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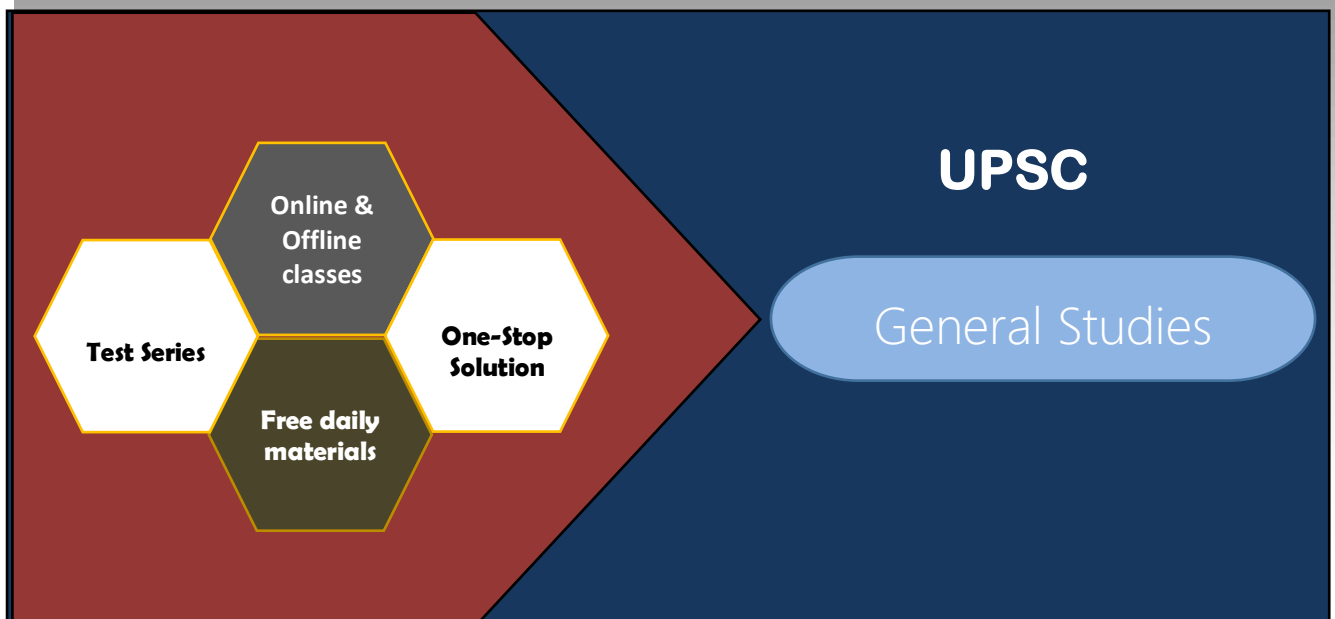
Monthly current affairs magazine

SHIKSHA

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THE HINDU & INDIAN EXPRESS**



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

1. Black Carbon Aerosols

Black carbon aerosols have indirectly affected the mass gain of the Tibetan Plateau glaciers by changing long-range water vapour transport from the South Asian monsoon region, a study has found.

Black Carbon Aerosols

- Black Carbon (BC) aerosol, often called soot, is the dominant form of light absorbing particulate matter in the atmosphere.
- They are emitted by incomplete combustion processes, both human (e.g., diesel engines) and natural (e.g., wildfire).
- Its ability to absorb visible and infrared radiation means BC can heat the atmosphere and darken surfaces, specifically snow and ice.
- These effects have important consequences on earth's climate and climate change.
- BC may also have adverse impacts on human health. Unlike long-lived greenhouse gases such as carbon dioxide, BC is removed from the atmosphere in 1-2 weeks, so its impacts tend to be more regional rather than global.

Deposition over Himalayas

- The South Asia region adjacent to the Tibetan Plateau has among the highest levels of black carbon emission in the world.
- Many studies have emphasised black carbon aerosols from South Asia can be transported across the Himalayas to the inland region of the Tibetan Plateau.

Impact on glaciers melting

- Black carbon deposition in snow reduces the albedo of surfaces – a measure of how much of Sun's radiations are reflected.
- This accelerates the melting of glaciers and snow cover, thus changing the hydrological process and water resources in the region.
- They heat up the middle and upper atmosphere, thus increasing the North-South temperature gradient.

- As a result, precipitation in the central and the southern Tibetan Plateau decreases during the monsoon, especially in the southern Tibetan Plateau.
- The decrease in precipitation further leads to a decrease of mass gain of glaciers.
- From 2007 to 2016, the reduced mass gain by precipitation decrease accounted for 11% of the average glacier mass loss on the Tibetan Plateau and 22.1% in the Himalayas.

2. Orderly path to net zero

- India's per capita emissions are relatively low (1.8 tons of CO₂e per person), but we are still the world's third-largest single emitter. India has pledged to get to net zero by 2070. This goal can only be met with urgent actions in this decade, potentially accelerated through India's recently-assumed G20 presidency.

Current trajectory

- **Emissions are set to grow:** On its current trajectory, India's emissions are set to grow from 2.9 GtCO₂e a year to 11.8 GtCO₂e in 2070.
- **Decarbonisation comes with the cost:** According to a recent McKinsey report, effective decarbonisation, down to 1.9 GtCO₂e by 2070, would require India to spend a total of \$7.2 trillion on green initiatives by 2050. This line of sight (LoS) scenario is based on announced policies and expected technology adoption.
- **Investment needed:** Deeper decarbonisation an accelerated scenario that would reduce emissions to just 0.4 GtCO₂e by 2050, or close to net zero would require \$12 trillion in total green investments by 2050. Under this scenario, India could create 287 gigatonnes (GT) of carbon space for the world, almost half of the global carbon budget, for an even chance at limiting warming to 1.5 degrees Celsius.

Memory shot: Net Zero

- Net zero means cutting greenhouse gas emissions to as close to zero as possible, with remaining emissions re-absorbed by oceans/ forests.
- China, US, EU and India contribute 75% of total GHG emissions
- However, per capita GHG emissions for US, EU and China are 7, 3 and 3 times of India
- India has set target to achieve net zero emissions by 2070.

What India needs to speed up the decarbonization?

- **Orderly transition will benefit but the projects are of heavy investments:** To take just one example, If India shifted to a predominantly renewable (and hydrogen)-based energy and materials system, it could save as much as \$3 trillion in foreign exchange by 2070. While the investment is large, a vast majority of the abatement projects are in the money.
- **Investment, regulation and capacity building is necessary:** Three-quarters of the buildings, infrastructure, and industrial capacity of India in 2050 is yet to be built. We have a choice to invest in current technologies or to invest futuristically. Futuristic investment will need India to take urgent actions in this decade on regulation, technology development, and on technology adoption to make the right investments.
- **Employing the experience in renewable power:** In renewable power, the right policies, strong institutions and industrial capabilities built in the last decade are providing India with the base to scale up four to five times in this decade.
- **Making electric vehicles competitive in the market:** India also has other advantages. For example, its high taxation on automotive fuels translates to an imputed carbon tax of \$140 to \$240 per tonne of carbon dioxide. This makes electric vehicles competitive against petrol or diesel ones, explaining the recent rapid growth of electric two-wheelers.



Ideas for India's orderly transition

- **Setting up national and structural decarbonisation plans:** Set out five-year, 10-year, and 25-year national decarbonisation plans. Policies that enable carbon prices or blending mandates can make the economics viable. Such policies need to be held steady and require coordination across sectors like power, hydrogen and steel. A national decarbonisation plan would enable timely investment decisions.

- **Defining a national land use plan and consider using barren lands for renewables:** India risks being land-short for its dual goals of growth and decarbonisation. For example, McKinsey estimates that renewable power and forest carbon sinks need 18 million additional hectares of land. India would need to maximise the use of barren land for renewable power, urbanise vertically, improve agricultural productivity, and increase forest density.
- **Accelerate compliance with carbon markets:** Pricing carbon creates demand signals that accelerate emissions reductions, especially in hard-to-abate sectors. Let's illustrate this through steel, demand for which could multiply eight times by 2070; right now, much of the new capacity is likely to be added using high-emission coal. With a price on carbon emissions, more expensive green steel becomes competitive against high-emission steel. For example, a carbon price of \$50 a ton could make green steel cost competitive by 2030, leading to the possibility of the next 200 million tons of capacity being created through low-emissions technologies.
- **Investing in opportunities:** Companies can aim to play on the front foot, investing in opportunities like recycling, hydrogen, biomass, electrolyzers, rare earths, battery materials and battery making. Some of these opportunities would take time to mature. Meanwhile, companies could invest in opportunities opened up by decarbonisation of other countries, such as exporting green hydrogen derivatives like ammonia.

Conclusion

- To embark on an orderly path to net zero, India needs imagination, realism, determination and a sense of urgency. An orderly transition to net zero could help India decarbonize while creating an engine for growth. We must take steps this decade to set things up, to establish momentum, and to build India right for generations to come.

3. Ottanthullal Artform of Kerala

A renowned folk artist has expressed his angst over the fading participation of students in Ottanthullal Artform.

Ottanthullal

- Ottanthullal (or Thullal, in short) is recite-and-dance art-form of Kerala.
- It was introduced in the 18th century by the famous Malayalam poet Kunchan Nambiar (1705 – 1770).

- It is famous for its humour and social satire, and marked by its simplicity as opposed to more complex dance-forms like Kathakali and Koodiyattam.

Unique features

- Ottanthullal follows the classical principles of Natyasastra (a treatise on art compiled in the 2nd century B.C.E).
- It is enacted into three separate versions

1. Ottanthullal
2. Seethankan thullal
3. Parayan thullal

- The Ottanthullal is the most popular among the three varieties of Thullal.

How is it performed?

- The performance uses elaborate expressions and stories recited in verses to bring important mythological tales and stories to life.
- The costume and makeup of the performer are similar to that of a Kathakali artist.
- It is performed at temple festivals and cultural programmes.
- The performer is supported by a singer who repeats the verses and is accompanied by an orchestra of mridangam or thoppimaddalam (percussions) and cymbals.

4. Gangasagar Mela

Lakhs of pilgrims are descending on Sagar Island in the southernmost tip of West Bengal for the annual Gangasagar Mela, being held between January 12 and 14, to celebrate Makar Sankranti.

Gangasagar Mela

- Every year during Gangasagar mela, devotees from all over the country gather at the confluence of the Ganga and the Bay of Bengal to take a sacred dip during Makar Sankranti (mid-January).
- The mela is said to be India's second largest pilgrimage gathering after the Kumbh Mela.
- Gangasagar, the largest and the oldest living tradition in Bengal, has been mentioned in Indian epics such as the Ramayana and Mahabharata, putting its existence as early as 400 BCE.

- Legends suggest that the first Kapil Muni's temple was constructed by Queen Satyabhama in 430 AD, and the present idol was established by Swami Ramanand in 1437, marking the beginning of a pilgrimage that remains timeless till today.

About Sagar Island



- Sagar Island is an island in the Ganges delta, lying on the Continental Shelf of Bay of Bengal about 100 km (54 nautical miles) south of Kolkata.
- This island forms the Sagar CD Block in the Kakdwip subdivision of South 24 Parganas district in the Indian State of West Bengal.
- Although Sagar Island is a part of the Sundarbans, it does not have any tiger habitation or mangrove forests or small river tributaries as is characteristic of the overall Sundarban delta.
- This island is a place of Hindu pilgrimage.
- Every year on the day of Makar Sankranti (14 January), hundreds of thousands of Hindus gather to take a holy dip at the confluence of river Ganges and Bay of Bengal and offer prayers (puja) in the Kapil Muni Temple.

5. Cold wave in North India

Northern Plains of India experienced cold wave conditions.

Key Details:

- North and northwest India experienced severe cold waves on January 15, causing minimum temperatures in several places to drop to the range of 3 to 5 degrees Celsius.
- The lowest minimum temperature over the plains of northwest India was recorded in Fatehpur, Sikar district of Rajasthan, at minus 4.7 degrees Celsius.
 - According to information on the India Meteorological Department (IMD) website, the season's lowest minimum temperature of minus 2.5 degrees Celsius was recorded in Churu, which is close to the Thar desert.
- As per the IMD, cold wave to severe cold wave conditions prevailed in parts of Punjab, Rajasthan, Haryana, Delhi and west Madhya Pradesh.
- Delhi saw an intense cold wave spell in January first week and has recorded over 50 hours of dense fog in January so far, which is the highest since 2019.
- Minimum temperatures are expected to fall further by about 2 degrees Celsius over many parts of northwest and central India till January 17-18 and cold wave to severe cold wave conditions are very likely over many parts of Rajasthan, Punjab and Haryana, and Delhi during this period.
- Pahalgam in Anantnag district registered a low of minus 10.9 degrees Celsius. It was the coldest recorded place in Jammu and Kashmir.

