognized and 11 of these are from India.

11 species of small wild cats in India	
Clouded leopard	Eurasian lynx
Leopard cat	Fishing cat
Rusty-spotted cat	Jungle cat
Asian golden cat	Caracal
Asiatic wild cat	Marbled cat
	Pallas’s cat (manul)

What is the significance of small cats?

- **Mid position** -In the ecological food web, mid position makes them closer to both plants as well as top predators.
- **Transfer** - Ex-situ to in-situ transfer is easy and effective.
- **Indicators** -Great surrogate indicators of biodiversity.
- **Sentinels of global change** -Recognized as sentinels of global change.
- **Adaptations** - Show all adaptations typical to all felids except clouded leopard which has acrobatic capability for an arboreal mode of life.
- **Unique role** -Their role in ecosystem is equal to apex predator.
- **Ecologically diversity** -Helps in protecting ecological diversity.
- **Habitats and niches** -Have more species diversity as it occupies varied habitats and niches.
- **Stressors** -The short lifespan, shorter gestation and high reproductive rates of small cats respond readily to stressors operating in a habitat.
- **Managerial interventions** -Small cats along with other mesopredators act as a zoom lens for fine-scale managerial interventions.

What factors affect the population of small cats?

- Loss of habitation
- Increasing poaching
- Revenge killing
- Lack of protection by government
- Lack of regulation bodies

What measures were taken for the conservation of small cats?

- **Landscape approach** -Engagement with all stakeholders such as government as well as non-governmental operating in the envisioned landscape to protect small cats.
- This approach needs mutually-gainful reciprocal commitments based on a master plan.
- This approach will bring in gains to both people and the ecosystem through a centrifugal approach.

5. World Bank to lend \$1 billion to India

Introduction:

- The World Bank has approved \$ 1 billion in support to India's healthcare project, Pradhan Mantri-Ayushman Bharat Health Infrastructure Mission(PM-ABHIM).
 - It was launched in October 2021, to improve the public healthcare infrastructure across the country.
- The lending will be divided into two complementary loans of \$500 million each.

Key Details:

- The loan is intended to help India with preparedness for future pandemics as well as to strengthen its health infrastructure.
- In addition to the national-level interventions, one of the loans will prioritise health service delivery in seven States – Andhra Pradesh, Kerala, Meghalaya, Odisha, Punjab, Tamil Nadu, and Uttar Pradesh.
- The \$500-million Public Health Systems for Pandemic Preparedness Programme (PHSPP) will support the government's efforts to prepare India's surveillance system to detect and report epidemics of potential international concern.
- Another \$500-million Enhanced Health Service Delivery Programme (EHSDP) will support the government's efforts to strengthen service delivery through a redesigned primary healthcare model, which includes improved

household access to primary healthcare facilities, stronger links between each household and its primary care facility through regular household visits and risk assessment of non-communicable diseases.

- Both the PHSP and the EHSDP loans from the International Bank for Reconstruction and Development (IBRD) have a final maturity of 18.5 years, including a grace period of five years.
- India's performance in health has improved over time. According to the World Bank estimates, India's life expectancy has increased from 58 in 1990 to 69.8 in 2020. This is higher than average for the country's income level.

6. ISRO's Reusable Launch Vehicle Mission RLV LEX

The Indian Space Research Organisation (ISRO) conducted a successful autonomous landing mission experiment for a Reusable Launch Vehicle (RLV) at the Aeronautical Test Range in Chitradurga, Karnataka.

Reusable Launch Vehicle (RLV)

- RLV is a type of spacecraft that is designed to be reused multiple times for launching payloads into space, instead of being discarded after a single launch like traditional rockets.
- They are seen as a more cost-effective and sustainable option for space launches, as they reduce the need for manufacturing new rockets for each mission.
- They typically consist of a reusable orbiter, similar to a space shuttle, and a reusable booster that provides the initial thrust needed to lift the orbiter and payload into space.
- After the payload is released into orbit, the orbiter and booster return to Earth and land back on a runway, where they can be refurbished and reused for future launches.

Why developing RLV is a big feat?

Developing RLVs requires advanced technologies, including-

1. Heat-resistant materials for protecting the spacecraft during re-entry into Earth's atmosphere
2. Advanced guidance and control systems for landing and
3. Reliable propulsion systems for launching and landing

ISRO's RLV-TD project

- ISRO is developing essential technologies for a fully reusable launch vehicle to enable low-cost access to space.
- The RLV-TD is being used to develop technologies like hypersonic flight (HEX), autonomous landing (LEX), return flight experiment (REX), powered cruise flight, and Scramjet Propulsion Experiment (SPEX).
- It looks like an aircraft and consists of a fuselage, a nose cap, double delta wings, and twin vertical tails.

Development of RLV

(1) First RLV experiment:

- In 2016, the RLV-TD was launched into space on a rocket powered by a conventional solid booster (HS9) engine.
- The spacecraft travelled at a speed of Mach 5 when re-entering the earth's orbit and travelled a distance of 450 km before splashdown in the Bay of Bengal.
- Critical technologies such as autonomous navigation, guidance and control, reusable thermal protection system, and re-entry mission management were successfully validated.

(2) Second RLV experiment:

- The RLV LEX test on April 2, 2023, involved a Chinook Helicopter lifting the RLV LEX to a height of 4.5 km and releasing the RLV.
- After midair release, the RLV carried out an autonomous landing on the Aeronautical Test Range airstrip, under the exact conditions of a Space Re-entry vehicle's landing.
- It achieved landing parameters as might be experienced by an orbital re-entry space vehicle in its return path.

Advantages of RLVs

- Reusable launch vehicles are considered a low-cost, reliable, and on-demand mode of accessing space.
- The cost of a launch can be reduced by nearly 80 percent of the present cost by using RLVs.

Global RLV technologies

- NASA space shuttles have been carrying out dozens of human space flight missions.

- The private space launch services provider SpaceX demonstrated partially reusable launch systems with its Falcon 9 and Falcon Heavy rockets since 2017.
- SpaceX is also working on a fully reusable launch vehicle system called Starship.
- Several private launch service providers and government space agencies are working on developing reusable launch systems.

Significance

- RLVs have the potential to significantly reduce the cost of space launches, as a significant portion of the cost of traditional rockets comes from the need to manufacture new rockets for each mission.
- By reusing spacecraft, the cost per launch can be significantly reduced.
- Additionally, RLVs can provide greater flexibility and reliability for space launches, as they can be launched on-demand instead of needing to be manufactured and assembled for each mission.

7. Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)

Recently, Britain agreed to join the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).

About the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP):-

- CPTPP is a **free trade agreement (FTA)** that was agreed upon in **2018 between 11 countries**.
 - These include **Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam**.
- It **does not have a single market for goods or services**, unlike the European Union.
- The CPTPP incorporates, by reference, the provisions of the **Trans-Pacific Partnership (TPP) agreement**, with the **exception** of a number of provisions pertaining mainly to **intellectual property and investor-state dispute settlement**, whose application will be suspended once the CPTPP comes into force.
- **Trans-Pacific Partnership (TPP) agreement** :
 - It was originally concluded by **12 countries**.
 - These include **Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States and Vietnam**.

- It was **signed in 2016**, by all 12 parties.
- In **January 2017**, the **United States notified** TPP signatories of its intention to not ratify the TPP, effectively **withdrawing from the TPP**.

Significance:-

- CPTPP is helping to **create jobs and strengthen economic relations**.
- It is an ambitious and high-standard free trade agreement **covering virtually all aspects of trade and investment**.
- The agreement **features ambitious market-access commitments** in trade in **goods, services, investment, labour mobility and government procurement**.
- The agreement also **establishes clear rules** that help create a **consistent, transparent and fair environment**.
- It covers virtually all sectors and aspects of trade in order **to eliminate or reduce barriers**.

8. Current Paradigm of Economics In India Is Inadequate

- The current paradigm of economics in India is inadequate in providing solutions to the three major economic challenges the country is facing. The economists need to break out of their self-referential silo and examine the science of complex self-adaptive systems.

The Poly-crisis faced by India

- The Indian government is grappling with three economic challenges at the same time:
 1. Management of inflation,
 2. Trade agreements, and
 3. Employment
- Economists do not have a systemic solution for this poly-crisis. Consensus among them has broken down even about solutions to its separate parts.

Lessons from China and Vietnam

- **Foreign investment in China:** China and India opened their economies to global trade around the same time, some 35 years ago. Since then, China attracted foreign investment that was many times more than in India, and the incomes of its citizens increased five times faster.
- **Vietnam emerging as more attractive destination:** To attract investors, India must compete with other countries. Vietnam is often cited as a country that is

proving to be more attractive than India to western and Japanese investors. However, when looking into Vietnam, they rediscover what was learned from China.

- **High levels of human development:** When both countries opened to foreign investors China before Vietnam, they had already attained high levels of human development, with universal education and good public health systems.

The Problem with the Current Paradigm

- There are some fundamental flaws in the current paradigm of economics.
- Economists often cite Tinbergen's theory, which states that the number of policy instruments must equal the number of policy goals. This is a mechanical and linear view of how a complex system works.
- In complex organic systems, root causes contribute to many outcomes. The behaviour of the system cannot be explained by linear causes and effects. The causes interact with each other, and effects also become causes.

Facts for prelims: What is Tinbergen's theory?

- Tinbergen's theory states that the number of policy instruments (P) must be equal to the number of policy goals (G), in order to achieve the desired outcome.
- In other words: $P = G$
- This means that for each policy goal, there should be at least one policy instrument to achieve it.
- For example, if the policy goal is to reduce inflation, then there should be a policy instrument such as interest rate changes to achieve that goal. Similarly, if the policy goal is to promote employment, then there should be a policy instrument such as job creation programs to achieve that goal. Tinbergen's theory emphasizes the importance of having a clear and consistent policy framework to achieve desired outcomes

Crises and the Inadequacy of the System

- **Policies that fit one country may not fit the needs of others:** Macro-economists search for global solutions, but trade and monetary policies that fit one country may not fit the needs of others. Their needs have emerged from their own histories.
- **Emphasis on data trends:** Economists arrive at solutions by comparing data trends of different countries, and in their models, people are numbers. Economists do not listen to real people, whereas politicians try to at least.

- **For instance:** The inadequacy of the current paradigm was revealed by several crises in this millennium, the 2008 global financial crisis, inequitable management of the global COVID-19 pandemic, and the looming global climate crisis.

Conclusion

- A new economics is required to solve the poly-crisis faced by India. A movement to change the paradigm of economics' science to bring perspectives from the sciences of complex self-adaptive systems has begun even in the West. India's economists must step forward and lead the change towards a new economics paradigm based on the sciences of complex self-adaptive systems. India's policymakers will have to find a way to strengthen the roots of the economic tree while harvesting its fruits at the same time, and the current paradigm of economics cannot provide solutions.

9. UN Water Conference and Key Takeaways

- The UN 2023 Water Conference was held in New York from March 22-24.
- It was the first such meeting on water in 46 years.
- The conference aimed to identify game-changing ideas and make recommendations to policymakers on how to speed up and scale up change in the water sector.

What is the UN Water Conference?

- The UN Water Conference is an international conference that aims to better align activities by governments, companies, NGOs, and funders around a few grand challenges in the water sector.
- It serves as a platform for countries to learn from the experiences of others, transfer technology, and invest.
- The last UN Water Conference was held in 1977.
- It resulted in the first global 'Action Plan' recognizing that all people have the right to access safe drinking water and sanitation.
- This led to several decades of global funding and concerted effort to provide drinking water and sanitation for all.

Themes of the conference

The Conference has five themes that support the SDG 6 Global Acceleration Framework:

1. **Water for Health:** Access to 'WASH' (Global Water, Sanitation, & Hygiene) including the Human Rights to Safe Drinking Water and Sanitation
2. **Water for Sustainable Development:** Valuing water, the water-energy-food nexus and sustainable economic and urban development.
3. **Water for Climate, Resilience and Environment:** Source to sea, biodiversity, climate, resilience and disaster risk reduction.
4. **Water for Cooperation:** Transboundary and international water cooperation, cross sectoral cooperation and water across the 2030 Agenda.
5. **Water Action Decade:** Accelerating the implementation of the objectives of the Decade for Action, including through the UN Secretary-General's Action Plan.

Purpose of the conference

- International conferences on water aim to better align activities by governments, companies, NGOs, and funders around a few grand challenges.
- They help countries learn from the experiences of others, transfer technology, and invest.
- Water problems tend to be local and need local solutions, so there is a challenge of mobilizing globally to solve local water problems.

Water challenges discussed

- While access to safe drinking water and sanitation is challenging, extending services to underserved populations is relatively uncontroversial.
- However, improving access to water and sanitation no longer translates directly to sustained access.
- The water problem is no longer about access to water and sanitation; the remaining SDG 6 targets address the need to sustain agriculture, industry, and natural ecosystems.

Outcomes of the 2023 Conference

- The conference's proceedings resulted in a lot of talk, fragmented discussions, and no binding commitments.
- There were 713 diverse voluntary commitments by philanthropic donors, governments, corporations, and NGOs, with 120 relevant to India.
- Commitments included a \$50-billion commitment from the Indian government to improve rural drinking water services under its Jal Jeevan Mission.

Examples of Commitments

- **Technology:** Specific innovations in wastewater treatment or solar treatment of water in remote areas, and a number of proposals for incubation platforms.
- **Data and Models:** Cost-effective approaches to data-generation included sensors and satellite data. Other efforts offered data analysis tools.
- **Knowledge Sharing:** One useful tool was the W12+ Blueprint, a UNESCO platform that hosts city profiles and case studies of programs, technologies, policies that addresses common water security challenges.
- **Capacity Building:** Efforts offered to help marginalized communities and women understand how to exercise their rights.
- **Civil Society:** Platforms for collective action by civil society groups lobbying for changes in regulations.
- **Environmental, Social, and Corporate Governance:** The conference concluded that effective water governance hinges on these broad areas, and weaving them into the Water Action Agenda is a step.

10. OPEC's Oil Output Cut

Recently, the OPEC decided to cut the oil production due to low demand and to stabilize the oil markets.

OPEC

- Organization of Petroleum Exporting Countries (OPEC) is a permanent intergovernmental organization of 13 oil-exporting developing nations.
- **Mission** -To coordinate and unify the petroleum policies of its Member Countries ensuring the stabilization of oil markets in order to ensure regular supply of petroleum to consumers.
- **OPEC Secretariat** -Is the executive organ of OPEC.
- **Headquarters** -Vienna, Austria.
- **Significance** -OPEC
 - Hold more than 80% of the world's proven oil reserves
 - Produces about 40% of the world's crude oil
 - Exports make up around 60% of global petroleum trade
- **OPEC+** -It is a loosely affiliated entity consisting of the 13 OPEC members and 10 of the world's major non-OPEC oil-exporting nations.
- It includes Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan and Sudan in addition to OPEC members.
- Since 2016, they cooperate in fixing the global crude oil prices.

What are the impacts of the oil cut?

Global impacts

- The global benchmark Brent rose by more than 5%
- Inflationary pressures on the global economy
- Fluctuations in global assets
- The oil producing nations other than OPEC have also reduced the oil production
- The oil market might move into a deficit

The Brent benchmark is used to price over three-quarters of the world's traded oil as one of the most liquid crude grades. It is processed by refiners around the world.

Impact on India

- - Higher oil import bills and this could lead to inflation
 - Current account deficit will increase
 - Weaken Indian rupee
 - May decrease global investment in India especially USA
 - Complex for the monetary policy committee to fix the basis points

11. Coastal Aquaculture Authority (Amendment) Bill, 2023

The Coastal Aquaculture Authority (Amendment) Bill 2023 was introduced in the Lok Sabha.

Aquaculture

- Aquaculture essentially means, breeding, raising, and harvesting fish, shellfish, and aquatic plants.
- In a nutshell, it's farming in water.
- Saline water along the coast has been found to be suitable for practising aquaculture which produces shrimp, majorly.
- If aquaculture is not practised on this land, it will be left idle and uncultivated as it is not suitable for the cultivation of crops.
- Aquaculture can be practised on about 12 lakh hectares in the country along the coast, of which only 14% has been utilized so far.

Key highlights of the amendment

- **Decriminalisation of certain offences:** The Bill aims to decriminalize the offences under the Coastal Aquaculture Authority Act.
- **Fine-tuning operational procedures:** It seeks to promote ease of doing business and to fine-tune the operational procedures of the authority.
- **Promotion of environment-friendly coastal aquaculture:** The Bill also aims to promote newer forms of environment-friendly coastal aquaculture, such as cage culture, seaweed culture, marine ornamental fish culture, and pearl oyster culture.
- **Create employment opportunities:** These newer forms of coastal aquaculture have the potential to create additional employment opportunities.
- **Prevention of use of harmful substances in coastal aquaculture:** The Bill also includes a provision to prevent the use of antibiotics and pharmacologically active substances that are harmful to human health in coastal aquaculture.

About the Coastal Aquaculture Act

- This Act was enacted in the year 2005 for the establishment an authority to regulate activities in this sector.
- It is a parliamentary act that establishes the Coastal Aquaculture Authority (CAA) for the regulation and registration of coastal aquaculture farms in India.

Overview

- The CAA Act, of 2005 mandates the Central Government to take measures to regulate coastal aquaculture and ensure that it does not cause any harm to the coastal environment.
- The guidelines prescribed by the government aim to promote responsible coastal aquaculture practices that protect the livelihood of various coastal communities.

Key features

- The CAA Act, 2005 provides for the establishment of the Coastal Aquaculture Authority to regulate the activities related to coastal aquaculture.
- The Central Government is responsible for prescribing guidelines to regulate coastal aquaculture activities and ensure responsible practices.
- The guidelines aim to protect the livelihood of coastal communities and prevent any harm to the coastal environment.
- The Act also mandates the registration of coastal aquaculture farms to ensure their compliance with the guidelines.

- The CAA is a strong force in enforcing the regulations and registration of coastal aquaculture farms in India.

Significance

- The Coastal Aquaculture Authority Act, of 2005 is significant in promoting responsible coastal aquaculture practices and protecting the livelihood of coastal communities.
- The act ensures that coastal aquaculture activities are regulated and registered, which helps prevent harm to the coastal environment.

12. What is Dhawan II Engine?

In Telangana, private space vehicle company Skyroot Aerospace has test-fired its 3D-printed Dhawan II engine.

Dhawan II Engine

- The Dhawan II engine is a cryogenic engine developed by Skyroot Aerospace for use as the upper stage of the updated version of their Vikram II rocket.
- The engine was recently test-fired for a duration of 200 seconds and demonstrated impressive performance results.
- Cryogenic engines use extremely cold liquid propellants, which can provide greater thrust and enhance the payload-carrying capacity of a rocket.
- The engine was developed using advanced technologies like 3D printing and green propellants.
- Its successful testing marks a significant milestone for Skyroot Aerospace in their efforts to become the first private launcher from South Asia.

Stipulated use

- The Dhawan II engine will be used as the upper stage of the updated version Vikram-2.
- Using a cryogenic upper stage instead of a solid fuel stage enhances the payload carrying capacity of a rocket.
- The updated Vikram II rocket is scheduled to become launch-ready by next year, making Skyroot the first private launcher from South Asia.

Skyroot's other sub-orbital and orbital flights

- Skyroot carried out its first sub-orbital flight in November 2021, using a single-stage solid fuel Vikram S rocket.

- The company plans to carry out its first orbital flight by the end of this year using the updated Vikram II rocket.
- The Vikram-1 rocket, the first in the series of rockets being developed by Skyroot, will use three solid-fuel stages to take satellites to orbit.

Impressive performance results and advanced technologies

- The endurance test of Dhawan-II demonstrated impressive performance results.
- The company is proud to be at the forefront of developing cutting-edge cryogenic technologies in the private space sector of India.

13. Open-Source Seeds Movement

In recent times, public sector breeding has declined and the private sector has begun to dominate the seed sector.

What are the issues faced by farmers regarding the seed sector?

- **Genetic revolution** - Agriculture was led by the private sector with seeds mostly made available as hybrids and/or protected by strong IPRs.
- **Intellectual property rights (IPR) protection** - Plant breeders' rights and patents restrict farmers' rights to develop new varieties using germplasm from IP-protected varieties.
- **Plant breeders' rights (PBR)** - Farmers' rights were limited while rights holders could demand royalty on seeds and legally enforce PBRs.
- **Exclusive rights** - Farmers haven't sought exclusive rights over seeds and germplasm to prevent others from innovating on the seeds.

How has the PPV&FR Act addressed the issue?

- **Protection** - Farmer who has bred or developed a new variety shall be entitled for registration and other protection under PPV&FR Act 2001, in the same manner as a breeder of a variety.
- **Rights** - Farmers can register varieties as 'farmer varieties' and have the *right to save, use, sow, re-sow, exchange and share or sell* the seed of a variety.
- **Commercial purposes** - The farmers can't breed and trade in varieties protected under the Act for commercial purposes.
- **Genetic fund** - Farmer who is engaged in the conservation of genetic resources of land races and wild relatives of economic plants and their improvement through selection and preservation shall be entitled genetic fund.

How PPV&FR Act differ from other Acts/Processes?

Seeds Act, 1966 vs PPV&FR Act, 2001

- Seeds Act, 1966, Seeds Rules 1968 with Seeds (Control Order) 1983 are the legal instruments for *regulating the production, distribution and the quality* of certain seeds for sale.
- PPV&FR Act, 2001 grants the *proprietary ownership* of the variety to the plant breeders and farmers for their varieties.
- The duration of protection of registered varieties is different for different type of crops
 - Trees and vines - **18 years**
 - For other crops - **15 years**
 - For extant varieties notified - **15 years** from the date of notification under section 5 of the Seeds Act, 1966.