Impact of Western Disturbances:

- According to the IMD, minimum temperatures are expected to rise by 3 to 5 degrees Celsius from January 18 to January 20 under the influence of a western disturbance.
- As Western disturbance (WD) characterised by warm moist winds from the Middle East approaches a region, the wind direction changes. The chilly northwesterly winds from the mountains stop blowing, leading to an increase in temperatures.
 - A WD is associated with rainfall, snowfall and fog in northern India. Upon its arrival in Pakistan and northern India, clouds along with rain and snow also arrive.
 - The moisture which WDs carry with them comes from the Mediterranean Sea and/or from the Atlantic Ocean.
- Fresh western disturbances are also likely to affect Jammu and Kashmir from January 19 to 25.
- Large parts of north and northwest India recorded below-normal maximum and minimum temperatures due to a layer of dense fog that persisted over the Indo-Gangetic plains during the period and a large gap between two western disturbances.
 - Large gap between two western disturbances results in frosty winds from the snow-clad mountains for a longer-than-usual period.

6. Supreme Court to hear petitions for Criminalization of Marital Rape

The Supreme Court is set to begin hearing a series of petitions seeking to criminalize marital rape from March 14.

Marital Rape

- Marital rape is the act of sexual intercourse with one's spouse without her consent.
- It is no different manifestation of domestic violence and sexual abuse.
- It is often a chronic form of violence for the victim which takes place within abusive relations.

Status in India

- Historically considered as right of the spouses, this is now widely classified as rape by many societies around the world.
- In India, marital rape is not a criminal offense (as protected under IPC section 375).
- India is one of fifty countries that have not yet outlawed marital rape.

Reasons for disapproval of this concept

- The reluctance to define non-consensual sex between married couples as a crime and to prosecute has been attributed to:
 1. Traditional views of marriage
 2. Interpretations of religious doctrines
 3. Ideas about male and female sexuality
 4. Cultural expectations of subordination of a wife to her husband
- It is widely held that a husband cannot be guilty of any sexual act committed by himself upon his lawful wife on account of their mutual matrimonial consent.

Why it must be a crime?

- **Associated physical violence:** Rape by a spouse, partner or ex-partner is more often associated with physical violence and sexual mutilation.
- **Mental harassment:** There is research showing that marital rape can be more emotionally and physically damaging than rape by a stranger.

- **Compulsive relationship:** Marital rape may occur as part of an abusive relationship.
- **Revengeful nature:** Furthermore, marital rape is rarely a one-time event, but a repeated if not frequent occurrence.
- **Obligation on women:** In the case of marital rape the victim often has no choice but to continue living with their spouse.

Violation of fundamental rights

- Marital rape is considered as a violation of FR guaranteed under Article 14 of the Indian constitution which guarantees the equal protection of laws to all persons.
- By depriving married women of an effective penal remedy against forced sexual intercourse, it violates their right to privacy and bodily integrity, aspects of the right to life and personal liberty under Article 21.

Problems in prosecuting marital rape

- **Lack of awareness:** A lack of public awareness, as well as reluctance or outright refusal of authorities to prosecute is common globally.
- **Gender norms:** Additionally, gender norms that place wives in subservient positions to their husbands, make it more difficult for women to recognize such rape.
- **Acceptability of the concept:** Another problem results from prevailing social norms that exist.

Present regulations in India

- Indian Penal Code criminalizes rape in most cases, although marital rape is not illegal when the woman is over the age of 18.
- However, until 2017, men married to those between 15 and 18 could not be convicted of rape.
- Marital rape of an adult wife, who is unofficially or officially separated, is a criminal offence punishable by 2 to 7 year in prison; it is not dealt by normal rape laws which stipulate the possibility of a death sentence.
- According to the Protection of Women From Domestic Violence Act (2005), other married women subject to such crime by their husband may demand for financial compensation.
- They also have the right to continue to live in their marital household if they wish, or may approach shelter or aid homes.

However, marital rape is still not a criminal offense in this case and is only a misdemeanor.

Arguments against criminalization

- **Subjective:** It is very subjective and intricate to determine whether consent was acquired or not.
- **Prone to Misuse:** If marital rape is criminalized without adequate safeguards it could be misused like the current dowry law by the dissatisfied wives to harass and torture their Husbands.
- **Burden on Judiciary:** It will increase the burden of judiciary which otherwise may serve other more important causes.

Way forward

- Sanctioning marital rape is an acknowledgment of the woman's right to self-determination (i.e., control) of all matters relating to her body.
- In the absence of any concrete law, the judiciary always finds it difficult to decide the matter of domestic rape in the absence of solid evidence.
- The main purpose of marriage is procreation, and sometimes divorce is sought on the ground of non-consummation of marriage.
- Before giving a final interpretation, the judiciary must balance the rights and duties of both partners.

GS 2 : Polity, Governance, International Relations

1. Jan Vishwas (Amendment of Provisions) Bill 2022

Recently, the Union Government tabled the **Jan Vishwas (Amendment of Provisions) Bill, 2022** in Parliament.

- **The objective is to “decriminalize” 183 offences** across 42 legislations and enhance the **ease of living and doing business in India.**
- Some Acts that are amended by the Bill include: the **Indian Post Office Act, 1898**, the **Environment (Protection) Act, 1986**, the **Public Liability Insurance Act, 1991**, and the **Information Technology Act, 2000.**

Highlights of the Bill

- **Decriminalizing Certain Offences:**
 - Under the Bill, several offences with an imprisonment term in certain Acts have been decriminalised by imposing only a monetary penalty.
 - **For example:**

- Under the **Agricultural Produce (Grading and Marking) Act, 1937, counterfeiting grade designation marks is punishable with imprisonment** of up to three years and a fine of up to five thousand rupees. Grade designation mark indicates the quality of an article under the 1937 Act.
 - The Bill replaces this with a penalty of eight lakh rupees.
- Under the Information Technology Act, 2000, **disclosing personal information in breach of a lawful contract is punishable** with imprisonment of up to three years, or a fine of up to five lakh rupees, or both.
 - The Bill replaces this with a penalty of up to 25 lakh rupees.

In certain Acts, **offences have been decriminalised by imposing a penalty instead of a fine.**

- For instance, under the Patents Act, 1970, a person selling a falsely represented article as patented in India is subject to a fine of up to one lakh rupees.
 - The Bill **replaces the fine with a penalty, which may be up to ten lakh rupees.** In case of a continuing claim, there shall be an additional penalty of one thousand rupees per day.

Scope of the Bill

- The Bill might undertake '**quasi-decriminalisation**'.
- The Observer Research Foundation's report titled Jailed for Doing Business found that there are more than 26,134 imprisonment clauses in a total of 843 economic legislations, rules and regulations which seek to regulate businesses and economic activities in India.
 - In this light, the number of offences deregulated under the Bill seems to be a mere drop in India's regulatory framework.
- The **regulatory offences to be considered for 'decriminalisation' need to be prioritised** not only from the point of view of the ease of doing business but also from the points of view of the ills that plague our criminal justice system itself.
- The bill conforms to the understanding of the government that decriminalization should be limited to regulatory domains.

2. Contamination of medicine: India; The Pharmacy of the world needs a relook in drug regulations

Merely two months after the World Health Organisation (WHO) sounded an alert over deadly contamination in four brands of cough syrup manufactured by a Sonepat-based pharmaceutical company that were subsequently linked to the deaths of 72 children in Gambia, another Indian pharmaceutical company stands accused of a similar crime. This time, it is Uzbekistan which has accused a Noida-based pharmaceutical company of selling contaminated cough syrup that has allegedly killed 18 children in that country.

Thorough analysis

- **Unacceptable levels of Ethylene/ Diethylene glycol:** In both cases, lab tests reportedly found unacceptable levels of diethylene glycol (DEG) or ethylene glycol (EG) or both in the cough syrups.
- **Ideally these chemicals should not be found in any medicine:** Both DEG and EG are deadly chemicals that should not be found in any medicine.
- **Then how these chemicals end up in medicines:** The typical reason these chemicals end up in medicine is because pharmaceutical manufacturers do not adequately test industrial solvents purchased from chemical traders and used to manufacture cough syrups despite the fact that the law mandates such testing for contamination.
- **Proximity in two cases:** Given the physical proximity of the manufacturers implicated in the Gambian and Uzbekistan cases, there is a very high possibility that the same batch of contaminated industrial solvent was used by both companies.

Contamination of medicines in India

- **India has a tumultuous history of DEG contamination in medicines:** Between 1972 and 2020, India has seen at least five mass DEG poisonings in Chennai, Mumbai, Bihar, Gurgaon and Jammu. The incident in Gurgaon led to the death of 33 children and the incident in Jammu of at least 11 children.
- **Difficult to diagnose deaths due to adulterated medicine:** The final reported toll in such cases is definitely an undercount because it is notoriously difficult for doctors to diagnose such deaths and attribute them to adulterated medicine.
- **Lethargy and denial is a pattern with drug regulators in India:** In August 2020, about eight months after the DEG-related deaths of the children in Jammu were first reported by PGIMER, Chandigarh, the same hospital reported that another two-year-old child from Baddi had died in its facility after consuming a different brand of cough syrup manufactured by the same

company that was responsible for the deaths earlier in Jammu. This was a death that could have been easily avoided if the regulators had conducted and published a thorough root cause analysis after the Jammu incident and followed it up by a nationwide recall of all cough syrups manufactured at the same facility. This never happened.

Critique: Whether the Ministry of Health and the Central Drugs Standard Control Organization have learnt their lessons from these previous incidents?

- **Government will handle the issue just as any other public relation crisis:** The present government is likely to handle this crisis as yet another public relations crisis instead of a public health crisis. Assumption is based on the observation of the official response from the government to the tragedy in Gambia.
- **Instead of condoling, accused them for not testing before prescribing:** Far from condoling the deaths of 72 Gambians, the initial press release from the Ministry of Health gaslit the Gambians by accusing them of not testing the cough syrups before prescribing them to patients.
- **False presumption that the drug regulator is doing its job well:** This was an absurd allegation because nobody tests drugs that are purchased before releasing them for patient use, even in India. The presumption is that the drug regulator is doing its job to ensure quality control.
- **Government's information czars accusing WHO:** The first step of this PR strategy was to keep leaking to journalists that the WHO was not co-operating with the information requests made by an expert committee set up by the Government of India to investigate the deaths in Gambia. This despite the government fully knowing that the responsibility of investigating the deaths lay not with the WHO but with the sovereign authorities in Gambia.
- **Rare mention of sympathy:** The common thread running through these events is a communications strategy aimed at denial and intimidation. There is rarely a mention of sympathy for lives lost or a commitment to protect public health.
- **Even China does better than India:** An iron fist in a titanium glove is the best way to describe the government's response to any allegations of quality issues afflicting the Indian pharmaceutical industry. In 2007, when a Chinese chemicals manufacturer was implicated in the deaths of 365 people in Panama who consumed cough syrup manufactured with an adulterated industrial solvent, the Chinese arrested the manufacturer and publicly promised to punish him.

What should be done immediately?

- The immediate public health response in these cases of DEG contamination should be aimed at limiting further deaths.
- This means tracing the origins of the contaminated industrial solvent used to manufacture the syrups.

Conclusion

- What India needs right at the moment is to accept the fact that there is a major quality problem with the Indian pharmaceutical industry. Allegations cannot be morphed from one to another. Perhaps the need of the hour is to have meaningful and comprehensive conversation on actual regulatory reform.

3. NCW seeks to ensure POSH Act implementation by coaching institutes

The National Commission for Women (NCW) has asked all States to ensure strict implementation of the sexual harassment at workplace law (POSH Act, 2013) by coaching centres and educational institutes.

- NCW is concerned over incidents of sexual harassment at coaching centres.
- It seeks to give instructions to all coaching institutes to ensure effective steps are taken for prevention of sexual harassment of female students.

POSH Act

- The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act was passed in 2013.
- It defined sexual harassment, lay down the procedures for a complaint and inquiry, and the action to be taken.
- It **broadened the Vishaka Guidelines**, which were already in place.

Vishakha Guidelines

- The Vishakha guidelines were laid down by the Supreme Court in a judgment in 1997. This was in a case filed by women's rights groups, one of which was Vishakha.
- In 1992, she had prevented the marriage of a one-year-old girl, leading to the alleged gangrape in an act of revenge.

Guidelines and the law

- The Vishakha guidelines, which were legally binding, **defined sexual harassment** and imposed three key **obligations on institutions** :
 1. Prohibition
 2. Prevention
 3. Redress
- The Supreme Court directed that they should **establish a Complaints Committee**, which would look into matters of sexual harassment of women at the workplace.

The POSH Act broadened these guidelines:

- It mandated that **every employer must constitute an Internal Complaints Committee (ICC)** at each office or branch with 10 or more employees.
- It lay down **procedures and defined various aspects of sexual harassment**, including the aggrieved victim, who could be a woman “of any age whether employed or not”, who “alleges to have been subjected to any act of sexual harassment”.
- This meant that the **rights of all women working or visiting any workplace**, in any capacity, were protected under the Act.

Definition of Sexual Harassment

Under the 2013 law, sexual harassment includes “any one or more” of the following “unwelcome acts or behaviour” committed directly or by implication:

- Physical contact and advances
- A demand or request for sexual favours
- Sexually coloured remarks
- Showing pornography
- Any other unwelcome physical, verbal or non-verbal conduct of sexual nature.

The Ministry of Women & Child Development has published a Handbook on Sexual Harassment of Women at Workplace with more detailed instances of **behaviour that constitutes sexual harassment** at the workplace. These include, broadly:

- Sexually suggestive remarks or innuendos; serious or repeated offensive remarks; inappropriate questions or remarks about a person’s sex life
- Display of sexist or offensive pictures, posters, MMS, SMS, WhatsApp, or emails

- Intimidation, threats, blackmail around sexual favours; also, threats, intimidation or retaliation against an employee who speaks up about these
- Unwelcome social invitations with sexual overtones, commonly seen as flirting
- Unwelcome sexual advances.

Unwelcome behavior

- The Handbook says “unwelcome behaviour” is experienced **when the victim feels bad or powerless; it causes anger/sadness or negative self-esteem.**
- It adds unwelcome behaviour is one which is “illegal, demeaning, invading, one-sided and power based”.

4. India-China: Pre-1962 and Now

- There was clash between Indian and Chinese troops at Galwan in 2020 and altercation between them at Yangtse in Arunachal Pradesh in 2022.
- These events have highlighted the lingering boundary dispute as well as the complex Line of Actual Control (LAC). So, let's examine the India-China relations pre-1962 and now.

Point of contention between India and China in 1960s and now

- Both situations concern the **boundary question.**
- In the 1950s, the focus was on the fundamental question of the “territorial dispute” involving
 - the whole of Aksai Chin claimed by India and
 - the whole of NEFA (now Arunachal Pradesh) claimed by China.
- Today, however, with China firmly in occupation of Aksai Chin and India firm in guarding its territorial integrity in Arunachal Pradesh, the immediate issue has moved on to **transgressions along the LAC.**

Current situation at different sectors of LAC

- **Western sector** - The differences in the western sector (Ladakh) are no longer confined to Trig Heights in the Daulat Beg Oldie (DBO) area and Demchok in the south as was the case in earlier decades.
- The Depsang Bulge, Galwan, Pangong Lake and Hot Springs are areas where China is seeking to press expedient claims.

- Since the Galwan incident in 2020, the two sides have disengaged at multiple friction points even as military and diplomatic talks continue to find a way out of the impasse at Depsang and Demchok.
- **Central sector** - In the central sector, the Barahoti pasture north of Chamoli in Uttarakhand has always been at the centre of the dispute.
- **Eastern sector** - In the eastern sector (Arunachal Pradesh), the international boundary and the LAC are defined by the 1914 McMahon Line, based on the watershed principle.
- Yet, China seeks to make inroads in the Tawang sector, the Upper Subansiri region, and near the tri-junction with Myanmar.

Other similarities and differences in both the periods

- Both periods involve **contention over frontier tracts**.
- The frontier tracts underwent redefinition as both India and China came into their own in quick succession in the late 1940s.
- Both the countries sought to interpret their geographies and national identities through clear-cut boundary lines.
- The difference today is that the focus is primarily on the LAC as against the larger boundary dispute though neither side has given up its extensive territorial claims.
- As ties deteriorated, **China's support for Pakistan on Kashmir** became self-apparent in its call for self-determination in the 1960s.
- Today, China openly works in tandem with Pakistan against India's interests to internationalise the issue at the UN.
- **China's internal vulnerabilities** have always cast a shadow on bilateral relations with India.
- Whether under Mao Zedong or Xi Jinping, Tibet has remained a source of insecurity for China.

Important lessons to be imbibed from the past

- In 1962, India was forced to approach the U.S. and other Western countries for military assistance to meet the Chinese challenge.
- But in the current phase, India has rapidly inducted new weapon systems albeit with heavy emphasis on *aatmanirbharta* (self-reliance) in defence manufacturing.
- The LAC between India and China, not being the result of bilateral negotiations, is frequently open to challenge by either side.
- There are areas along the LAC that have been patrolled by both sides in the past.

Conclusion

- The biggest difference between the situation in the 1960s and now is the political will of the Indian government and the determination of the Indian army to block Chinese patrols, and not just in Yangtse.
- India's endeavour to engage China has been in keeping with India's broader world vision of good-neighbourly and peaceful ties, inclusive growth and development.
- On the contrary, China seeks to build a China-centric hierarchy with scant regard for notions of equality and multipolarity.

5. Free Foodgrain Scheme

The Centre decided to provide 5 kg of free food grains per month for the 81 crore beneficiaries of the National Food Security Act (NFSA) during 2023.

Background of the issue

- Rather than charging an amount of Rs.3 for a kg of rice, Rs.2 for a kg of wheat and Rs.1 for a kg of coarse cereal the government will give them at free of cost.
- This will soften the blow of the termination of the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY).
- The scheme has provided an additional 5 kg of free grains every month to NFSA beneficiaries after being launched as an emergency measure in response to the COVID-19 pandemic.
- The new integrated scheme will subsume two current food subsidy schemes of the Department of Food and Public Distribution
 - Food Subsidy to Food Corporation of India (FCI) for NFSA, and
 - Food Subsidy for decentralized procurement states, dealing with procurement, allocation and delivery of free food grains to the states under NFSA.

Impact of this measure on the food subsidy bill

- In a normal year, without COVID disruptions, the Centre's food subsidy bill on account of the NFSA amounted to ₹2 lakh crore.
- The PMGKAY effectively doubled that sum for the past two years.
- Now that the Centre plans to give free food grains under the NFSA for a year, it will spend an additional ₹15,000 crore to ₹16,000 crore on that.
- However, the Centre will save around ₹2 lakh crore by ending the PMGKAY scheme.
- Overall, the move will relieve a major burden on the Union Budget.

What does this mean for food grain stocks?

- The annual food grain requirement for the NFSA is about 520 lakh tonnes, while the PMGKAY required an additional 480 lakh tonnes.
- The difference comes from the fact that the poorest families coming under the Antyodaya Anna Yojana category received 35 kg a family every month under the NFSA, but received 5 kg per person under the PMGKAY.
- At the time when the PMGKAY was launched, food grain production, government procurement and government stocks were regularly breaching record levels.
- However, in 2022, the situation is different. Rice and wheat harvests have both been lower this year, hit by climatic events and fertilizer shortages in some areas.
- The global stress due to the Russia-Ukraine war has led to a situation of high food grain inflation.
- India's wheat stocks, have dipped dangerously close to the required buffer stock levels, with the Centre resorting to a ban on exports to ensure food security for the domestic market.
- Continuing the PMGKAY would have been unsustainable without further increasing procurement levels.

Political implications

- The political fallout will be in the States such as Tamil Nadu, Kerala, Karnataka, West Bengal and Jharkhand.
- These states provide free food grains anyway, using their own money to further subsidise the Central allocation.
- The states such as Andhra Pradesh, Chhattisgarh, Odisha and Telangana also provide further subsidies, though their ration is not completely free.
- This will give them a financial surplus, but it takes away an important political plank for States.
- The Centre will now take full credit for something they had been providing previously.

How will it impact beneficiaries?

- Leaving aside government budgets, household budgets could be toppled by the move.
- The Right to Food Campaign estimates that poor families will be forced to spend ₹750-₹900 a month to access the current level of ration entitlement.
- Ration card holders who have received 10 kg of grains a person every month for the past two years will see their entitlement abruptly halved.
- Of course, their expenditure on their NFSA entitlement will also come down.

- However, that is dwarfed by the additional ₹150-₹175 they will need to spend to buy the 5 kg previously provided free under the PMGKAY in the open market.
- The increased expenditure will be even starker for those in States which anyway provide free NFSA rations, since beneficiaries in those States will not even receive any savings due to the Centre's announcement.

6. Issue of Narcotics in India

Around 800 sleuths of Directorate of Revenue Intelligence (DRI) interdicted thousands of kilograms of drugs smuggled into India, under the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985.

World Drug Report 2022

- The UN's World Drug Report 2022 (WDR) stated that in 2020, one in every 18 people had used a drug in the past 12 months.
- The report also revealed that cocaine manufacturing reached a record high in 2020, so did its trafficking.

How much narcotics were seized?

- Apart from seizures in the border, the DRI had seized narcotics and psychotropic substances inside the country as well.
- Per latest data published by National Crime Records Bureau, 1,052 kg of heroin was seized in 2021, a staggering increase from 343 kg and 137 kg in 2020 and 2019 respectively.
- The bulk of the seizure was from Kerala, Punjab and Rajasthan.
- Drugs such as Acetic Anhydride, ATS, cocaine, CBCS, ephedrine, ganja, hashish, LSD, MDMA, mephedrone were also seized.

Abuse of tobacco, alcohol, and illicit drugs costs the nation \$740 billion annually in crime, lost work productivity and health. Out of this, \$11 billion goes in healthcare and \$192 billion gets drained due to the illicit use of drugs.

Issues with India's borders

- India's 15,106.7 km land border and 7516.6 km coastline makes it vulnerable to narcotics smuggling.
- The North-East States that share borders with Bangladesh, Nepal, Myanmar, China, and Bhutan are the hot-spots for drug smuggling.
- The location of India with the 'golden crescent' on one side and the 'golden triangle' on the other makes it all the more vulnerable to drug smuggling.

The Golden Crescent and Golden Triangle are the names given to Asia's two principal areas of illicit opium production.

The Golden Crescent comprises Afghanistan, Iran, and Pakistan.

The Golden Triangle represents the region coinciding with the rural mountains of Myanmar, Laos, and Thailand.

- **Other challenges** - Apart from the challenge of “porous” borders, the other challenges are
 - insufficient enforcement apparatus, and
 - a perceived lack of coordination among different agencies.
- But, a Narco Coordination Centre (NCORD) has been in operation since 2016 to have effective coordination among various Ministries, Departments, Central and States law enforcement agencies.
- Apart from the role of enforcement agencies, it is necessary to tackle the menace of narcotics on the social and societal front.

What is needed?

- **Countering internal demand** - Given the addictive nature, youth are particularly susceptible to fall prey to drugs and concerted effort is needed tackle the issue not only at the borders but also internally.
- To counter this internal demand, a campaign that leverages behavioural economics to nudge and inform people of the menace of drugs should be initiated in the form of a Jan Andolan.
- **Addiction centres** - drug and alcohol addiction centres should be supported and non-stigmatised, leveraging the support of CSR initiatives of corporates.
- **Coordination** - There should be greater coordination between Customs and other enforcement agencies to break the backbone of drug syndicates.
- **Involving RWAs** - Even Resident Welfare Associations (RWAs) of housing societies should be mandated to incorporate suitable bye-laws in society rules to inform residents of the criminality of drugs.
- **Capacity enhancement** - A need for capacity enhancement in the border areas is imperative for effectively balancing the role of Customs in intercepting narcotics and facilitating genuine trade.
- Dedicated further capacity building of canine squads in Customs along with leveraging technology to improve detection can be considered.
- In the fight against illegal drugs, it may be time to instill a strong sense of fear, in both the smugglers/peddlers and the users of drugs!

7. The case against state control of Hindu temples

Details:

- The Constitution makers, aware of the temple entry movement, purposely provided a separate power under Article 25(2)(b).
 - Article 25(2)(b) authorizes the state to enact laws “providing for social welfare and reform or the throwing open of Hindu religious institutions” to “all classes and sections of Hindus”.
- Thus, the issue of regulating secular aspects of religious practice is different from granting access to worship. This is the reason that there are distinct laws for temple control and temple entry. The laws co-exist and are independent of each other.

Background details:

- **Shirur Mutt Judgment (1954)**
 - In the judgment of the Supreme Court (seven judges bench), Justice B.K. Mukherjea substantially obliterated the Madras Hindu Religious and Charitable Endowments (HR&CE) Act, 1951, labelling the impugned provisions as “extremely drastic” in character.
 - The Advocate General of Madras also questioned the legality of the provisions of the act.
 - As a consequence of the Shirur Mutt judgment, the legislature of the erstwhile Madras State enacted in 1954 an amendment Act which removed the defects pointed out by SC.
- **Sudhindra Thirtha Swamiar v. Commissioner Case**
 - The amended act was again challenged in 1955 before the Madras High Court. It was also struck down as it suffered from the same defects as the original enactment.
- **Sri Jagannath v State of Orissa (1954) and Sadasib Prakash Brahmachari v. The State of Orissa (1956)**
 - The Orissa Hindu Religious Endowments Act, 1939 was struck down twice by the apex court – first in Sri Jagannath v State of Orissa (1954) and then in Sadasib Prakash Brahmachari v. The State of Orissa (1956).