What are open source seeds?

- The open source seeds is a mechanism based on the principles of open source software.
- **Open Source Seeds Initiative (OSSI)** is the first open source seeds initiative launched by Jack Kloppenburg in 2012.
- It asks for a pledge, that an individual won't restrict others' use of these seeds or their derivatives by patents or other means.

In India, the Hyderabad-based Centre for Sustainable Agriculture (CSA), part of the Apna Beej Network, developed a model incorporated into an agreement between CSA and the recipient of the seed/germplasm.

How significant is the approach?

- Using the open source approach will enable farmers to gain more rights over germplasm and seeds and facilitate innovation.
- It can bring uniformity across India.
- Farmer-led seed conservation and distribution systems can be created using open source approach.
- It facilitates testing, improvisation, and adoption that will benefit India's food security and climate resilience.

14. Union Cabinet gives nod to Indian Space Policy, 2023

The Union Cabinet has approved the Indian Space Policy, 2023.

Indian Space Policy, 2023

- It aims to enhance the role of the Department of Space, boost the activities of ISRO missions, and encourage participation from research, academia, startups, and industry.

Salient features

(1) Outlining roles and responsibilities

- The Indian Space Policy, 2023 outlines the roles and responsibilities of various organizations in the space sector.
- The policy includes the responsibilities of ISRO, NewSpace India Limited, and private sector entities.
- This clarity in roles will help in the efficient functioning of the components set up in recent times.

(2) Multistakeholder participation

- The policy aims to boost the space sector by enhancing the role of the Department of Space and encouraging participation from research, academia, startups, and industry.
- This will help in the development of the space segment and create more opportunities for the private sector.

(3) Boosting ISRO Missions

- The Indian Space Policy, 2023 aims to boost the activities of ISRO missions.
- This will help ISRO achieve its objectives more efficiently and effectively.
- It will also help in the development of new technologies and innovative solutions.

(4) Involvement of Private Sector

- The Policy, 2023 recognizes the importance of the private sector in the development of the space sector.
- It encourages the involvement of private sector entities in various aspects of the space segment.
- This will create more opportunities for the private sector and help in the growth of the Indian space industry.

(5) Research and development

- The policy aims to involve research, academia, and startups in the development of the space sector.
- This will help in the development of new technologies, innovative solutions, and talent pool.
- It will also help in the growth of the Indian space industry and create more opportunities for research and development in the sector.

Conclusion

- The Indian Space Policy, 2023 is a comprehensive policy that provides clarity in the roles and responsibilities of various organizations in the space sector.
- The policy aims to boost the space segment, encourage private sector involvement, and involve research, academia, and startups in the development of the sector.
- The policy will help in achieving the objectives of ISRO more efficiently and effectively, and create more opportunities for the private sector and research and development in the space sector.

15. The Forest (Conservation) Amendment Bill, 2023

Forest (Conservation) Act, 1980

- The Forest (Conservation) Act was passed on October 25, 1980.
- It contains regulations concerning forest conservation and matters related to it.
- **Restriction on dereservation of forests** – No State Government or other authority shall convert forest land for non-forest purpose except with the prior approval of the Central Government.
 - Non-forest purposes include use of land for cultivating horticultural crops or for any purpose other than reforestation.
- **Appeals** - Any person aggrieved, by an order or decision of the State Government or other authority may file an appeal to the National Green Tribunal established under NGT Act, 2010.
- **Advisory Committee** - The Central Government may constitute a Committee consisting of such number of persons as it may deem fit to advise the Government.
- **Power to make rules** - The Central Government can make rules for carrying out the provisions of this Act.
- The Act has been amended only once before, in 1988.

In 1976, forests were included in List III (Concurrent List) under the Seventh Schedule of the Constitution.

What are the key features of the bill?

- **Restrictions on activities in forest** - The Bill adds more activities to the list of activities that will be excluded from non-forest purposes such as
 - Zoos and safaris under the Wild Life (Protection) Act, 1972 in forest areas other than protected areas
 - Eco-tourism facilities
 - Silvicultural operations
 - Any other purpose specified by the central government.
 - The central government may specify exclusion of any survey
- **Land under the purview of the Act** - The bill provides for 2 types of land to be under the purview of the Act.
 - Land declared/notified as a forest under the Indian Forest Act, 1927 or any law
 - Land not covered in the first category but notified as a forest on or after October 25, 1980 in a government record
- **Exempted land** - The Bill exempts
 - Forest land along a rail line or a public road maintained by the government up to a maximum size of 0.10 hectare
 - Land situated within 100 km along the international borders, Line of Control, or Line of Actual Control
 - Land proposed to be used for constructing security infrastructure and defence related projects (not exceeding 5 hectares in a left wing extremism affected area)
- **Assigning Forest land** - Requires prior approval of the central government to direct the assigning of forest land to any organisation not owned by the government.
- **Delegation of power** - The Central government may issue directions for the implementation of the Act to any other authority/ organisation.

What are the criticisms of the bill?

- The amendment Bill seeks to limit the applicability of the FC Act only to land recorded as 'forest'.
- The restricted scope of the Act required fewer projects to obtain forest clearance.
- The amendment aids in the diversion of 'deemed forest' for non-forest use.
- The scope of the amendments is pushing plantations to achieve carbon neutrality by limiting the scope of the Act.
- The amendment may also affect the rights of the indigenous and forest-dwelling populations who are now protected under the Forest Rights Act.

16. Protest by Idu Mishmis

National Tiger Conservation Authority's (NTCA) proposal to convert Dibang Wildlife Sanctuary into Tiger Reserve has attracted protests from Idu Mishmis.

Idu Mishmis

- **Mishmi group** - The Idu Mishmi is a sub-tribe of the larger Mishmi group.
- The Mishmi group consists of Digaru, Miju and Idu sub tribes.
- **Location** - Mishmi Hills in Arunachal Pradesh and neighboring Tibet.
- They are of Mongoloid race and have a distinctive dialect falling under the Tibeto-Burma group of languages.
- **Occupation** - Weaving and craftsmanship skills
- **Population** - 12,000 people as per 2011 Census.
- **Language** - Idu Mishmi language is considered endangered by UNESCO.
- **Worship** - Idu-Mishmis believe in animism.
- They worship Maselo-Zinu and Nani Intaya as creators of mankind and universe as a whole.
- Mithun, is a semi-domesticated cattle of the Gaur family which they consider extremely valuable and rear for ritualistic sacrifices.
- **Cultural relations** - They brew local rice beer called 'Ebu'.
- Reh and Ke-Meh-Ha are two important festivals of Idus.
- According to Idu mythology, tigers are considered to be their "elder brothers" as they were born to the same mother.
- **Iyu-ena** - It is a strict belief system of myths and taboos that restrict them from hunting many animals, including a complete prohibition on killing tigers.
- **The Idu Mishmi Cultural and Literary Society (IMCLS)** - Apex body of the tribe.
- The body fights for the rights of the tribe.

Dibang Wildlife Sanctuary

- The Dibang Wildlife Sanctuary is located in the **Dibang Valley district, Arunachal Pradesh** which is divided into upper and lower Dibang Valley.
- It is named after the **Dibang River which originates in China** and cascades through this valley.
- The sanctuary was notified in 1998.
- The vegetation of Dibang Wildlife Sanctuary is of temperate and alpine type.
- Important fauna includes Red Panda, Musk Deer, Serow Leopard, Tiger, Orange Bellied Himalayan Squirrel, Himalayan black bear, barking deer, snow leopard, and the famous **Mishmi Takin**.

Tribes of Arunachal Pradesh - Adi, Nishi, Apatani, Tagin, Mishmi, Khampti Nocte, Wancho, Tangshangng, Singpho, Monpa, Sherdu-Kpen and Aka

What is the NTCA proposal about?

- The NTCA has proposed for a reconstitution of the existing Dibang Wildlife Sanctuary as the Dibang Tiger Reserve.
- As Dibang Valley became a site by wildlife biologists to map the tiger habitat and count tigers, the recommendations from these visits have led to this proposal.

What are the concerns?

- **Access** - An upgrade to a tiger reserve would feature stricter security measures like a 'Special Tiger Protection Force', which would be guarding the area at all times.
- The tribe fears that the move will cut off access to their lands.
- **Arbitrary actions** - Members of the community claim that Dibang Wildlife Sanctuary was created without people's consent or knowledge.
- The due procedure as mentioned in the provisions of the Wildlife Protection Act, 1972 and the Land Acquisition Act, 1894 was not followed.
- **Demarcation** - In 2015, the community had approached the Gauhati High Court seeking legal re-demarcation of the wildlife sanctuary.
- **Misleading facts** - The community also alleges that the Wildlife Institute of India (WII) study about the presence of tigers in the upper reaches of the Mishmi hills is misleading.

17. Global energy transition has made progress but falls short of 1.5°C pathway: Report

A recent report by the International Renewable Energy Agency in Berlin.

Key findings of the report:

- The report has found that the global energy transition is still **"off-track"** and **falls short of the 1.5 degrees Celsius** pathway.
 - However, progress has been made in the energy transition, particularly in the power sector where renewables account for **40 percent** of installed power generation globally and contribute to an unprecedented **83 percent** of global power additions in 2022.
- To keep **1.5°C alive**, deployment levels must grow from some **3,000 gigawatts (GW)** today to over **10,000 GW in 2030**, an average of **1,000 GW annually**.

- Deployment is also **limited to certain parts** of the world.
 - **China, the European Union, and the United States** accounted for two-thirds of all **additions last year, leaving developing nations further behind.**

Public sector intervention

- **Public sector intervention** is required to channel investments toward countries more equitably.
- In 2022, **85 percent** of global renewable energy investment benefitted less than **50 percent** of the world's population. Africa accounted for only **1 percent** of additional capacity in 2022.
 - **Africa** is home to about **120 developing and emerging markets that** continue to receive comparatively little investment.

Global investment in energy transition technologies

- It reached **\$1.3 trillion** in 2022, yearly investments must more than quadruple to over \$5 trillion to stay on the **1.5 degrees Celsius pathway**.
- **By 2030**, cumulative investments must amount to **USD 44 trillion**, with transition technologies representing **80 percent** of the total, or **\$35 trillion**.
- **41 percent** of planned investment by **2050** remains targeted at **fossil fuels**.
 - Around **USD 1 trillion** of planned annual fossil fuel investment by **2030** must be redirected towards transition technologies and infrastructure to keep the **1.5°C target within reach**.
- Current pledges and plans fall well short of **IRENA's 1.5°C pathway** and will result in an emissions gap of **16 gigatonnes (Gt)** in 2050.