Impact of Temple Control Legislation:

- It is argued that in the guise of administering Hindu religious endowments, the state is encroaching upon religious affairs and the temples cannot even conduct pujas as the state has depleted their income. There is large-scale misappropriation of funds that have been unearthed by temple activists and is a matter of public record now.

- According to the HR&CE policy note of 2012-13, Hindu temples own approximately 4,78,545 acres of prime agricultural land; nearly 22,599 buildings; and almost 33,627 sites covering 29 crore sq. ft in area, whose estimated value would be around ₹10 lakh crore.
- However, the income realized by the Tamil Nadu HR&CE Department is only ₹120 crore per year. This is comparatively less than the amount collected from temples as an 'administrative fee'.
- Moreover, it is found that the HR&CE Department collects hundreds of crores as a 'Common Good Fund', which has been objected to by the judiciary.
- The Department has itself admitted that almost 47,000 acres of Hindu temple land have been usurped since 1986 under its "watch".
- The Madras High Court in a 2021 judgment gave 75 directions covering aspects like heritage conservation, protecting and realizing due income from temple properties, audit, the safety of vigrahams, appointment of trustees, and formation of tribunals for speedy dispute resolution.
- However, it is alleged that not even a single direction has complied. Furthermore, the state is silencing temple activists by initiating arbitrary criminal action against them.
- On May 12, 2022, in a Public Interest Litigation (PIL) seeking the removal of executive officers functioning in 47 temples without any orders of appointment, a Division Bench of Madras HC ordered the production of records. The Department has failed to submit a single record till now.
- Additionally, no external audit is being conducted for temples under HR&CE, and there are almost 1.5 million audit objections pending resolution since 1986.

Conclusion:

- It is a well-established fact, particularly after the 42nd Amendment, that secularism implies that the state cannot mix with religion.
- The purpose of temple management is to involve the community.
- It is suggested that the evils of the state perpetuated in the name of 'secular management' must be remedied at the earliest.

8. Ministers' Right to Free Speech and Issues

The Supreme Court has held that there is no reason to impose "additional restrictions" on the right to free speech of Ministers and the government is not vicariously liable for disparaging remarks made by them, even if the comments are traceable to state affairs or meant to protect the government.

Why are we discussing this?

- Many politicians make unwarranted statements and tender an apology in return.
- The PM or the CM does not have disciplinary control over the members of the Council of Ministers.
- In a country like ours, where there is a multi-party system and where coalition Governments are often formed, it is not possible at all times for the whip to control the politician's behavior.
- A derogatory speech that closely resembles hate speech cannot fall within the ambit of the free speech right.

Do ministers and lawmakers have absolute freedom of speech?

- **Scope:** Ministers and lawmakers enjoy the freedom of speech and expression under **Article 19(1)** of the Constitution as other citizens and additional restrictions cannot be imposed to curb their right to free speech.
- **Restrictions:** A five-judge Constitution bench held that curbs on free speech cannot extend beyond what is prescribed under **Article 19(2)** of the Constitution imposes reasonable restrictions and applies equally on all citizens.

What is the case?

- The proceedings in the case began when the top court took cognisance of a controversial statement made by former UP minister in July 2016.
- He had allegedly termed a gang rape case as part of a "political conspiracy". While he was let off with an unconditional apology, the Court agreed to examine the larger issue.
- In October 2017, a three-judge bench referred the matter to the constitution bench to decide on various aspects of the matter.

Key issues examined

- **Free speech and sensitive issues:** The top priority was to examine whether ministers, public functionaries and lawmakers can claim freedom of speech while expressing views on sensitive matters.
- **Free speech and state matters:** Another key aspect of the matter was whether a statement by a minister in relation to any affairs of the State or for the protection of government can be attributed vicariously to the government itself.

What does Article 19 say?

- **Freedom:** Article 19(1) (a) guarantees the freedom of speech and expression to all citizens. It is the first condition of liberty and plays an important role in forming public opinion.
- **Restrictions:** As per Article 19(2), restrictions can be imposed upon the freedom of speech and expression in the interests of:
 1. Sovereignty and integrity of India,
 2. Security of the state,
 3. Friendly relations with foreign states,
 4. Public order, decency or morality, or
 5. In relation to contempt of court,
 6. Defamation, or
 7. Incitement to an offense

What does the judgment say about free speech restrictions?

- Citizens had the right to petition the Court for violations of Article 19 (freedom of expression) and Article 21 (right to life).
- A statement made by the Minister, inconsistent with the rights of the citizens, may not by itself be actionable.
- It is not possible to extend this concept of collective responsibility to any and every statement orally made by a Minister outside the House of the People/Legislative Assembly.

Way forward

- **Legal framework:** A proper legal framework was necessary before taking action as a constitutional tort.
- **Political will:** Parliament could enact legislation or code to restrain citizens in general and public functionaries in particular from making disparaging or vitriolic remarks against fellow citizens.
- **Code of conduct:** Likewise, political parties should come up with a code of conduct to regulate and control the actions and speech of their functionaries and members.

9. India's role in chaotic world order

As the great powers get at each other's throats, the prospects for multilateral agreements have diminished. On both the economic and political fronts, the conflict

among the major powers has sharpened. That makes India's chairmanship of G20 more challenging.

Historical understanding of major global events

- **Major wars and rebalancing:** Major wars have always reshaped great power relations and rearranged the international system. Russia's war against Ukraine will be no exception.
- **First world war:** The First World War saw the collapse of the Ottoman, Austro-Hungarian, and the Russian empires. It also helped the Bolsheviks in Russia form the Soviet Union, gave birth to new nations in Europe, and accelerated the rise of Asian nationalism.
- **The Second World War:** Hastened the demise of European colonialism and heralded the rise of the United States and the Soviet Union as the superpowers. Washington and Moscow managed an armed peace in a divided Europe during the Cold War. The process of decolonization saw the birth of a number of new nations in Asia and Africa.
- **The Cold War:** It led to the collapse of the Soviet Union, undid its sphere of influence in East and Central Europe and led to the rise of the unipolar moment. The era of massive economic interdependence that followed the Cold War saw the rapid rise of China and a slower but definitive emergence of India as a major power.

How Russia and China are colluding to change regional and global world order?

- **Asserting themselves against US:** Moscow and Beijing, which were willing to acquiesce in the unipolar moment in the 1990s, began to assert themselves against the US-led international order in the 21st century. Europe focused on strengthening its economic and political integration, and sought greater strategic autonomy from the United States.
- **Apparent decline of USA:** As they drew steadily closer over the last decade, Russia's Vladimir Putin and China's Xi Jinping bet that the apparent American decline was real and irreversible. That emboldened Putin to fancy his chances in ending Ukraine's sovereignty.
- **China backed Russia against Europe:** The seeming political disarray in the West also convinced Xi to back Putin's attempt to reorder European regional security order. The partnership without limits and no forbidden areas of cooperation was unveiled less than three weeks before Putin invaded Ukraine on February 24, 2022.

Outcome of Russia's failed attempt to capture Ukraine

- **Only option is diplomacy:** As the costs of war mount, the case for diplomacy will gain ground in 2023. While both sides talk about peace, they are also gearing up to fight through the harsh winter. Bridging that gulf between Russian and Ukrainian negotiating positions will occupy diplomacy in 2023.
- **Weaker Russia:** Whatever the nature of the eventual settlement, Russia will come out weaker from this military misadventure. Putin's attempts to eliminate Ukraine as an independent nation and roll back the eastward expansion of NATO have backfired. The war has consolidated Ukraine as a nation and NATO has expanded to include Sweden and Finland.
- **Self-defense Inability of Europe:** The war has also demonstrated Europe's inability to defend itself against Russia despite the EU's economy being 10 times larger than that of Russia. But for now, and the near term, Europe will remain dependent on the US to defend it against an expansionist Russia. While Europe is weaker, trans-Atlantic NATO has become stronger.
- **US industries are winning:** The US is emerging as a big winner from the Ukraine war. American oil companies are raking it in from high energy prices. US weapons like the HIMARS and its high technology companies like SpaceX with its Starlin satellite system and Palantir with its algorithms have actively shaped the battlefield in favour of Ukraine, the underdog in the war. Far more consequential is the fact that without being directly involved in the fight, the US is influencing the direction of the war and has the most leverage in defining the terms of peace in Ukraine.

Impact of Chinese and Russian aggression on Mid-power countries

- **US as reliable partner:** Thanks to the overreach of Putin and Xi, the US has become a valuable partner for the middle powers at the receiving end of Russian and Chinese bullying.
- **Eyeopener for Germany and Japan:** Russian expansionism in Europe and Chinese aggressiveness in Asia have compelled Germany in Europe and Japan in Asia to boost their defence spending.
- **Regional security Policy:** Poland in Europe and Australia and South Korea in Asia have embarked on ambitious regional security policies.

What should be the approach of India?

- **India should rework its status:** India that long relied on Russia to provide a regional balance of power will have to rework its great power sums. This should not be too hard, given India's improving relations with the US and Europe and its focus on diversifying its defence partnerships.
- **Boosting the domestic capabilities:** Delhi, however, will have to move much faster in developing the national capabilities and international partnerships to deter China's aggressive actions on the border and balance Beijing's power in

the Indo-Pacific. Delhi certainly can't take for granted that its current economic and political advantages will endure.

- **Prevent the breakdown of multilateral system:** Finally, it is unlikely the world will return to the kind of multilateralism we got used to since the 1990s. India's G20 leadership would be a success if it can prevent the complete breakdown of the multilateral system and generate major power consensus on a few issues.

Conclusion

- India should take the advantage of chaotic world order to strengthen itself. Indigenous military capabilities, double digit economic growth and securing core foreign policy interest should be the top priorities for India.

10. Mahadayi River Dispute

Karnataka's decision to go ahead with the Kalasa Banduri Nala water diversion project on river Mahadayi has escalated its long-standing water dispute with its neighbor Goa.

Story behind

- Karnataka had received clearance from the Centre for two Detailed Project Reports (DPRs) on the Kalasa-Banduri Nala on the Mahadayi.
- The state government has decided to go ahead with the project, after securing a go-ahead from the Central Water Commission (CWC).
- But, a clearance from the Ministry of Environment, Forest and Climate Change (MoEF) is still awaited.
- Goa immediately announced that it would take an all-party delegation to Prime Minister and meet other Union ministers to block the project.

Kalasa-Banduri Nala project

River Mahadayi originates from the Bhimgad Wildlife Sanctuary of Karnataka and flows into the Arabian Sea in Goa. Kalasa and Banduri streams are tributaries of Mahadayi.

- The Kalasa Banduri Nala project aims to divert water from River Mahadayi to satisfy the drinking water needs of Karnataka's parched districts (Belagavi, Dharwad, Bagalkot and Gadag districts).

- As per plans, this project aims to build barrages against Kalasa and Banduri streams of River Mahadayi.
- Though the project was first proposed in the early 1980s, it has remained on paper owing to a dispute between Karnataka, Goa and Maharashtra.

Why is there a dispute?

- Since the proposal in 2002, Karnataka government during the tenure of SM Krishna as chief minister (2009-2012) decided to implement the project, after the Centre cleared it.
- Goa, under its then CM Manohar Parrikar (2000-2002), approached the Centre, urging it to assess the available resources in the river and allocate water to the three basin states – Goa, Maharashtra and Karnataka.
- Due to the protests in Goa and also due to concerns over ecological damage, the project was put on hold by the then Central government.
- **Tribunal** - In 2006, Goa approached the Supreme Court, seeking the creation of a Tribunal to settle the water sharing dispute.
- The Mahadayi Water Disputes Tribunal (MWDT) was finally set up by the Central government in 2010.

What did the Tribunal say?

- In 2018, the Tribunal awarded 13.42 TMC water from Mahadayi river basin to Karnataka, 1.33 TMC to Maharashtra and 24 TMC to Goa.
- In Karnataka's share, 5.5 TMC was to meet drinking water needs and 8.02 TMC was for hydro-electricity generation.
- Of the 5.5 TMC, 3.8 TMC was to be diverted to Malaprabha basin through Kalasa and Banduri Nalas (canals).
- This was notified by the Central government in February 2020.

What happened after the notification?

- After the Tribunal award, Goa filed a Special Leave Petition in the Supreme Court in July 2019, challenging the quantum of allocation.
- In 2020, it filed a contempt petition before the SC, accusing Karnataka of illegally diverting water from the Mahadayi basin.
- Civil appeals were also filed by Maharashtra over the dispute.

11. National Green Hydrogen Mission

The Union Cabinet has approved the National Green Hydrogen Mission.

Green hydrogen

- Green Hydrogen is a type of hydrogen produced by splitting water through electrolysis, using electrolyser powered entirely by renewable power sources.
- **Advantages** - Green hydrogen could replace fossil fuels and fossil fuel-based feedstocks, and decarbonize a range of sectors such as petroleum refining, fertiliser production, steel production, chemicals, transport, etc.
- Renewable energy that cannot be stored or used by the grid can be channeled to produce hydrogen.
- **Disadvantages** - Green hydrogen is not commercially viable at present.
- The current cost in India is around Rs 350-400 per kg; it is likely to become viable only at a production cost of under Rs 100/ kg.
- This is what the National Hydrogen Energy Mission aims for.

National Green Hydrogen Mission

- The National Green Hydrogen Mission was first announced by the Prime Minister in his Independence Day speech in 2021.
- The initial outlay includes
 - ₹17,490 crore for the Strategic Interventions for Green Hydrogen Transition Programme (SIGHT);
 - ₹1,466 crore for pilot projects;
 - ₹400 crore for research and development; and
 - ₹388 crore for other mission components.
- **Objectives** - The mission has a stated aim of making India a global hub for the production of green hydrogen.
- The mission is also aimed at
 1. Creation of export opportunities for green hydrogen and its derivatives;
 2. Decarbonisation of the energy sector and use in mobility applications in a bid to lower the dependence on fossil fuels;
 3. Development of indigenous manufacturing capacities;

The government plans to bring down the costs of renewable power generation and of electrolyzers used to produce green hydrogen through,

0. Implicit subsidy support and
 1. Government-backed R&D push.

How will it be implemented?

- The Ministry of New and Renewable Energy is to formulate the scheme guidelines for implementation of the respective components.

- This scheme will promote the development of green hydrogen production capacity of 5 million metric tonnes (MMT) p.a. with an associated renewable energy capacity addition of 125 GW by 2030.
- A major part of this is a proposed Strategic Interventions for Green Hydrogen Transition Programme (SIGHT).
- Under the SIGHT, there will be two financial incentive mechanisms that target domestic manufacturing of electrolysers and the production of green hydrogen.
- These mechanisms will be promoted to achieve a reduction in fossil fuel imports and abatement of annual greenhouse gas emissions by 2030.

The draft Mission will be a major push for hydrogen in the auto sector - R&D for fuel cell development and pilot projects for fuel cell vehicles.

How do Hydrogen fuel cell cars work?

- Inside each fuel cell, hydrogen is drawn from an onboard pressurised tank and made to react with a catalyst, usually made from platinum.
- As hydrogen passes through the catalyst, it is stripped of its electrons, which must move along an external circuit, producing electrical current.
- This current is used by the electric motor to power the vehicle, with the only byproduct being water vapour.
- **Significance** - Hydrogen fuel cell cars have near-zero carbon footprint.
- Hydrogen is about 2-3 times as efficient as burning petrol, because an electric chemical reaction is much more efficient than combustion.
- The Toyota Mirai and the Honda Clarity cars are powered by fuel cells.

What is the case in India?

- India's electricity grid is mainly coal-based and will continue to be so, thus negating collateral benefits from a major EV push - as coal will have to be burnt to generate the electricity that will power these vehicles.
- Hydrogen vehicles can be especially effective in long-haul trucking and other hard-to-electrify sectors such as shipping and long-haul air travel.
- Using heavy batteries in these applications would be counterproductive, especially for countries such as **coal-fired India**.
- Given that much of the generation capacity addition over last 10 years has been by way of renewable energy sources such as solar and wind, this can be diverted for green hydrogen production during non-peak hours.
- Besides auto, there is a concerted attempt to leverage green hydrogen in sectors such as petroleum refining and steel.
- **Steel sector, a stakeholder** - In the proposed Mission, the steel sector has been made a stakeholder.

- It will set up pilot plants partly government-funded to explore how green hydrogen can be used in Direct Reduced Iron (DRI) production by partly replacing natural gas with hydrogen in these gas-based DRI plants.
- Based on the success of the pilot projects, the gas-based DRI units are to be encouraged for large-scale adoption of the process.

12. Digital healthcare: India's spectacular success and a way ahead

- India leveraged information and communications technologies (ICTs) during the pandemic. Digital health solutions played a crucial role in bridging the gap in healthcare delivery as systems moved online to accommodate contactless care.

India's spectacular demonstration of digital public good (DPG) so far

- **Aadhar and UPI are like the building blocks of DPG:** India has demonstrated its digital prowess by building digital public goods the digital identity system Aadhaar, the DPGs built on top of Aadhaar and the Unified Payments Interface.
- **Aadhar for PDS and UPI for payments:** While Aadhaar has become central to India's public service delivery architecture, UPI has transformed how payments are made.
- **One of the largest internet users:** Our digital public infrastructure has reached the last mile, enabled by 1.2 billion wireless connections and 800 million internet users.
- **Some examples of DPGs developed during the pandemic:** For instance, the Covid Vaccine Intelligence Network (CoWIN) and the Aarogya Setu application. CoWIN propelled India to adopt a completely digital approach to its vaccination strategy. Aarogya Setu provided real-time data on active cases and containment zones to help citizens assess risk in their areas.
- **Increasing use of Telemedicine platforms:** Telemedicine platforms saw a steep increase in user acquisitions, as 85 per cent of physicians used teleconsultations during the pandemic, underscoring the need to better incorporate cutting-edge digital technologies into healthcare services.

Acknowledging the current need?

- Although the impact of the pandemic on health services put the spotlight on the benefits of digital innovation and technology-enabled solutions, private entities, health technology players, and the public sector have been driving digitisation in the sector for some time now.

- It has become clear that a comprehensive digital healthcare ecosystem is necessary to bring together existing siloed efforts and move toward proactive, holistic, and citizen-centric healthcare.

Government efforts in this direction?

- **Shared public goods for healthcare:** Recognising this need, the government has created shared public goods for healthcare and developed a framework for a nationwide digital health system. This brought healthcare to a turning point in India.
- **Ayushman Bharat Digital Mission (ABDM):** The PM launched the Ayushman Bharat Digital Mission on September 27, 2021, under the aegis of the National Health Authority. Within a year of its launch, ABDM has established a robust framework to provide accessible, affordable, and equitable healthcare through digital highways. The ABDM has implemented vital building blocks to unite all stakeholders in the digital healthcare ecosystem.
- **The Ayushman Bharat Health Account (ABHA):** ABHA creates a standard identifier for patients across healthcare providers. With the ABHA and its associated Personal Health Record (PHR) app, citizens can link, store, and share their health records to access healthcare services with autonomy and consent. With more than 300 million ABHAs and 50 million health records linked, the mission is growing at a massive rate.
- **The Health Facility Registry (HFR) and the Health Professional Registries (HPR) for central digital health information:** HFR and HPR accounts provide verified digital identities to large and small public and private health facilities and professionals. This enables them to connect to a central digital ecosystem while serving as a single source for verified healthcare provider-related information. HFR and HPR improve the discovery of healthcare facilities and help health professionals build an online presence and offer services more effectively. The
- **Drug registry for centralised repository of approved drugs:** It is a crucial building block designed to create a single, up-to-date, centralised repository of all approved drugs across all systems of medicine.
- **Unified Health Interface (UHI) enables a connect between healthcare providers with end users:** It aims to strengthen the health sector by enabling all healthcare service providers and end-user applications to interact with each other on its network. This will provide a seamless experience for service discovery, appointment booking, teleconsultations, ambulance access, and more. The UHI is based on open network protocols and can address the current challenge of different digital solutions being unable to communicate with each other.

What the government is planning next in this domain?

- **To give UHI the necessary push, the government is repurposing Aarogya Setu and CoWIN:** Aarogya Setu is being transformed into a general health and wellness application. At the same time, CoWIN will be plugged with a lite Hospital Management Information System (HMIS) for small clinics, to bring digitisation to the masses.
- **Addressing well the patient registration process at the hospital counters:** Another use-case of ABDM is scan and share, which uses a QR code-based token system to manage queues at hospital counters. It uses the foundational elements of ABHA and PHR to streamline the outpatient registration process in large hospitals
- **Expanding healthcare digital initiative worldwide:** The government is also planning to expand its digital initiatives in the healthcare sector with Heal by India, making India's healthcare professionals' services available worldwide.
- **Platform for organ donation:** Additionally, a platform is being developed to automate the allocation of deceased organ and tissue donations, making the process faster and more transparent.

Way ahead

- **Digitise insurance claim settlement process:** With the implementation of digital solutions, the next step is to digitise and automate the insurance claim settlement process through the Health Claim Exchange platform.
- **Making claim settlement process inexpensive and transparent:** There is need to make claim-related information verifiable, auditable, traceable and interoperable among various entities, enabling claim processing to become inexpensive, transparent and carried out in real time.
- **Bringing together global efforts for digital health:** India assumes the G20 presidency this year. The G20 Global Initiative on Digital Health calls for the creation of an institutional framework for a connected health ecosystem to bring together global efforts for digital health.
- **Accelerating UHC by scaling up the technologies:** It also calls for the scaling-up of technologies such as global DPGs to accelerate Universal Health Coverage.

Conclusion

- The ABDM has proven to be a valuable asset and its adoption across states has been accelerated by the National Health Authority. It aims to build the foundation for a sustainable digital public infrastructure for health, enabling India to achieve universal health coverage. The mission embodies G20's

theme of “Vasudhaiva Kutumbakam” or “One Earth. One Family. One Future”

13. National Geospatial Policy 2022

The National Geospatial Policy 2022 was notified by the Ministry of Science and Technology recently.

National Geospatial Policy 2022

- The National Geospatial Policy, 2022 is a **citizen-centric policy** that seeks to strengthen the Geospatial sector to support national development, economic prosperity and a thriving information economy.
- The Policy builds on conducive environment created by the “Guidelines for acquiring & producing Geospatial Data and Geospatial Data Services including Maps” issued by Department of Science & Technology in 2021.

While the Guidelines deregulated the Geospatial sector by liberalizing Geospatial data acquisition/ production/ access, the Policy lays down a framework for holistic development of the Geospatial ecosystem.

- The Policy seeks to
 - Develop Geospatial infrastructures,
 - Develop Geospatial skill and knowledge,
 - Develop Geospatial standards and businesses,
 - Promote innovation and
 - Strengthen the national and sub-national arrangements for generation and management of Geospatial information.
- The Geospatial data acquisition/production/access will continue to be governed by the Guidelines in its present form or as stipulated by DST from time to time with an aim to promote private sector participation.

Objective

- The National Geospatial Policy 2022 is aimed at setting up high resolution topographical survey and mapping, with a high-accuracy Digital Elevation Model (DEM) for the country by 2030.
- This is a vibrant initiative to promote the Start-Up & reduce the last mile dependencies on the foreign soil.

What are certain issues that need immediate attention?

- Geospatial data can be described as complex data objects with complex relationships among them.
- Securing this type of data poses major challenges and bottlenecks that are yet to be fully understood and addressed.
- The issues may be related to
 - Access control and securities,
 - Privacy such as the unit of protection,
 - Developing secure and interoperable GIS applications in the areas of Defence (Tri-Services).

Geospatial data play a vital role in a wide spectrum of frequencies for critical data management applications, such as military operations, disaster and emergency management, environmental monitoring, land and city planning.

- All these require coordination among diverse organizations, their data repositories, and users with different responsibilities need to be clearly identified.
- Although a variety of models and techniques are available to manage access and share geospatial data, very little attention has been paid to addressing the National security concerns, such as
- In his view “if the entire body of geospatial data would be made available by simply integrating the data from different repositories, there is severe chances of potential data misuse and privacy violations.
- Also sensitive information such as building ownerships might be revealed or information about critical infrastructure could become publicly accessible and it is a major concern in context to the applications in Defence (Military Assets).”
- Given the number of people and organizations involved in a disaster preparation scenario, security measures must be taken to provide users and applications only with data on a need-to-know basis.

Security concern

- Security issues for geospatial data are different and in many ways more complex than security issues for relational data.
- These differences concern both the data organization and structures, and in particular the ways the data are manipulated & used.
- In a GIS, data is typically organized in different thematic layers; these layers, which can be large in number, represent different aspects of an application domains and areas.
- Also the same spatial region can be represented by either field-based data, i.e., satellite imagery or map data, or by vector-based data, i.e., a collection of possibly complex geographic features.