Emission targets

- **Nationally Determined Contributions (NDCs), long-term low greenhouse gas emission development strategies (LT-LEDs), and net-zero targets**, if fully implemented, could reduce carbon dioxide (CO₂) emissions by **6 percent by 2030** and **56 percent by 2050**, compared to 2022 levels.
- However, most climate pledges are yet to be translated into **detailed national strategies and plans**, implemented through policies and regulations, or supported with sufficient funding.

Recommendations

- A fundamental shift in the **support to developing nations** must put more focus on energy access and climate adaptation.

- **Multilateral financial institutions** need to direct more funds, in better terms, towards energy transition projects and build the physical infrastructure that is needed to sustain the development of a new energy system.

18. Evolution of Dengue Virus

This article discusses the concerns around the evolution of Dengue Virus in India.

Key Details:

- A team of researchers from the Indian Institute of Science has analysed the evolution and diversity of dengue virus in India by studying 184 whole-genome dengue sequences and 408 E gene sequences spanning over 60 years.
- Researchers have found that the cross-protection offered by the first infection with any of the four dengue serotypes starts to wane after two to three years, and the virus that is similar to the serotype that caused the first infection has a greater ability to cause severe disease than the other serotypes.
 - This is because while the antibodies are not able to neutralise the virus belonging to different serotypes, the virus is better able to bind to the antibodies leading to higher cell infection and thus enhanced severity and viral load. This is called the antibody-dependent enhancement mediated by cross-reactive antibodies.
- The dominant immune selection pressure has led to the emergence of a unique Indian dengue lineage (DENV-4-Id) belonging to serotype 4 (DENV-4).
- They identified a unique Indian dengue lineage (DENV-4-Id) belonging to serotype 4 (DENV-4) that is dominant in South India, and about 50% of infections in South India are due to this lineage.
- The researchers also found that the evolution of the viruses across serotypes has implications in vaccine efficacy as the current Indian lineages are highly divergent from those used in all major vaccines.

19. Farmer distress Falling prices, failing hopes

Cultivators of onion and potato in States such as Uttar Pradesh, Maharashtra, and Gujarat are at breaking point.

Background

- When the cultivators are hoping to get at least ₹400 to ₹500 per quintal for their yield, their yield is being auctioned at only ₹150 to ₹200 per quintal.
- Apart from the production cost which includes the cost of seeds, labour, insecticides, pesticides, and other expenditure for cultivating onions which

amount to ₹800 to ₹1,000, cultivators must also bear the transport charges which would be ₹1,500.

- However, the highest amount that the traders offer to buy the produce in the wholesale market is only ₹500 per quintal.
- Cultivators of onions and potatoes across the States of Maharashtra, Gujarat and Uttar Pradesh are facing similar challenges which have led to an increase in their debts.

Key reasons for the farmers' troubles

- Dipping prices in the wholesale market
- Adverse weather conditions
- Demonetisation in 2016
- The COVID-19 pandemic induced lockdowns

Case of Gujrat

- Bumper yields of up to 15-20% over last season have resulted in a price crash.
- The increase in the yields has meant that the farmers have lost control over the selling price as it is determined based on demand and supply.
- Further, it is said that farmers have also lost control over the rising costs of labour, pesticides, irrigation and freight charges.
- A few of the farmers have abandoned their harvested crops on farms at the Agricultural Produce Market Committee (APMC) campus at Mahuva in Gujarat which is India's largest onion trading centre for white onions and the second largest for red onions.

Troubles of farmers in Maharashtra

- Maharashtra's Nashik accounts for about 30% of India's onion production.
- Parts of Maharashtra have witnessed adverse weather conditions such as droughts every alternate year since 2015 and excessive rainfall in 2022 which has impacted the cultivation.
- Experts believe that onion is a politically-sensitive crop and political parties in power would try to keep the prices low.
- Recently, an onion cultivator from Borgaon in Solapur district travelled 70 km to the APMC centre at the district headquarters and earned a net profit of ₹2.49 against the sale of 512 kg of onions to a trader.
- Many farmers are feeling the heat of the issue as the average debt now stands at ₹5 lakh.

Challenges faced by potato cultivators in Uttar Pradesh

- Uttar Pradesh is the largest potato-producing State in India. However, a crisis is looming in the State similar to the price crash of potatoes in 2017 soon after demonetisation.
- Potato being a winter crop requires cold conditions for cultivation and the changing weather conditions have affected production significantly.
- The farmers in Uttar Pradesh are facing two issues namely the price drop and the significant reduction of 15% to 20% in yield.
- Because of the low demand, potatoes are being sent into cold storage. However, the State's 1,971 cold storage units have been running to full capacity in recent years.

Way forward

- Farmers must make use of the Operation Greens scheme which facilitates farmers to sell their produce outside the State with the help of a 50% subsidy from the Centre on the cost of transportation.
- Government interventions are required to reduce the production expenditure that includes prices of seeds, fertilizers, and pesticides which have increased by two times in recent years.
- Efforts must be made to increase the exports of onions and potatoes which significantly benefit Indian farmers.
- Farmer associations have been demanding the government to trade potatoes and onions in the Multi Commodity Exchange of India.
- A Farmers' Commission could be established that provides farmers with the right to decide the price of their crops similar to the way industrialists do for their products and also safeguard their interests.

20. Cheetahs and India's grasslands

Twelve Cheetahs from South Africa were successfully translocated to Madhya Pradesh's Kuno National Park on February 18, 2023.

Introduction:

- Cheetah reintroduction in India involves the attempt to introduce and sustain a small population of Southeast African cheetahs in India more than 70 years after India's native subspecies, the Asiatic cheetah became extinct.
 - The Asiatic subspecies is now found only in Iran in critically endangered numbers.
- Since September 2022, India has translocated eight African cheetahs from Namibia and 12 from South Africa.

- Project Cheetah aims to bring back 50 cheetahs in various National Parks over five years.

Impact on India's Grasslands:

- Cheetahs, as apex predators, play an important role in maintaining the balance of grassland ecosystems.
- Grasslands cover a significant portion of India's land area and provide essential ecosystem services such as carbon sequestration, soil conservation, and water regulation.
- However, they are under threat from overgrazing, habitat loss, and fragmentation. This has led to the degradation of grassland ecosystems and a decline in the population of many grassland species.
- The reintroduction of cheetahs could help restore the ecological balance of India's grasslands. Cheetahs prey on herbivores, such as gazelles and antelopes, which helps control their population and prevent overgrazing. This, in turn, promotes the growth of vegetation and helps maintain the biodiversity of the grasslands.
- Additionally, the presence of cheetahs could attract tourists, which could provide economic benefits to local communities and incentivize conservation efforts.
- Overall, the reintroduction of cheetahs to India has the potential to save the country's grasslands and promote ecological sustainability. It is a complex and long-term project that requires careful planning and implementation, but it could have significant benefits for the environment, the economy, and local communities.

Success stories:

- The Project Tiger initiative, launched in 1973, has been a great success in the conservation and protection of tigers and their habitats in India. At present, India has 53 reserves making up 2.3% of the country's geographical area.
- Tiger reserves are also important for the development of larger ecosystems. These reserves provide a safe haven for a variety of flora and fauna, many of which are threatened or endangered.
- By conserving and protecting tiger habitats, Project Tiger has contributed to the conservation of many other species as well.
- **Beavers** were introduced into many parts of North America during the 20th century, and they have had a positive impact on the ecosystems they inhabit. Beavers create dams and ponds, which provide habitat for a wide range of aquatic and terrestrial species, including fish, amphibians, birds, and mammals.

- The beaver ponds also help to maintain water quality by trapping sediment and pollutants, and they can increase the productivity of the surrounding land by providing additional water for irrigation.

21. Fake News: Addition of The Provision In Intermediary Guidelines

- The addition of the fake news provision in the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 (Intermediary Guidelines) must be seen in the context of protecting fundamental rights while combatting fake news. The recent addition by the central government clearly militates against settled law and the Constitution.

What is mean by Fake news?

- Fake news refers to intentionally fabricated or misleading information presented as if it were real news. It can be spread through traditional media sources like newspapers or television, but it is more commonly associated with social media platforms and other online sources.
- Fake news can range from completely made-up stories to misleading headlines and selectively edited or out-of-context information designed to deceive readers.
- It is often used for political purposes, to manipulate public opinion or to spread misinformation about individuals, organizations or events.

Existing Provisions to Combat Fake News

- **Intermediary Guidelines of 2021:** The most preferred democratic process to combat the threats and impact of fake news on a polity would be through Parliament-enacted laws. India opted for the speedier alternative of an addition to the Intermediary Guidelines of 2021 (as amended), through Rule 3(1)(v).
- **Can not disseminate misleading content:** Under this rule, intermediaries including social media platforms have to ensure that users do not disseminate content that deceives or misleads on the origin or knowingly and intentionally communicates any information which is patently false or misleading in nature but may reasonably be perceived as a fact.

Remedies Available

- **Complaints and grievance:** Any complaints from users, government, or court have to be actioned by the grievance officer of an intermediary, including social media platforms, within 15 days. This timeframe for actioning a complaint for complaints of false or misleading news is reduced to 72 hours.

- **Resolution:** The next step for resolution is provided through the Grievance Appellate Committees, which the government recently announced appointments for.
- **Other actions:** These remedies are independent of and in addition to the remedies available in law for a government agency to seek takedowns or blocking, as per due process or for courts to decide thereon.

Critique of the Addition

- **Provisions already exists:** The recent addition of a separate category for restraint on dissemination by users of content in respect of any business of the Central Government is unwarranted as provisions already exist. The restraint is on users and not intermediaries, as misconceived by many. The onus on intermediaries is only of reasonable effort.
- **No transparency:** With merely a central government-authorized fact check unit saying so, content could be classified as fake, false or misleading and a takedown and action necessitated, without even a semblance of due process.
- **No legitimacy:** In the present instance, there is an absolute absence of legitimate aim for this additional restriction on users and an abject lack of procedures that would assure due process.

Reaffirming the Need for Legitimacy

- **The recent addition clearly militates against settled law and the Constitution:** The Supreme Court in Puttaswamy judgment reaffirmed the need for legitimacy, supported by parliament enacted laws, which are proportionate to meet the test of constitutionality.
- **Media One case:** Supreme Court's recent judgment in the Media One case (Madhyamam Broadcasting Limited v. Union of India, April 5, 2023) reiterates that any law or regulation inconsistent with fundamental rights is void. This judgment also reaffirms the four principles that will decide the constitutionality of a law or regulation: (i) unreasonableness or irrationality; (ii) illegality; and (iii) procedural impropriety.

Some of the dangers of fake news

- **Inciting communal violence:** In India, fake news has been known to incite communal violence. For instance, the spread of fake news on social media was one of the factors behind the Muzaffarnagar riots of 2013.
- **Undermining public trust:** Fake news can undermine public trust in institutions and the media. This can have serious consequences for democracy and social cohesion.