- Because of the organization in layers, the same geo-references feature, e.g., a building or road can be represented in different layers and ways as it is very common practice.
- In terms of data usage and its further applications, many applications generating and using geospatial data are dynamic as the set of subjects and geographic features may dynamically and rapidly change, as in the case of dynamic GIS coalitions for emergency response.
- Moreover, in such a context, one may need to combine data from several sources that are independently administered and therefore depicted by heterogeneous security policies.
- Such usage requires different approaches to architecting the data, security solutions.
- **Solution** - A clear roadmap should be drawn.
- An SOP should be developed in National Geospatial Policy 2022 for the National Security Issues for the country where in it is the three services, Para military or Critical Infrastructure Sectors.

14. Crisis in International Law

The issue

- While the United Nations Charter has succeeded in ensuring that the world doesn't fight another world war, it has failed in stopping inter-state wars.
- It is said that year 2023 is going to further test the limits of international law, not just because of Russia's ongoing illegal war, but also due to other factors that will play out in the next 12 months and beyond.

Problem with the international law

- In an essay written more than two decades ago, Professor Hilary Charlesworth (a judge at the International Court of Justice) described international law as "a discipline of crisis".
- Not much has changed since then. Just when the world was recovering from the pain induced by COVID-19, Russia's invasion of Ukraine last year once again highlighted the 'crisis' dimension of international law.
- One of the underlying bases of the post-world war international legal order has been to explicitly outlaw war through the adoption of the United Nations Charter.
- While the U.N. Charter has succeeded in ensuring that the world doesn't fight another world war, it has failed in stopping inter-state wars.

Geo-economic challenge

- The post-World-War-II world was a bipolar one with power competition between a 'capitalist' America and a 'communist' Soviet Union.
- The end of the Cold War led to the disintegration of the Soviet Union and the collapse of communism.
- This 'unipolar' moment gave a leg-up to multilateralism and led to three decades of "relative harmony" among the major powers.
- However, even during this period, the North Atlantic Treaty Organization bombed Kosovo and the Western forces invaded Iraq in complete disregard to the U.N. Charter.

What is the new ground reality?

- Today international law faces a new ground reality
 - the dwindling of the 'liberal' and 'capitalist' West and
 - the rise of an 'autocratic' China and 'expansionist' Russia.
- The meteoric rise of China means that Beijing is now flexing its muscles, including by weaponising international law.

The Westphalian notion of international law that championed international rule of law and territorial integrity of states is now pitted against Chinese and Russian versions that game international law for national interests.

- Under the Chinese and Russian versions, the territorial integrity of nations and the sovereignty of states doesn't quite matter.
- As this clash between different visions of international law sharpens in 2023, it will push international law into a deeper crisis.

International economic lawlessness

- An important fallout of the rise of the geo-economic order is the concomitant spread of **economic protectionism**.
- The rise of China has set the cat among the pigeons in the U.S., which is desperate to ensure its continued hegemony.
- The U.S. is fast backtracking on the neoliberal consensus of interdependence and non-discrimination in international economic law that it laboriously built in the last three decades.
- For example, the U.S. has vehemently rejected the recent World Trade Organization (WTO) panel reports that held the U.S.'s protectionist industrial policies masquerading as national security objectives illegal.
- All these challenges are only going to become ominous in 2023 leading to greater lawlessness in the world economy.

Populist challenge

- International law in 2023 will continue to face challenges from populist and ethno-nationalist regimes in several countries.
- Although the leaders of U.S. and Brazil who supported populist ideas have demitted office, these ideas are still found in countries such as Hungary, Turkey, Poland, and Israel.
- Populists attack the legitimacy of international law and refer to it as foreign law, which is inimical to their national interests.
- In the populist scheme of things, international law is often reduced to a mere law of coordination which is
 - not aimed at international cooperation to develop and espouse common global values, but
 - aimed at ensuring a minimal relationship between countries with common ideational moorings.
- Populists also attack international institutions and international courts for thwarting them from pursuing the interests of the 'pure' people they claim to represent.
- They enact domestic laws to protect the ethnic identity of the 'pure' people even if these laws undermine international law.
- Scholars characterise the crisis in international law in different ways. Regardless of the characterisation, the fact remains that the liberal international legal order is under attack from many sides.

15. Manual Scavenging in Tamil Nadu

A Human Rights Organisation recently submitted its study on Manual Scavenging in Tamil Nadu.

Introduction:

- Social Awareness Society for Youth (SASY), a Dalit Human Rights Organisation recently conducted a study on 'The status of implementation of prohibition of employment as manual scavengers and rehabilitation (PEMSR) Act - 2013 in Tamil Nadu'.
- SASY studied 21 cases related to manual scavenging, sewer tank deaths, incidents of caste-based discrimination against sanitary workers and related incidents in government schools in Tamil Nadu in 2021-22.

Key Findings:

- According to the report, the majority of the sewer tank deaths cases were not recorded properly and have come to light only because of social media. Most of the cases come out only when a person dies while cleaning septic tanks.

- Many individuals from oppressed communities are into the occupation due to poverty and are involved in handling human and animal waste, especially in urban areas.
- From the cases, the report found that the victims were mostly from Scheduled Castes.
- FIR was registered in 15 cases and only six cases were filed under PEMSAR Act. Eight cases were filed under Prevention of Atrocities (SC/ST) Act 2016.
- A total of 15 accused persons were arrested in nine cases. In seven cases, complaints were not given reportedly due to threats from the perpetrators. No charge sheet was filed in any of these cases.
- According to data from the National Commission for Safai Karamcharis, in the last 29 years (1993-2022), a total of 989 members died in various parts of the country while cleaning underground sewage tanks.
- Tamil Nadu reported the highest number of deaths. During the period from 2016 to 2020 in Tamil Nadu, 55 persons died while cleaning septic tanks.
- The workers were made to work in the most hazardous way without proper protective gear and tech support.
 - Based on the study, recommendations have been made for procurement of machines for cleaning of sewer and septic tanks in major cities such as Chennai.
- Manual scavenging is rooted in caste-based discrimination and passed on to successive generations, but the sanitary workers continue to undertake manual scavenging as employers exploit them. The workers, the women especially, continue to do so to sustain the family and to educate their children so that the scourge ends with them.

Manual Scavenging:

- The term is used mainly for “manually cleaning, carrying, disposing of, or otherwise handling, human excreta in an insanitary latrine or in an open drain or sewer or in a septic tank or a pit”.
- This occupation is linked with caste in India. All kinds of cleaning are considered lowly and are assigned to people from the so-called lowest caste of the social hierarchy.
- The government has caste-related data of 43,797 identified manual scavengers, and over 42,500 of them belong to the Scheduled Castes, 421 to the Scheduled Tribes, and 431 to Other Backward Classes.
- The Parliament had enacted the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 which came in force from December 6, 2013.
 - This outlaws all manual excrement cleaning of insanitary latrines, open drains, or pits.

- It also provides a constitutional responsibility to provide alternative jobs and other assistance to manual scavenging communities.

16. Bird flu in Kerala

Kerala has been severely affected by an outbreak of bird flu recently.

Introduction:

- Thousands of domestic birds including ducks were culled in Kerala where Kottayam district has seen a surge in the number of bird flu or avian influenza cases.
- The authorities have also banned the transportation and sale of birds and animals in the area, as bird flu spreads.
- The district administration official confirmed the presence of H5N1 virus after tests were carried out at the National Institute of High-Security Animal Diseases (NIHSAD) in Bhopal.
 - The H5N1 strain is the most prevalent one now across the world.
- The Union Ministry of health and family welfare deputed a high-level team to Kerala after the outbreak of Avian Influenza.
- The spread of the virus is a concern for governments and the poultry industry due to the devastation it can cause to flocks, the possibility of trade restrictions and a risk of human transmission.

Need for diagnostic studies:

- Frequent outbreaks of avian flu in Kerala have critically hit the poultry industry and the livelihood of hundreds of farmers. Five outbreaks have been reported in the last three or four months alone.
 - Therefore, experts demand diagnostic studies to identify sustainable measures for reducing the recurrence of infection.
- Kerala farmers practice traditional duck farming, especially in the Kuttanad area which is a Ramsar site.
- Kerala's wetlands, which habitats more than 80% of the duck population, are under threat due to outbreaks of bird flu. Many of these wetlands come under Ramsar sites with rich biodiversity.
- Diagnostic studies will help to identify whether contamination occurs through soil and water.
- It also helps to observe any changes in salinity and pH of water and soil over the period.
- Contact with migratory birds is the likely trigger for the current outbreak.

- In India, bird flu spreads mainly by migratory birds coming into the country during the winter months between September and March.

17. The escalation on the India-China border

- Indian and Chinese troops engaged in a clash in the Yangtse region of the Tawang along the India-China border. This was the most serious skirmish between the two countries since the Galwan Valley clash in 2020.
- According to the Australian Strategic Policy Institute (ASPI), the skirmish occurred due to the development of new road infrastructure on the Chinese side, which is a part of rapid infrastructure development by China along the border. The infrastructure will allow easy access to key locations on the Yangtse plateau.
- It was observed through satellite imagery that tens of thousands of Indian and Chinese troops continue to be deployed in the region.

Tawang and its significance:

- Tawang is a strategically important Indian territory wedged between China and Bhutan. Tawang's border with China is a part of the de facto but unsettled India-China border referred to as the Line of Actual Control (LAC).
- The Yangtse plateau in Tawang is crucial for both the Indian and Chinese militaries because its peak at over 5,700 metres above sea level enables better visibility of the maximum region.
- Notably, India's control of the ridgeline prevents Chinese overwatch of roads leading to the Sela Pass.
 - Sela pass, a critical mountain pass is the only access point in and out of Tawang.
 - India is establishing an all-weather tunnel through the pass. However, all traffic along the road will still remain visible from the plateau.

Skirmish in the Tawang area:

- India has a network of six frontline outposts along the LAC. They are supplied by a forward base about 1.5 km from the LAC that is approximately battalion-sized. Apart from this, there are other significant basings of Indian forces in valleys below the plateau.
- Despite Indian forces occupying a commanding position, it is not impregnable. Moreover, these access roads suffer from erosion and landslides

due to their steep gradient, environmental conditions, and relatively poor construction.

- It should be noted that China's positions are lower on the plateau, but it has invested comparatively more in building new roads and other infrastructure during the previous year. For instance, the construction of a new road from Tangwu New Village to within 150 metres of the LAC ridgeline.

The above new road along with a small PLA camp enabled Chinese troops to surge upwards to Indian positions during the December 9 skirmish.

Reasons for Infrastructure race in the region:

- The skirmish between China and India on December 9 was caused due to new infrastructure development. Notably, China has compensated for its tactical disadvantage by the ability to rapidly deploy land forces.
- Though PLA remains at a disadvantageous position in small skirmishes due to the commanding position of Indian troops on the ridgeline. But durable transport infrastructure and associated surge capability developed by the PLA have the potential to alter the situation, especially in the context of less reliable access roads on the Indian side.
- The recent developments around Galwan and Pangong-Tso reflects that if there is political will, tense situations on both sides can be tackled, thereby reducing the risk of conflict.
- It is suggested in the research that previous clashes and recent intrusions have normalized the presence of Chinese troops adjacent to the LAC. This approach is a part of China's long-term strategy, where it is able to strategically position any 'retreat' to a higher location on the plateau.
- India's External Affairs Minister S. Jaishankar mentioned that the satellite imagery provides evidence of China's attempts to change the status quo at the contested border.
- The pace of infrastructure development in the northeastern State of Arunachal Pradesh has also accelerated. For example, multiple infrastructure projects were inaugurated in the northeastern state.

Challenges Ahead and Way Forward:

- The fast-paced infrastructure development by China along the border has created an escalation trap for India.
- It is challenging for India to respond to this situation. Moreover, it is also difficult to unilaterally de-escalate without providing any strategic concessions that can endanger India's position.
- Presently, India's response includes increasing vigilance and readiness along the border, along with better surveillance.

- India should pursue non-military and multilateral measures in parallel to reduce the risk of accidental escalation. India can also seek and receive support from the international community against China's provocative behaviour on the border.
- Moreover, regional governments should also pay greater attention to clashes on the India-China border.
- It should also be remembered that the continued escalation between the two countries can become a major driver for broader tensions in the Indo-Pacific.

18. The Jallikattu Dispute

A Constitution Bench of the Supreme Court of India will soon deliver its verdict on the validity of Tamil Nadu's law permitting the practice of jallikattu in the State.

Issue

- Jallikattu is a sport where men compete against each other to hold on to the humps of agitated bulls that are released into an open arena.
- It is usually held during the Pongal season.
- In 2014, in *Animal Welfare Board of India v. A. Nagaraja*, the Supreme Court declared jallikattu illegitimate stating that the practice was cruel and caused the animal unnecessary pain and suffering.
- Since then, Tamil Nadu has made efforts to resurrect the sport's legality.

Situation of animal welfare in India

- **Directive Principles of State Policy (DPSP) - Article 48A** states that the State shall endeavour to protect, improve the environment and surroundings and to safeguard the forests and wildlife of the country.
- **Fundamental duty- Article 51A(g)** - Protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures
- In 1960, Union government enacted the **Prevention of Cruelty to Animals Act (PCA), 1960** that criminalised several different types of actions resulting in cruelty to animals.
- However, the act also defined a set of exceptions. They are,
 - The performance of experiments on animals aimed purportedly at advancing discovery of drugs
 - Concession for "killing any animal in a manner required by the religion of any community"
- The Supreme Court in *A. Nagaraja*, affirmed that jallikattu falls within the boundaries of the actions forbidden by the PCA Act.

What is the amendment made to PCA by Tamil Nadu?

The subject of preventing animal cruelty falls in the *Concurrent list* of the Seventh Schedule to the Constitution.

- Tamil Nadu government claimed that it possess an equal authority to determine what actions constitute cruelty to animals within its respective territory.
- Based on this, Tamil Nadu legitimised jallikattu, by amending the PCA Act, and by exempting the practice entirely from the statute's demands.
- The amendment defines the practice of jallikattu as an event involving bulls conducted with a view to follow tradition and culture.
- Tamilnadu also argued that the amendment serves to preserve native varieties of bulls and the exemption in favour Tamil people's right to conserve their culture.

What is the argument of the petitioners?

- **Cruelty on animals** - The petitioners argued that excluding the practice of jallikattu from the PCA Act will mean that cruelty on animals is agreeable.
- **Violation of PCA and Article 51A(g)** - The petitioners submitted that the Supreme Court arrived at clear findings of fact and law in *A. Nagaraja*, which had held that jallikattu amounted to a violation of the existing provisions of the PCA Act, and Article 51A(g).
- **Interpretation of Article 21** - The Bench was conscious that the right to life in Article 21 is conferred only on human beings but acknowledged the expanded meaning of "life" that includes right against disturbance to the basic environment including animal life.
- This raises the question of whether animals have personhood.

What lies ahead?

- **For Supreme Court** - On hearing petitions against the latest law, the court had sought to address the questions of
 - whether jallikattu should be granted constitutional protection as a collective cultural right under Article 29 (1)
 - whether the 2017 law and rules perpetuate cruelty to animals
 - whether the 2017 law and rules were a means to ensure the survival and well-being of the native breeds of bulls
- **For the bureaucracy** - The revised law, by itself, could not ensure that no human lives were lost.
- There is a need to reinforce stricter enforcement of regulations.

- The bureaucracy should sensitise local communities to the need for the safe and smooth conduct of jallikattu.
- Every traditional practice undergoes changes over time and jallikattu is no exception to this rule.

19. The Principle of Fraternity

The principle of fraternity which is the touchstone of democratic projects across the world, has gained prominence in recent times.

Emergence of the principle of fraternity

- The word fraternity (Bandhutva) is derived from French to mean **brotherhood**, friendship, community and cooperation.

Ideas of Fraternity

- **The Judeo-Christian View** - The Judeo-Christian world envisaged a brotherhood among men based on the belief that all men were 'Children of God'.
- **View of the French Revolution (1789-1799)** - It is a more radical and secular view that denotes a sense of solidarity and brotherhood among those who were opposed to the cruel monarchical order.
- This idea became the basis of modern citizenship.

What about the concept of fraternity in the Indian context?

- In the Indian context, fraternity emerged during the process of anti-colonial struggle as an associated process of nation-building.
- While drafting India's Constitution, **Ambedkar** laid great stress on fraternity.
- According to Ambedkar, "Fraternity is a sense of common brotherhood of all Indians that gives unity and solidarity to social life."

**"Without fraternity, equality and liberty
will be no deeper than a coat of paint"**

Dr. B.R. Ambedkar



Fraternity in the Constitution

- Preamble - The Preamble declares that fraternity has to assure
 - The **dignity** of the individual
 - The **unity and integrity** of the nation
- **Article 1** describes India as a 'Union of States', emphasising the Indian Union's indestructibility.
- **Fundamental duty - Article 51A** states that it shall be the duty of every citizen of India to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities.
- The Constitution promotes the feeling of fraternity by **single citizenship** system.

How significant is the concept in modern times?

- Recent years have violated the ideal of fraternity in a variety of ways.
- Examples include
 - Gated residential communities which exclude people on the basis of their caste, religion and food preference
 - Lovers who are prevented from entering into relationships because they belong to different religions/castes or same sex
- **Significance of fraternity**
- **Injustice and inequality** - Fraternity is the necessary foundation to fight all the world's injustices, hate and inequalities.
- **Social solidarity** - The idea of fraternity is closely linked to that of social solidarity, and imbibe the values of caring, compassion, empathy and love.
- **Social protection & justice** - The collective caring promotes the idea of social protection in order to provide greater justice.
- **Political democracy** - Political democracy cannot last unless there lies at the base of it social democracy.
- **Social democracy** - Social democracy means a way of life which recognizes liberty, equality and fraternity as the principles of life.
- The principles of liberty, equality and fraternity form a union of trinity in the sense that to divorce one from the other is to defeat the very purpose of democracy.

20. Vishwaguru aspirations and the internationalization of Indian higher education

The 2020 National Education Policy (NEP) was a pathbreaking moment in the annals of Indian higher education. The policy envisions a complete overhaul and re-energising of the higher education system. The just announced University Grants

Commission (Setting up and Operation of Campuses of Foreign Higher Educational Institutions in India) Regulations, 2023, have re-ignited debates on the internationalization of Indian higher education.

Major factors that influence Internationalization of higher education

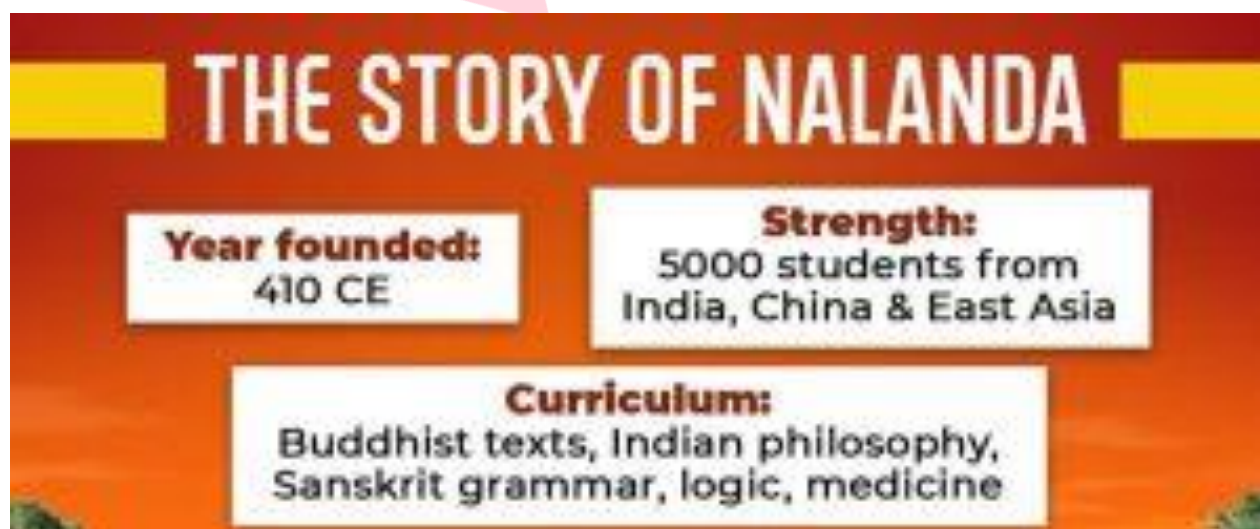
- **Prohibitive costs of higher education, especially in developed countries:** Indian students must pay approximately Rs 70 lakh per annum to study at Harvard, Yale or Stanford and over Rs 55 lakh per annum to study at Oxford or Cambridge. Tuition fees alone would be about 15 times more expensive than Indian private universities. The new proposal vitiates the NEP's vision of equity and inclusion as it envisages higher education only for the super-rich.
- **The establishment costs of top university campuses make the project unviable:** The vision of uniform academic standards in both the parent university and its international campus is a noble aspiration. However, the reality is international campuses have become a second-rate option, primarily accessible to those unable to get admission to the main campus. The quality and excellence in teaching and research on overseas campuses cannot match those in their primary location.
- **The landscape of global higher education has dramatically changed post-Covid:** The idea of brick-and-mortar international campuses has given way to building solid partnerships, student and faculty mobility, exchange and immersion programmes, joint teaching and research opportunities, collaborative conferences and publications and the development of online and blended degree programmes. The global thinking around international collaborations has changed.

Steps to become a global leader in international education

- **Greater autonomy to Indian universities as well as Institutions of Eminence (IoE):** Indian universities, both public and private, are generally highly regulated and poorly governed. The ingrained institutional habit of regulatory bodies instructing universities on what they should be doing must stop. The government must pay greater attention to the IoEs and expand their scope and scale so that they become natural destinations for international students.
- **Establishing universities more of global orientation and outlook:** Establish global universities in India led by the public and the private sector to cater to the needs and aspirations of international students. India's Gross Enrolment Ratio (GER) is lopsided. The national GER is approximately 22 per cent but there are states, such as Tamil Nadu, with a GER of 52 per cent. We must build more public and private universities across the country, with greater

autonomy, resources and better governance structures, minimising the role of the regulatory bodies.

- **Provide more resources to all the Indian universities:** Indian universities face acute resource scarcity. The NEP has envisaged a six per cent annual investment in higher education and a National Research Foundation to allocate additional resources. Government must encourage CSR and philanthropic initiatives with more tax incentives to enable private sector contributions to public and private universities.
- **Breaking the barriers, bias and prejudices and hierarchy:** The NEP envisages breaking the long-standing barriers between public and private institutions. But many biases and prejudices persist. An institutionalised hierarchy in the Indian higher education system replicates the caste system. First, the IITs and the IIMs are placed high in the pecking order, followed by the central universities. Next come the IISERs, NITs and much lower down are the state public universities.
- **Establish a liberal and progressive regulatory ecosystem for Indian universities to attract international students:** Much more than reforms in the education sector will be needed if India is to become a sought-after international destination for students from developing countries. Government must reform its visa processes and the FRRO registration procedures. There must be a significant improvement in the quality of infrastructure and hostels on university campuses. The safety, security and well-being of the students, especially women, must be ensured. Other forms of university towns and education cities can create a comprehensive ecosystem that will enable students and faculty to study, work and live in these communities.



What should be the India's approach?

- **Focus on becoming global higher education destination in our own right:** Instead of enabling the creation of international campuses of universities from developed countries, we need to focus on becoming a global higher education destination in our own right.
- **Assume leadership role to realise Vishwaguru aspiration:** We will not realise the Vishwaguru aspiration by inviting prestigious foreign universities to locate campuses. We must assume the leadership role we had over 2,000 years ago when Nalanda, Takshashila, Vallabhi and Vikramshila attracted faculty and students from around the world.
- **High quality education in affordable cost:** We can be truly global leaders in providing high-quality education at an affordable cost. Likewise, we can produce high-quality research at a relatively lower cost.
- **For instance:** Indian scientists made a successful mission to Mars with a modest budget of \$74 million, less than the production cost of \$108 million for Gravity, a Hollywood film.



Conclusion

- The vision of India becoming a Vishwaguru cannot be achieved by outsourcing Indian higher education to international universities. Instead of enabling the creation of international campuses of universities from developed countries, it must focus on becoming a global higher education destination in its own right.

21. Conducting the Census

What is the issue?

- Due to the COVID-19 pandemic hit, the census process was postponed.
- But the repeated postponement and the undue delay in the Census's commencement will severely affect the availability of vital information on population numbers at district and other lower levels.

Census

- The Census is the process of collecting, compiling, analyzing and disseminating demographic, economic and social data pertaining, at a specific time, of all persons in a country.
- It is the basis for reviewing the country's progress in the past decade, monitoring the ongoing government schemes and plan for the future.

The census is a Union subject under Article 246 of India Constitution. As per the provisions of the Census Act 1948, the Census of India is conducted.

- In India, the Census is conducted 10 years once.
- Census 2011 was the 15th National Census of the country since 1881 (first Census) and the 7th after Independence.

Significance of census

- Census provides detailed information on demography, economic activity, literacy and education, housing and household amenities, urbanisation, fertility and mortality, scheduled castes and scheduled tribes, etc.
- Since the Census tallies data on several features of the Indian population, the Census is vital to administrative functions and planning of welfare schemes.
- Census data are also critical as they are used as a frame to underpin other sample surveys that are representative of the whole population.
- The national Census is utilised by international agencies to project the world's population as well.