- **Impact on health:** Fake news about health issues can have serious consequences. For example, during the COVID-19 pandemic, fake news about remedies and cures for the disease led to people consuming dangerous substances.
- **Misinformation during elections:** Fake news can also be used to spread misinformation during elections, which can influence voters and distort the democratic process.
- **Economic harm:** Fake news can cause economic harm by spreading false information about businesses, leading to loss of investor confidence and financial losses.
- **Spreading rumors:** Fake news can also be used to spread rumors about individuals, which can have serious consequences, such as the recent case of fake news leading to the lynching of two men in Assam.

Conclusion

- The recent addition is unsustainable and unwarranted as provisions already exist. The fight should be for the protection of fundamental rights that are essential to our very existence.

22. Burning bright

The latest tiger census data was released.

Details:

- As per the results of the quadrennial census of the tiger (in 2022), the tiger population in India is at least 3167.
- The tiger population in 2018 was estimated to be around 2967.
- Project Tiger was launched in 1973 and this is its 50th year. The government of India has consistently devoted its attention to ensuring that tigers continue to populate Indian forests.
 - It should be noted that there were only 9 tiger reserves in 1973. It reached 53 in 2022.
- Some features of India's big cat conservation approach are not relying on fenced reserves and the participation of forest-dwelling communities.

Associated Concerns:

- There is an increasing presence of tigers outside protected reserves.
- However, in the Western Ghats, tiger populations within the protected forests are stable.

- The increase in the number of tiger reserves has not translated into these reserves becoming suitable habitats for tigers.
- The conservation efforts need to be improved in Andhra Pradesh, Chhattisgarh, Jharkhand, Odisha, and Telangana as the wildlife habitat faces several threats like:
 - Conflicts with humans
 - Unregulated cattle grazing
 - Habitat encroachment
 - Hunting
 - Expanding infrastructure
 - Fire threats
 - Excessive harvesting of non-timber forest products
 - Mining activities

Way Ahead

- There should be extra care to maintain the balance between making the ground fertile for conservation and keeping the rights of forest-dwelling communities intact.
- Moreover, conservation efforts should not come at the expense of the right to livelihood and dignified living of forest-dwelling communities.
- Right incentives should be provided to all associated stakeholders.

23. Project Tiger

Recently Prime Minister Narendra Modi launched 5th cycle of India's Tiger Census to mark 50 years of 'Project Tiger'.

Why is tiger so significant?

- It is a **top predator** and is at the apex of the food chain.
- The presence of tigers in the forest is an indicator of the well-being of the ecosystem.
- Tigers are both a **Flagship and Umbrella species**.
- As a Flagship species they are important for conservation and as Umbrella species, conservation of tigers leads to conservation of other species.

What is Project tiger?

- Project Tiger was launched by the Central government on April 1 1973 in a bid to promote conservation of the tiger.

- First launched at the **Jim Corbett National Park**.
- **Centrally Sponsored Scheme** of the Ministry of Environment, Forests and Climate Change providing central assistance to the tiger States for tiger conservation in designated tiger reserves.
- Focuses on the conservation of big cats and ensures the preservation of their natural habitat as tigers are at the top of the food chain.

What about the recent tiger estimates?

Nearly 75% of the world's tiger population can now be found in India and tiger reserves in the country span 75,000 square kilometres.

- As per the All India Tiger Estimation (AITE) 2021-2022, the number of tigers in India has increased by 6.74% from 2,967 in 2018 to **3,167 in 2022**.
- The tiger census is held once in every 4 years by **National Tiger Conservation Authority (NTCA)** in association with state forest departments and the **Wildlife Institute of India**.
- The current estimate is a part of a larger report and the final tiger estimates for 2022 are likely to be available in the near future.
- According to the 2022 report, the tiger population has increased substantially in the Shivalik and Gangetic flood plains in the north followed by central India.
- But the **Western Ghats** showed a decline in tiger population.

MSTripES (Monitoring System for Tigers: Intensive Protection and Ecological Status) - Uses Global Positioning System (GPS), General Packet Radio Services (GPRS), and remote sensing, to collect information from the field, create a database, analyses the information to provide inferences for better management of tiger reserve.

What is the National Tiger Conservation Authority (NTCA)?

- NTCA, a statutory body under the Ministry of Environment, Forests and Climate Change was established in 2005.
- It has been constituted under **Section 38 L (1) of Wildlife (Protection) Act, 1972**.
- **Composition**
 - The Union Minister of Environment, Forests and Climate Change (Chairperson)
 - The Minister of State in the Ministry of Environment and Forests (Vice-Chairperson)
 - Three members of Parliament, Secretary, Ministry of Environment and Forests and other members.

- **Headquarters** - New Delhi
- **Functions** - The NTCA has power to check poaching and preserve the tiger population.
- It sets up a Tiger Protection Force and funding the relocation of villages from the protected areas.
- It also provides statutory authority to Project Tiger.
- The NTCA / Project Tiger conducts the country level assessment of the status of tiger, co-predators, prey and habitat, using the refined methodology, as approved by the Tiger Task Force.

What is International Big Cats Alliance (IBCA)?

- **Launched by** - Prime Minister Narendra Modi in 2023 at Mysuru, Karnataka, to commemorate 50 years of Project Tiger.
- **Aim** - To conserve 7 big cats namely Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar and Puma
- **Membership** - Open to **97 range countries**, which contain the natural habitat of the big cats, as well as other interested nations, international organisations, etc.
- **Features** - Assured support over 5 years with guaranteed funding of over Rs 800 crore
- Rehabilitation of the big cats
- Dissemination of information on benchmarked practices, capacity building, resources repository, research and development, and awareness creation

24. Amendments to IT Rules, 2021

The Union Government has recently amended the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 designating an official fact checker for fake news.

IT Rules, 2021

- The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, simply referred as IT Rules, were notified under the Information Technology Act, 2000.
- The IT Rules, 2021 replace the Information Technology (Intermediaries Guidelines) Rules, 2011.
- It enhances due diligence requirements and ensuring accountability of Social Media Intermediaries (SMIs).
- It aims to create an open, safe, trusted and accountable internet.

What are the provisions of the recent amendment?

- **Fake news about Government** - The rules made it mandatory for the intermediaries (SMIs) to not publish, share or host false or misleading information in respect of any business of the Central Government.
- This fake news will be identified and notified by the Fact Check Unit of the Press Information Bureau (PIB).

The rules already mandate intermediaries to not host, share any information which is patently false and untrue or misleading in nature

- **Online games** - The amendment also made an obligation on online gaming intermediaries to not host, share any online game that can cause the user harm, or that has not been verified yet.
- **Games involving real money** - The amendment requires real money gaming services, where users deposit money in expectation of winnings, to get themselves certified as “permissible” by a Self-Regulatory Body (SRB).

What are the concerns of amendments?

- **Censorship** - The amendment would lead to censorship of posts on social media platforms that are critical of the government.
- **Legal Action** - If intermediaries failed to take action it will lose their safe harbour protection.

Safe harbour under Section 79 of the IT Act allows intermediaries to avoid liabilities for what third parties post on their websites

- **Misuse** - The power to declare any information as fake can be misused to prevent questioning or scrutiny by media organizations.
- **Freedom of press** - It affects the freedom of speech and expression on online platforms.

In India, freedom of the press is guaranteed through Article 19 of the Indian Constitution

- **Shreya Singhal Case** - They also run afoul of Shreya Singhal vs Union of India (2015), a verdict with clear guidelines for blocking content.

In its landmark judgment in Shreya Singhal case, the Supreme Court struck down Section 66A and upheld the constitutionality of Section 69A of the IT Act, 2000

25. Medicinal Significance of Biodiversity

The loss of biodiversity in the recent times drives the medicinal species to extinction and ultimately jeopardizes the human health.

Status of biodiversity loss in India

- According to a recent report, India has seen the highest rise in deforestation in the last 30 years.
- Deforestation witnessed high surge between 2015 and 2020 and ranked India the 2nd most deforested after Brazil.
- According to the Centre for Science and Environment's (CSE), over 90% of the area in India's 4 biodiversity hotspots have been lost.

What is the medicinal significance of biodiversity?

- Animals, plants, fungi and bacteria which constitutes the biodiversity, holds a treasure trove of chemicals used to treat various diseases in humans. For example,
- **Poison dart frogs** - They have compounds that are good anesthetics and antibiotics.
- **Horseshoe Crab** - The bright blue blood of the horseshoe crab was used in the development of Covid vaccines.
- **Pacific yew tree** - Paclitaxel, a drug used to treat cancer was derived from the bark of the tree.

Pacific yew tree is now classified as near threatened under the IUCN Red List

- **Cone snails** - Ziconotide, a drug that is used to treat severe pain comes from cone snails.
- **Weaver shrimp & Cyanobacteria** - Shrimps weave the bacteria into nests, which provide protection from predators by producing a toxic molecule.
- These toxic molecules have potential to treat pancreatic cancer in humans.
- **Traditional Medicine** - Latex from fig trees are used to treat intestinal parasites in the Amazon and neem oil is used to treat skin disorders in India.

According to the UN's Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), around 70% of cancer medications are based on nature.

What causes the loss of biodiversity?

- **Overharvesting** - According to the 2017 estimate, the world has overfished a 3rd of global stocks.

- **Land conversion** - Since 1990, around 420 million hectares of forest has been lost through conversion into farmland or for other uses.
- **Climate change** - Growing carbon dioxide levels lead to an increase in ocean acidification, bleaching corals and destroying vast habitats.
- **Natural causes** - For example, Chytrid fungus causes a disease in amphibians that has wiped out as many as 90 species of frog.

According to a report published by the Royal Botanic Gardens, London, around 40% of the world's plant species are threatened with extinction,

What are the impacts of loss of biodiversity?

- It affects local communities to access traditional medicines
- Still, 4 billion people primarily rely on natural remedies to heal themselves.
- It also causes the loss of access to molecules that are yet undiscovered.
- Beyond drug discovery, it will also affect the humans in many other ways. For example,
 - **Clean air** - Trees take pollutants, like carbon dioxide, out of the air.
 - **Clean water** - Wetlands keep water clean.
 - **Pollination** - Insects are required to pollinate our crops to provide us with food, etc.
- The recent COP-15 concluded in Montreal, Canada have put forward various measures to safeguard biodiversity including the 30 x 30 target.

26. Women Cadres (Maoist): Structural Violence and Exploitation

- The Communist Party of India (Maoist) claims to fight for gender equality, but the reality is that women cadres are subject to structural violence and exploitation.

Women's representation in the party

- **Negligible representation in the council:** Despite constituting 35%-40% of the party, women's representation in the Central Committee and the Dandakaranya Special Zonal Committee (DKSZC) is negligible
- **Members in the cadre:** Only one-woman cadre is a Central Committee member out of more than 20 members, and only two women cadres are DKSZC members out of approximately 20 members

Women's health and nutrition

- **Health challenges:** Women face additional health challenges in the jungle and receive inadequate nutrition and healthcare. Most women become anaemic due to the lack of proper nutrition.
- **Menstrual hygiene challenges:** Women cadres do not receive menstrual leave and need to be alert all the time with a gun. Only one loin cloth is provided to two women cadres to be shared as a sanitary napkin for six months.
- **Fundamental necessities are not adequate:** Women cadres are not allowed to liberally use water and are at the mercy of the unit commander who carries some medical necessities

Marriage and reproduction

- **Marriage is not to enjoy family life:** The party permits marriage only between willing partners to fight together, not to enjoy family life.
- **Forced vasectomy:** Male cadres are forced to undergo vasectomy either before marriage or immediately after marriage.
- **Forced abortion:** If a woman cadre gets pregnant, she has to undergo an abortion
- **Silent on divorce and polygamy:** The party is silent on issues of divorce and polygamy

Sexual exploitation and ill-treatment of women

- **Sexual exploitation and ill treatment:** Sexual exploitation of women is not uncommon in the party, and instances of suicide by women cadres due to ill-treatment and suspicion are reported.
- **Nominal punishment:** Disciplinary action is taken against cadres for moral turpitude, but the maximum punishment is only suspension for a year or demotion.

Conclusion

- Women who join the Communist Party of India (Maoist) in the hope of bringing about a revolution for the proletariat and the landless class are often subject to the same structural violence that they are supposed to fight. The party needs to ensure gender equality in reality, not just in its claims, and provide better conditions for women cadres.

27. Online Dispute Redressal in India

Union Law Minister, in a recent event held in Delhi International Arbitration Centre, emphasized the need for institutional arbitration to enhance the ease of doing business.

Arbitration

- It is a legal technique for the resolution of dispute outside the courts.
- It allows parties to avoid the normal lengthy recourse to the local courts for settlement of disputes.
- It is a part of the Alternative Dispute Resolution (ADR) mechanism.
- The Indian arbitration is governed and regulated by the Arbitration and Conciliation Act 1996.
- The Act derives its basis from the 1985 UNCITRAL Model on International Commercial Arbitration and the UNCITRAL Arbitration Rules of 1976.

What are the advantages and disadvantages of ODR?

Advantages

- Reduce the burden on the courts
- Saves time, litigation costs, and provide effective resolutions.
- Encourages consensual rather than an adversarial approach
- Geographical limitation can be avoided through ODR

Disadvantages

- Impersonal, leading to greater distance between the parties and mediator.
- Inaccessible due to lack of infrastructure for technology
- Lack of protection of confidential material in ODR

Why India has to focus on arbitration?

- **Preferred choice** - As more countries entered into bilateral investment treaties, institutional arbitration became the preferred choice.
- **Ease of doing business** - Despite its tremendous improvement in the World Bank's Ease of Doing Business report, India ranked 163rd, in Enforcing Contracts category.

India's Ease of doing business ranking improves from 142 in 2014 to 63 in 2019

- **Unfriendly legislation** - Although India introduced its arbitration legislation in 1996, it acquired a reputation of being '*arbitration-unfriendly*'.

What are the challenges in India?

- *Srikrishna Committee* in 2017 pointed out several reasons which includes:
- **Lack of preference** for institutional arbitration over ad hoc arbitration.

- *Frequent interference* from the judiciary from the appointment of arbitrators to the enforcement of awards.
- Setting aside of arbitral awards on the grounds of '*public policy*'.

What are the measures taken so far?

- **The Arbitration and Conciliation (Amendment) Act, 2015** - To make arbitration process user friendly, cost effective and ensure speedy disposal and neutrality of arbitrators.
- It amended the Arbitration and Conciliation Act 1996.
- **B.N. Srikrishna committee** - To prepare a road map to make India a hub of international arbitration.
- It recommended the creation of the post of an International law adviser (ILA) to advise the government on international legal disputes, particularly Bilateral Investment Trade disputes.
- **New Delhi International Arbitration Centre** - It is an independent and autonomous body for facilitating institutional arbitration.
- Established by the New Delhi International Arbitration Centre Act, 2019.
- **The Arbitration and Conciliation (Amendment) Act 2019** - It provides for establishment of the Arbitration Council of India.
- **Arbitration Council of India** - It will frame, review and update norms to ensure satisfactory levels of arbitration.
- It will also frame policies governing the grading of arbitral institutions.

How India can be made an arbitration hub?

- **Incentivise** - Incentivise the use of ODR by way of legislative measures.
- **Infrastructure** - Create infrastructure to curb the digital divide, and catalyse ODR's growth by optimising existing setups such as Aadhaar kendras to also function as ODR kiosks.
- **Dedicated fund** - On the lines of e-Courts project (aimed at digitising the justice system), a dedicated fund must be set up for furthering ODR.
- **Increase trust** - proactive use of ODR as a grievance redress mechanism by government departments will increase the trust in the process.

28. Dabba Trading and its impact on the Economy

- The National Stock Exchange (NSE) has issued a series of notices warning retail investors about entities involved in 'dabba trading'.

- The NSE cautioned investors not to subscribe or invest using these products offering indicative, assured or guaranteed returns in the stock market as they are prohibited by law.
- The entities involved in dabba trading are not recognized as authorized members by the exchange.

What is Dabba Trading?

- Dabba (Box) trading refers to informal trading that takes place outside the purview of the stock exchanges.
- It involves betting on stock price movements without incurring a real transaction to take physical ownership of a particular stock as is done in an exchange.
- In simple words, it is gambling centred around stock price movements.

How does it work?

- In dabba trading, investors place bets on stock price movements at a certain price point.
- If the price point rises, they make a gain, and if it falls, they have to pay the difference to the dabba broker.
- The broker's profit from the investor's loss, and vice versa.
- Transactions are facilitated using cash and unrecognised software terminals or informal records, which helps traders stay outside the regulatory mechanism.

What are the problems with dabba trading?

- Since dabba traders do not maintain proper records of income or gain, they are able to escape taxation, which results in a loss to the government exchequer.
- The use of cash also means that they are outside the purview of the formal banking system.
- Investors in dabba trading do not have formal provisions for investor protection or grievance redressal mechanisms available within an exchange, which exposes them to the risk of broker defaults or insolvency.
- Dabba trading also perpetuates a parallel economy, potentially encouraging the growth of black money and criminal activities.

What is the current scenario?

- Industry observers have reported that dabba brokers harass clients for default payments and refuse payments upon profit.

- Potential investors are lured by aggressive marketing, ease of trading using apps with quality interfaces, and lack of identity verification.
- Brokers keep their fees and margins open to negotiation depending on an individual's trading profile.
- The mechanism could potentially induce volatility and cause losses for the regulated bourse when dabba brokers look to hedge their exposures.

What are the legal implications?

- Dabba trading is recognised as an offence under Section 23(1) of the Securities Contracts (Regulation) Act (SCRA), 1956.
- Upon conviction, it can invite imprisonment for a term extending up to 10 years or a fine up to ₹25 crore, or both.

29. India's Forex Reserves rise \$6.30 bn to \$584.75 bn

India's forex reserves increased by \$6.306 billion to \$584.755 billion last week, according to the Reserve Bank of India (RBI).

Why discuss this?

- In October 2021, India's forex reserves reached an all-time high of \$645 billion.
- Since then, the reserves have been declining.

What is Foreign Exchange (Forex) Reserve?

- Foreign exchange reserves are important assets held by the central bank in foreign currencies as reserves.
- They are commonly used to support the exchange rate and set monetary policy.
- In India's case, foreign reserves include Gold, Dollars, and the IMF's quota for Special Drawing Rights.
- Most of the reserves are usually held in US dollars, given the currency's importance in the international financial and trading system.
- Some central banks keep reserves in Euros, British pounds, Japanese yen, or Chinese yuan, in addition to their US dollar reserves.

India's forex reserves cover:

1. Foreign Currency Assets (FCAs)
2. Special Drawing Rights (SDRs)
3. Gold Reserves

4. Reserve position with the International Monetary Fund (IMF)

Countries with the highest foreign reserves

- Currently, China has the largest reserves followed by Japan and Switzerland.
 - India earlier overtook Russia to become the fourth-largest country with foreign exchange reserves. (Data from August 2022)
1. China - \$3,349 Billion
 2. Japan - \$1,376 Billion
 3. Switzerland - \$1,074 Billion
 4. Russia - \$597.40 Billion

Why are these reserves so important?

- All international transactions are settled in US dollars and, therefore, required to support India's imports.
- More importantly, they need to maintain support and confidence for central bank action, whether monetary policy action or any exchange rate intervention to support the domestic currency.
- It also helps to limit any vulnerability due to sudden disturbances in foreign capital flows, which may arise during a crisis.
- Holding liquid foreign currency provides a cushion against such effects and provides confidence that there will still be enough foreign exchange to help the country with crucial imports in case of external shocks.

Initiatives taken by the government to increase forex

- To increase the foreign exchange reserves, the Government of India has taken many initiatives like AatmaNirbhar Bharat, in which India has to be made a self-reliant nation so that India does not have to import things that India can produce.
- Other than AatmaNirbhar Bharat, the government has started schemes like Duty Exemption Scheme, Remission of Duty or Taxes on Export Product (RoDTEP), Nirvik (Niryat Rin Vikas Yojana) scheme, etc.
- Apart from these schemes, India is one of the top countries that attracted the highest amount of Foreign Direct Investment, thereby improving India's foreign exchange reserves.

30. Issues with Farm Mechanization

National Council of Applied Economic Research (NCAER) in its recent report have raised concerns about farm mechanization in India.

What is farm mechanization?

- Farm mechanization is the application of engineering and technology in agricultural operations to do a job in a better way to improve productivity.
- Farm mechanization is technic which refers to only those activities normally occurring inside the boundaries of the farm unit or at the farm unit level.
- Farm machinery comprises equipment used at various stages of farm operations like
 - Seed bed preparation,
 - Soil working,
 - Seeding,
 - Planting and plant protection,
 - Harvesting and threshing.

What are the benefits of farm mechanization?

- Timeliness of operation
- Precision of operation
- Enhancement of safety
- Reduction of hard working of labour
- Reduction of loss of crops and food products
- Increased productivity of land
- Increased economic return to farmers
- Improvement of work environment
- Progress and prosperity in rural areas

What are the issues with farm mechanization?

- Fragmented land-holdings
- Practice of subsistence agriculture
- Higher participation of small and marginal farmers in agriculture
- Lack of awareness in using the technology
- Lack of skilled personnel to produce farm machinery
- Diverse soil conditions and cropping patterns
- High cost of equipments' and inadequate after-sale services
- Lack of credit access to buy farm equipments
- Low penetration of farm machinery with 40-45%
- Tedious acquiring process of subsidised farm machinery
- Less focus on non-tractors farm industry

- Indian producers receive no production subsidy when compared to Chinese equipments'
- Feminisation of agriculture and the need to train them

What could be done?

- **Skill shortages** - The Agricultural Skills Council of India should work at the district level to address skill shortages on the demand side.
- **PPP** - Public-Private Partnerships with custom hiring centres may be useful.

Custom Hiring Centre (CHC) are basically a unit comprising a set of farm machinery and equipment meant for hiring by farmers of small, marginal and poor farmers at subsidized rates.

- **Educational courses** - ICAR institutes can offer short courses to address skills shortages and Industrial Training Institutes (ITIs) can also be leveraged to address repair and maintenance gap.
- **Banking** - Sensitise the banking industry about the importance of farm machinery.
- **R & D** - Intensification of Research & Development to produce market oriented devices

31. FEMA Vs FERA

Enforcement Directorate (ED) has recently registered a case against the British Broadcasting Corporation (BBC) India under the Foreign Exchange Management Act (FEMA).

What is the case about?

- The ED registered a case against BBC, under FEMA, for the alleged violation is the Foreign Direct Investment (FDI).
- Earlier, the Income-Tax Department had also carried out surveys in the offices of BBC in New Delhi and Mumbai on non-compliance with transfer pricing rules and vast diversion of profits.

What are Foreign Exchanges?

- Different countries have different currencies and a foreign exchange converts the currency of one country into another.

- For example, if India is importing from the US, it needs to pay in dollars, similarly when the US is importing from India it would need to pay in rupees.
- Foreign exchange is also important when a country is investing in another.
- If the US is investing in India, it has to invest in rupees similarly, India has to invest in dollars while investing in US.
- Such transactions create a demand for foreign exchange.

What is the FEMA Act, 1999?

- Foreign Exchange Management Act (FEMA) came in 1999 as a successor to the Foreign Exchange Regulation Act (FERA) of 1973.
- It was drafted while keeping in mind the changing economic conditions in a post-liberalisation India.
- The aim of the act was to facilitate external growth, encourage foreign exchanges, maintenance of foreign exchange market in India.

What are the similarities between the FERA and FEMA?

- The Reserve Bank of India and Central Government continued to be the regulatory bodies.
- Presumption of extra territorial jurisdiction as conceived in FERA was retained.
- The Directorate of Enforcement continued to be the agency for enforcement of the provisions of the law such as conducting search and seizure.

32. Mapping India's Export Hotspots

The article discusses the top exporting districts in India and their contribution to the country's overall exports. It also provides information on the top exported commodities in each district.

Top Exporting Districts in Each State

- Map 1 shows the district that formed the highest share of a State's exports in FY23.
- The size of the circle in the map corresponds to the value of exports.
- Most top exporting districts in the north-eastern States formed as much as 90% of a State's exports, while some top exporting districts formed only around 20% of a State's exports.

Top Exported Commodities

- Jamnagar's dominance can be attributed to the fact that it formed a lion's share of India's surging petroleum exports, while Kancheepuram's most exported commodity was smartphones.
- Map 1 also lists the top exported commodity of the top exporting districts in each State.

Top Exporting Districts for Each Commodity

- Maps 2A-2F show the top five exporting districts for the top six commodities exported by India.
- They include petroleum products, precious stones and jewellery, rice, wheat and other cereals, smartphones and electronic parts, vehicles other than railways, and pharmaceutical products.

Share of Top Exporting Commodity

- Table 3 shows the share of the top exporting commodity of the top exporting district in India's total exports.
- For instance, Jamnagar's petroleum products export formed 67% of India's total exports for that commodity, while Surat's precious stones and jewellery exports formed 36% of India's total exports for that commodity.

33. G7 Climate and Environment Ministers' meeting

Recently, the **G7 Climate and Environment Ministers' meeting** concluded.

About G7 Climate and Environment Ministers' meeting:-

- G7 Ministers' Meeting on Climate, Energy and Environment was held in **Sapporo, Japan**.
- The participating leaders committed to work towards **ensuring carbon-free electricity production by 2035** and **"accelerating" the phase-out of coal**.
- This is significant as the G7 nations account for **a quarter of global carbon emissions**.

Key highlights of Carbon-Free Power By 2035:-

- **Acceleration of renewable energy:** The countries agreed to **accelerate solar and wind energy investments** to produce 1,000 gigawatts (GW) **by 2030** from solar power and 150 GW of wind power from off-shore platforms.
 - This move is in line with recent reports by the **Intergovernmental Panel on Climate Change (IPCC)** to ensure that **global temperatures do not increase by more than 1.5°C of pre-industrial levels** by the end of the century.
- **Elimination of subsidies:** The countries reaffirmed their commitment to the elimination of inefficient fossil fuel subsidies **by 2025**.
 - - Phasing out of inefficient fossil fuel subsidies is a **key component of the Paris Agreement**.
- **Removal of government support towards fossil-fuel-driven power:** The countries emphasized that, with the exception of a few clearly defined circumstances that are consistent with a 1.5°C warming limit and the goals of the Paris Agreement, they have **stopped all new direct government support for unabated international thermal coal power generation by the end of 2021** and public support for the international unabated fossil fuel energy sector in 2022.
- The group will each provide an update on their approach to implementation by the end of 2023.
- The ministers have agreed to **prioritize steps toward phasing out “unabated” coal power generation** plants that do not employ mechanisms to capture emissions and prevent them from escaping into the atmosphere.
- The G7 countries have **endorsed Japan’s national strategy** that emphasizes clean coal, hydrogen, and nuclear energy to ensure its energy security.
- The leaders have reaffirmed their commitment to **accelerating the transition to clean energy and achieving net-zero greenhouse gas emissions by 2050**.
- The leaders emphasized the need to urgently reduce carbon emissions and achieve a “predominantly **decarbonized power sector**” by 2035.

34. Indian scientists identify and probe EMIC waves

- Scientists working at the Indian Antarctic Station, Maitri, have identified and probed Electromagnetic Ion Cyclotron (EMIC) waves to study their characteristics.
- The study aims to understand the impact of energetic particles in the radiation belts on low orbiting satellites.

EMIC Waves

- Electromagnetic Ion Cyclotron (EMIC) waves are a type of plasma wave that occurs in the Earth’s magnetosphere.

- They are caused by the interaction of energetic particles in the radiation belts with the Earth's magnetic field.
- These waves have frequencies in the range of a few hundred hertz to a few kilohertz and are known to play an important role in the acceleration and loss of energetic particles in the Earth's magnetosphere.
- The study of EMIC waves is important for understanding the effects of space weather on satellite communication and navigation systems.

Identification and study of EMIC waves

- A team of scientists from the Indian Institute of Geomagnetism (IIG) analysed data collected between 2011 and 2017 by the Induction Coil Magnetometer.
- The device was installed at the Indian Antarctic station Maitri to bring out several aspects of the ground observation of the EMIC waves.

Significance of the study

- This study is important to improve our understanding of EMIC wave modulation and how they interact with energetic particles that impact satellites and their communication.
- It could help understand the impact of energetic particles in the radiation belts on low orbiting satellites and lead to improved satellite communication systems.

35. Drug trafficking in India

The narcotics trade is not only a social problem that harms youth and families but a national security problem as the money it generates is diverted for disruptive activities.

Narcotic drugs

- Narcotic drugs refer to any substance that binds with opioid receptors in the central nervous system.
- They are used to treat moderate to severe pain and are capable of producing sleep.
- **Opioid** is an umbrella term which refers to all natural, semisynthetic and synthetic chemicals.
- For example: Heroin, morphine, oxycodone, and codeine.
- **Opiates** are a type of opioid that derives naturally from the opium, or poppy plant.

- **Opium** is derived from the opium poppy plant which hold a milky substance called latex.
- The latex that contains a number of chemicals, including morphine and codeine is extracted and dried to create opium.
- The terms opiate, opioid, and narcotics are used interchangeably.

What is the problem with India?

- **Neighbourhood** - India is sandwiched between the Golden Crescent and Golden Triangle.

The Golden Crescent and the Golden Triangle are names given to Asia's two principal areas of illicit opium production. The Golden Crescent comprises Afghanistan, Iran, and Pakistan and the Golden Triangle represents the regions of Myanmar, Laos, and Thailand

- **Long Coastline** - Since India have a coastline of around 7500km, it aids in safe trade and transfer of drugs.
- **Porous borders** - It provides a safe space for illegal drug trade.
- **Cocaine users** - India has become a hot destination for cocaine, the supply of which is controlled by South American drug cartels.

What are the threats to India?

- **Social Problem** - It harms youth and families and reduces the social capital of India.
- **Link** - The nexus between drug traffickers, organised criminal networks and terrorists causes instability in the country.
- The money generated through this drug trade are used to fund various insurgent and terrorist movements.
- **Use of technology** - Due to its anonymity and low risks, dark nets are widely used for illicit drug trafficking.

What are the steps taken by India?

- **Conventions** - India is a signatory to all 3 UN drug control conventions, namely,
 1. The Single Convention on Narcotic Drugs 1961 (amended by the 1972 Protocol)
 2. The Convention on Psychotropic Substances 1971

3. The UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988

- **Legislations** - The legislative policy on narcotic drugs are as follows:
 1. Drugs and Cosmetics Act, 1940
 2. The Narcotics Drugs and Psychotropic Substances Act, 1985 (NDPS Act)
 3. The Prevention of Illicit Traffic in Narcotic Drugs and Psychotropic Substances Act, 1988
 4. NDPS (Regulation of Controlled Substances) Order, 1993
- **Institutions** - Agencies responsible for various functions are as follows:
 - The Department of Revenue, Ministry of Finance has the nodal co-ordination role under NDPS Act, 1985 and Illicit traffic Act, 1988.
 - The Ministry of Social Justice and Empowerment is the nodal agency responsible for implementing the drug demand reduction programme in the country.
 - Narcotics Control Bureau (NCB) under the Ministry of Home Affairs is the nodal agency dealing with drug trafficking in India.

What can be done to prevent drug trafficking?

- **Twin goals** - Adopt a comprehensive approach to reduce both the supply as well as demand for narcotics and drugs.
- **Coordination** - There are various agencies in India to look after drug trafficking. Coordinating all these agencies is crucial in eliminating drug trafficking.
- **Intelligence** - There is an urgent need to develop a system for sharing of information by state police forces and the central agencies
- It would help the enforcement agencies connect the distributors to source of supply.
- **Implementation** - Effective implementation of the existing laws plays a very important role.
- **Regulation** - curtailing the easy flow of money through regulating the crypto markets, darknet.
- **Surveillance** - Upgrading the maritime surveillance

36. State of Rural Entrepreneurs in India

Despite the growing numbers of rural entrepreneurs, the productivity of such entrepreneurs is concerning.

What are the factors that promote rural entrepreneurship?

- **Skilling** - National rural livelihoods mission (NRLM) and Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) is a placement linked skill development programme.

Rural entrepreneurship harnesses innovation, invention, production and manufacturing of goods, promoting exports, and providing rural employment.

- These schemes allows skilling in a PPP mode and assured placements.
- **Training** - Rural self-employment and training institutes (RSETI) enables the trainees to take bank credit facility to start micro-enterprises.
- **Promotion of entrepreneurship** - Startup India initiative promotes entrepreneurship among the youth of India.
- **Sustainable livelihoods** - Deen Dayal Antyodaya Yojana (DDAY), which focuses on sustainable livelihoods for rural communities.
- **Financial inclusion** - NRLM, which now has the largest network of women's SHGs globally has helped in financial inclusion.
- Mudra Yojana also provide financial support.
- **Production and marketing** - One district one product (ODOP) identifies products that are unique to a particular district and promote their production and marketing.
- ODOP also provide market linkages to the entrepreneurs.
- As of March 2023, there are 8.2 million SHGs in India with 89 million members.

Challenges to the rural entrepreneurship

- Inadequate infrastructure in rural areas
- Limited access to finance
- Lack of formal vocational/technical training
- Low upgradation in the technology
- Most entrepreneurs produce products for their own consumption

Need of the hour

- **Productivity** - Needs to be enhanced.

- **Holistic approach** - By integrating policy support, infrastructure development, and capacity building for the rural youth entrepreneurs.
- **Indigenous/ hereditary skills** - Support for promoting the indigenous/ hereditary skills is also required to scale up operations.
- **Technical know-how** - The entrepreneurs needs to be in cultivated with the recent technologies.

Quick facts

- As per Periodic Labor Force Survey (PLFS) 2020-21
 - The share of self-employed workers in rural areas is 61.3% as compared to 39.5% in urban areas.
 - The share of self-employed workers in rural manufacturing rose from 47.02% in 2018-19 to 52.6% in 2020-21.
 - Only 12% of self-employed sell their entire produce/product.
- 69.73% of workers out of total rural manufacturing workers have not received any training.
- 26.47% of workers have received informal training.

37. Windfall Tax back on local crude oil

The government has revised a windfall tax on domestically-produced crude oil. According to an official notification, the windfall tax rate of Rs 6,400 per tonne.

Windfall Tax

- Windfall taxes are designed to tax the profits a company derives from an external, sometimes unprecedented event – for instance, the energy price-rise as a result of the Russia-Ukraine conflict.
- These are profits that cannot be attributed to something the firm actively did, like an investment strategy or an expansion of business.
- The US Congressional Research Service (CRS) defines a windfall as an “unearned, unanticipated gain in income through no additional effort or expense”.
- One area where such taxes have routinely been discussed is oil markets, where price fluctuation leads to volatile or erratic profits for the industry.

Features of Windfall Tax

- **Imposed on unanticipated and unearned gains:** Windfall tax is imposed on the profits or gains that a company earns from external events or factors beyond their control, which they did not actively seek or pursue.

- **One-time tax:** It is typically imposed as a one-time tax retrospectively, over and above the normal rates of tax, and is not a regular or ongoing tax.
- **Imposed on specific sectors or industries:** Windfall taxes are usually imposed on specific sectors or industries where there is a significant increase in profits due to external factors such as price fluctuations, supply disruptions, or changes in regulations.
- **Rationale for imposition:** The imposition of windfall taxes is based on the rationale of redistributing unexpected gains, funding social welfare schemes, and creating a supplementary revenue stream for the government.
- **Design problems:** Introducing windfall taxes may suffer from design problems, given their expedient and political nature.
- **Potential impact on investment:** Windfall taxes may lead to uncertainty in the market and negatively impact future investment, as companies may feel uncertain about investing in a sector with an unstable tax regime.

When did India introduce this?

- In July 2022, India announced a windfall tax on domestic crude oil producers who it believed were reaping the benefits of the high oil prices.
- It also imposed an additional excise levy on diesel, petrol and air turbine fuel (ATF) exports.
- Also, India's case was different from other countries, as it was still importing discounted Russian oil.

How is it levied?

- Governments typically levy this as a **one-off tax retrospectively** over and above the normal rates of tax.
- The Central government has introduced a windfall profit tax of ₹23,250 per tonne on domestic crude oil production, which was subsequently revised fortnightly four times so far.
- The latest revision was on August 31, when it was hiked to ₹13,300 per tonne from ₹13,000.

Reasons for re-introduction

- There have been varying rationales for governments worldwide to introduce windfall taxes like:
 1. Redistribution of unexpected gains when high prices benefit producers at the expense of consumers,
 2. Funding social welfare schemes, and
 3. Supplementary revenue stream for the government

Issues with imposing such taxes

- **Design problems:** Windfall taxes may suffer from design problems, given their expedient and political nature. There is also the issue of determining what constitutes true windfall profits and who should be taxed, which raises questions about the threshold for exemption of smaller companies.
- **Potential impact on investment:** Windfall taxes may lead to uncertainty in the market and negatively impact future investment, as companies may feel uncertain about investing in a sector with an unstable tax regime.
- **Internalization of potential taxes:** Introducing a temporary windfall profit tax may reduce future investment since prospective investors may internalize the likelihood of potential taxes when making investment decisions.
- **Threshold for exemption of smaller companies:** Determining the threshold for exemption of smaller companies raises questions about which companies should be taxed and what level of profit is normal or excessive.
- **Difficulty in determining true windfall profits:** There is also the issue of determining what constitutes true windfall profits, as it may be challenging to differentiate between profits attributable to external events versus those attributable to a company's active investment strategy or business expansion.

38. India's Fighter Jet Conundrum

The article discusses the challenges faced by the Indian Air Force (IAF) in modernizing its fighter jet fleet due to unending delays in procurement and limited resources.

Why discuss this?

- Against the sanctioned strength of 42 fighter squadrons, the IAF has only 31 squadrons today.
- And this number is expected to remain the same or even decrease by 2029.
- The IAF representative informed the Parliamentary standing committee that the shortfall may not be accomplished anytime soon.

Indian Air Force (IAF): A quick backgrounder

- The IAF was established in 1932, and it played an important role in India's defence during World War II and later in the 1947-48 Kashmir War.
- It underwent modernization in the 1960s and 70s with the induction of new aircraft and weapons systems.

- Since then, the IAF has grown to become one of the largest air forces in the world, with a significant role to play in India's defence and security.

Current Status of the IAF

- **Large workforce:** The IAF has around 1,500 aircraft and 140,000 personnel, making it one of the largest air forces in the world.
- **Fleet details:** The IAF has a sanctioned strength of 42 fighter squadrons, but the current strength stands at 31 squadrons.
- **Victorious wars:** It has played an essential role in various conflicts, including the 1965 and 1971 Indo-Pak wars and the Kargil conflict in 1999.
- **HADR operation:** It has also been involved in humanitarian assistance and disaster relief operations, such as the 2004 tsunami and the 2013 Uttarakhand floods.

Challenges faced

The IAF faces multiple challenges in the 21st century.

- **Decommissioning aircraft:** By the end of the decade, many of the Jaguars, Mirage-2000s, and Mig-29s will begin going out, which is why the decision on Multi-Role Fighter Aircraft (MRFA) is essential to arrest this drawdown.
 - **Arsenal shortages:** The IAF faces a shortage of fighter aircraft, which is a significant concern given the current geopolitical environment.
- **Selective modernization:** One of the critical issues is modernization, which includes the upgrading of its aircraft and weapons systems.
 - **Diverse threat:** The IAF also needs to ensure operational readiness to address the changing nature of warfare, which involves non-state actors, asymmetrical warfare, and cyber threats.
 - **Logistic fallouts:** Furthermore, the IAF needs to improve its logistics and infrastructure to support its operations effectively.
 - **Maintenance challenges:** There is a slow synergy with vendors for 'long-term spares and repair contracts'.

Opportunities for the IAF

There are several opportunities for the IAF to enhance its capabilities in the modern era.

- **Modernization:** The acquisition of new aircraft, weapons systems, and technologies can significantly enhance the IAF's combat capabilities.

- **Joint cooperation:** Additionally, the IAF can improve its international cooperation with other air forces to gain experience and enhance its interoperability.
- **UAV induction:** The IAF can also explore the use of unmanned aerial vehicles (UAVs) for surveillance, reconnaissance, and combat roles.
- **Indigenization:** The IAF is emphasizing the need for indigenization of its fighter jet production via LCA and Fifth Gen fighter aircraft program.

Challenges in fleet modernisation

- **Procurement delay:** The IAF faces significant challenges in modernizing its fleet due to delays in procurement and limited resources.
- **R&D, Infra bottlenecks:** Implementing indigenization is a complex process that involves significant investment in research and development, infrastructure, and human capital.
- **Others:** Other challenges include a lack of skilled labour, limited funding, and the need for technology transfer from foreign partners.

Way forward

- The IAF needs to prioritize the acquisition of MRFA, focus on increasing the availability rates of the Su-30, and invest in its own industry to achieve self-reliance in the long term.
- Effective collaboration between industry, government, and the armed forces is crucial for the success of indigenization efforts in the defence sector.

39. PSLV-C55 mission

The Indian Space Research Organisation (ISRO) is looking to launch the Polar Satellite Launch Vehicle C55 (PSLV-C55) mission on the 22nd of April 2023.

Polar Satellite Launch Vehicle C55 Mission

- The PSLV-C55 is a dedicated commercial mission that carries TeLEOS-2 as the primary satellite and Lumelite-4 as a co-passenger satellite.
- The TeLEOS-2 and Lumelite-4 satellites are to be launched into an eastward low-inclination orbit.
 - The TeLEOS-2 satellite has been developed under a partnership between DSTA (representing the government of Singapore) and ST Engineering.

- Lumelite-4 satellite is co-developed by the Institute for Infocomm Research (I²R) of A*STAR and by the Satellite Technology and Research Centre (STAR) of the National University of Singapore.
 - This satellite is an advanced 12U satellite developed for the technology demonstration of the high-performance space-borne VHF Data Exchange System (VDES) and it aims to enhance Singapore's maritime safety and support the global shipping community.
- The PSLV-C55 mission consists of the PSLV Orbital Experimental Module (POEM), where the spent PS4 stage of the launch vehicle will be used as an orbital platform to undertake scientific experiments with the help of non-separating payloads.

40. India's first underwater transport tunnel spanning the Hooghly River

Central idea: The East-West Metro corridor, the second line of Kolkata's Metro network that is currently under construction, will connect Kolkata and Howrah, and one of its highlights is India's first underwater transport tunnel spanning the Hooghly river.

About the East-West Corridor

- The East-West Corridor is expected to significantly ease congestion in the city.
- The line connects Kolkata's IT hub of Salt Lake Sector V to the western suburb of Howrah.
- The eastern part of the East-West line is operational while the western portion of the corridor is underground.
- There are 12 stations on the entire route, including the country's deepest, Howrah, at a depth of 33 meters.

Key feature: Underwater Tunnel

- The tunnels under the Hooghly River are 520 meters long and more than 30 meters below the river surface at its deepest point.
- The trains will have an operational speed of 80 km/h and will cover the half-kilometre stretch under the Hooghly in about 45 seconds.
- The underwater tunnels have an internal diameter of 5.55 meters and an external diameter of 6.1 meters.