Is it conducted regularly?

- Since 1881, only 2021, a pandemic-affected year, was an exception as the exercise was postponed.

- With the deadline for freezing of boundaries further extended to June 30, 2023, the Census can effectively be conducted only some months after this event.

Freezing of boundaries is necessary as State governments are in the habit of creating new districts and tehsils or reorganising existing ones.

- Census enumeration is preceded by activities such as house-listing.
- Most States were in line to begin this in early 2020, before the COVID-19 pandemic hit.
- But the repeated postponement and, consequently, the undue delay in the Census's commencement will severely affect the availability of vital information on population numbers at district and other lower levels.

Why is there a delay?

- The COVID-19 pandemic has been cited as a reason for the delay. But, this is no longer a valid excuse, since
 - Lockdowns and physical distancing norms are now a thing of the past,
 - Infection levels in the country have remained relatively low ever since the last COVID wave happened in early 2022.
- In fact, Census data should validate the various estimates on mortality based on '**excess deaths**' analyses during the COVID-19 pandemic.
- It is imperative that decadal changes in India's demography related to **urbanisation and migration** of people across States are captured adequately.
- Welfare schemes such as the targeted Public Distribution System under the National Food Security Act depend on population estimates.
- But, the government continues to rely on Census 2011, which is now clearly outdated.
- Inter-State disparities in population growth rates could also impinge upon debates on the prospective delimitation of electoral boundaries and apportioning of seats across States.
- Considering these and other imperatives for the smooth planning and implementation of administrative, welfare and statistical management for governance, the Union government must commence the Census.

22. If Japan goes nuclear, should India welcome the decision?

Japan's National Security Strategy released in December is a remarkable document. Russia's invasion of Ukraine, China's assertive rise, and Democratic People's Republic of Korea (DPRK-North Korea) provocations are listed as key developments creating for Japan the most severe and complex security environment since the end of the Second World War.

Japan's new concerns

- **Chinese increasing military power:** Unconstrained by bilateral or multilateral agreements, Chinese military power is noted as growing exponentially. In less than a decade, the Chinese nuclear arsenal would match numbers currently held by the US and Russia. Expectations are low that the US would have the will or the capacity to bring China to the arms control table.
- **DPRK is riding a runaway proliferation train:** Having shaken off all the limits to its nuclear programme it pretended to accept during the Trump Administration, its nuclear programme is perhaps now unstoppable.
- **The inadequacy of its current defence posture and its military alliance with the US:** As underlined by the document, extended deterrence including nuclear weapons is the cornerstone of the US-Japan alliance. Its success until now allowed Japan the luxury of its three nuclear no's policy no production, possession, or introduction of nuclear weapons on its territory.



What worries Japan in its future adequacy and the options

- **The stated option:** The National Security Strategy calls for Japan to strengthen the deterrence and response capabilities of its alliance with the US, including extended deterrence by the US, backed by its full range of capabilities, including nuclear.
- **Possibility trends of nuclear-sharing by Japan:** The unstated part is the possibility of nuclear-sharing by Japan. If implemented, this may be new to Asia but is a long-standing US practice with its key NATO allies in Europe. US willingness to share nuclear-powered submarines with Australia as part of AUKUS is an indicator of possible trends.

- **Possibility of Japan itself acquiring nuclear weapons:** The document makes no reference to this. But there are references to the US – in Japan’s view the world’s greatest comprehensive power finding it increasingly difficult to maintain a free and open international order. Behind Japanese politeness, the message is clear.
- **Strategic autonomy in Japanese style:** Significantly, the document adds that Japan would seek to strengthen its defence capabilities to the point at which Japan is able to take primary responsibility for its defence, without excluding support from the US.

With China being the global manufacturing hub so far, India can certainly be the principal defence manufacturing hub for Japan.

How India should view this development?

- **If Japan goes nuclear, India should welcome the decision:** In our separate ways, India and Japan privileged nuclear disarmament as a priority. But there comes a time when this national preference must be subordinated to the demands of national security.
- **Understanding the reason:** India reached this conclusion reluctantly but with good reason in 1998. If Japan were to reach the same conclusion, it too would have good reason to do so.
- **Ensuring self-defence capabilities and Upholding the sovereignty:** Its technological capabilities are not in doubt. It is for Japan to exercise its inherent and inalienable right of ensuring the necessary means of self-defence. Thinking the unthinkable in terms of changing policy is an attribute of sovereignty, not its negation.

Way ahead

- Japan’s turn towards an explicit nuclear option will come, if at all, not out of choice but out of necessity.

- Its strategic predicament, laid bare by the document, is compounded by the lack of easy answers, a predicament that India should view with sympathy and understanding of a fellow Asian country.
- Japan is also a strong supporter of the NPT, and its derivative non-proliferation regime but it is also painfully aware that the NPT does precious little to constrain China, nor for that matter DPRK.
- The gap between Japan's security needs in a nuclearized world and its non-nuclear public sentiment was papered over in the past by US extended deterrence. It looks less likely that will be the case in the future.

Conclusion

- A multipolar Indo-Pacific can be truly multipolar only if Japan is assured of national defence through the means of its choosing. As a strategic partner and friend, we must keep faith that Japan will make the right decision at the right time.

23. Telangana-Andhra Pradesh Stalemate

There is a conflict between the two States in dividing assets and liabilities. The governments of both States claims are different.

Why are the claims differing?

- The erstwhile united Andhra Pradesh was bifurcated more than eight years ago.
- The division of assets and liabilities between the two States remain elusive as the States make their own interpretation of the provisions under the Andhra Pradesh Reorganisation Act 2014.
- Several bilateral meetings between the two States as well as those convened by the Union Home Ministry failed.

Andhra Pradesh Government has approached the Supreme Court seeking "just, reasonable and equitable apportionment" of assets and liabilities.

What assets are to be divided?

- The issue involves 245 institutions with a total fixed asset value of 1.42 lakh crore.
- There are 91 headquarter assets (institutions) under Schedule IX and 142 institutions under Schedule X of the Act.
- The division of another 12 institutions not mentioned in the Act has also become contentious between the States.

What are AP government's claims?

- The AP Government is firm on implementing the recommendations given by the expert committee headed by retired bureaucrat Sheela Bhide for bifurcation of 89 out of the 91 Schedule IX institutions.
- But it lamented that the Telangana government had selectively accepted the recommendations leaving others which was resulting in delays in division of assets and liabilities.

Expert committee say

- The committee has made recommendations with respect to the division of 89 out of the 91 Schedule IX institutions.
- Its recommendations on the division of assets that are not a part of the headquarter assets attracted criticism from the Telangana government which said it is against the spirit of the Reorganisation Act.
- The division which have huge land parcels in its possession have become the key bone of contention between the two States.
- Telangana opposes the division of institutions like the RTC headquarters and the Deccan Infrastructure and Landholdings Limited (DIL).
 - Telangana said that the committee's recommendation that the division of RTC workshops and other assets is not acceptable as they do not come under the definition of 'headquarter assets'.
 - Also, Telangana contended that the land parcels held by the DIL do not come under the provisions of the Act either.

What has the Home Ministry said?

- The Union Home Ministry has given clarity about the headquarter assets in 2017.
- Single comprehensive State undertaking, which is exclusively located in, or its operations are confined in one local area, shall be apportioned on the basis of location as per Section 53 of the Reorganisation Act.

Single comprehensive State undertaking is the one that includes the headquarters and the operational units in one facility.

What is the stand of Telangana?

- The Telangana government has contended that the expert committee's recommendations were against the interests of Telangana.
- There is a clear definition of division of headquarter assets in Section 53 of the Reorganisation Act.

The Act says, “The assets and liabilities relating to any commercial or industrial undertaking of the existing State of AP, where such undertaking or part thereof is exclusively located in, or its operations are confined to, a local area, shall pass to the State in which that area is included on the appointed day, irrespective of the location of its headquarters”.

- The government is firm that the assets located outside the erstwhile united State like Andhra Pradesh Bhavan in New Delhi could be divided between the States on the basis of population as per the Act.

What is the role of the Centre?

- The Act empowers the Union Government to intervene as and when needed.
- Hopefully, the Home Ministry takes steps to expeditiously and amicably settle the issues between the two States.

24. Child Mortality and Stillbirths

UN Inter-agency Group for Child Mortality Estimation (UN IGME) recently released reports on Child Mortality and Stillbirths.

Highlights of the report:

- In 2021, approximately 2.3 million children died during the first month of life – or about 6,400 babies every day.
 - These deaths constituted nearly 47 per cent of the 5 million under-five deaths in 2021.
- An estimated 2.1 million children, adolescents and youth aged 5–24 years died in 2021.
 - Over half of these deaths occur among adolescents and youth aged 15–24 years.
 - More than 80 per cent of under-five deaths and about 70 per cent of all deaths among 5–24-year-olds occurred in sub-Saharan Africa and Southern Asia.
- Globally, the under-five mortality rate was 38 deaths per 1,000 live births in 2021.
 - In sub-Saharan Africa, the rate was 74 deaths per 1,000 live births. Children and youth older than 5 years old also face the highest probability of dying in sub-Saharan Africa.
 - In low-income countries, the 2021 under-five mortality rate was 67 deaths per 1,000 live births, versus just 5 deaths per 1,000 live births in high-income countries.
- The under-five mortality rate in the 37 countries classified as fragile and conflict-affected situations was triple the rate in all other countries.

Child Mortality in India:

- As per the above UN report, India's share in these child mortalities was estimated at 7,09,366 under-five deaths; 5,86,787 infant deaths (death before first birthday); and 4,41,801 neonatal deaths.
- The Sample Registration System (SRS), released in September 2022, showed wide inter-State variations in child mortality in India.
- For every 1,000 live births, the infant mortality rate in Madhya Pradesh was six-fold the rate in Kerala.
- Children in rural areas in any age subgroup have much higher mortality rates than their urban areas.

Reasons behind these deaths:

- **Preterm births:** The first challenge is children being 'born too early' (preterm births), which means they are born alive before 37 weeks of pregnancy are completed.
- 'Preterm babies' are two to four times at higher risk of death after birth in comparison to those born after 37 weeks of gestation. Globally, one in every 10 births is preterm.
 - In India, one in every six to seven births is preterm. India has a high burden of preterm births.
 - Studies have shown that preterm births contribute to one in every six under-five child deaths. However, three out of every four deaths due to preterm birth-related complications are preventable.
- **Stillbirths:** A baby who dies any time after 22 weeks of pregnancy, but before or during the birth, is classified as a stillborn.
 - Globally, an estimated 1.9 million stillbirths happened in 2021.
 - In 2021, the absolute estimated number of stillbirths in India (2,86,482) was greater than the death amongst children in 1-59 months of age (2,67,565).
- One of the reasons preterm births and stillbirths do not get due attention is the lack of granular and reliable data. Over decades, while countries have strengthened the mechanisms for tracking child mortality, the data on stillbirths and preterm births are scarce.
- Even at the global level, the first-ever report on stillbirths was released only in October 2020. Experts believe that the problem is the lack of timely, granular data on stillbirths from the block, district and State levels.
- **Lack of basic rights:** Children are deprived of their basic right to quality health care, vaccinations, proper food and clean water and sanitation. Too many children continue to die because efforts to address preventable communicable and infectious diseases remain inadequate.

- **Conflict and emergencies** including the COVID-19 pandemic also continue to threaten the survival of children.

Way Forward:

- The proposed SDG target for child mortality aims to end, by 2030, preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 deaths per 1,000 live births and under-5 mortality to at least as low as 25 deaths per 1,000 live births.
- Quality data is vital to monitoring the survival of children.
 - Investing in data collection mechanisms and systems, particularly in conflict-affected situations is an essential component of realising children's rights and achieving the SDGs.
- For reducing both stillbirths and preterm births, the focus must be on: increasing access to family planning services; improving antepartum services such as health and nutrition, including the intake of iron folic acid by pregnant mothers, providing counselling on the importance of a healthy diet, and optimal nutrition; and identification and management of risk factors.
 - The measures to prevent, detect early and manage diseases which put mothers at high risk, such as diabetes, hypertension, obesity and infections, will also help in reducing preterm births and stillbirths.
- Monitoring labour and functional referral linkages and improving the quality of healthcare services will prevent stillbirths.
- The maternal and perinatal deaths surveillance guidelines need to be effectively implemented and the International Classification of Diseases' definition for perinatal mortality must be adopted.
- India should also identify the hot spot clusters of stillbirths and preterm births for local and targeted interventions.
- The Union government shall focus on reaching the target set by the National Health Policy of 2017 of investing 2.5% of the GDP on health by 2025.

25. Free foodgrain scheme named 'PM Garib Kalyan Anna Yojana'

The Centre has named its new free foodgrain scheme under the National Food Security Act, 2013, as 'Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)'.

PM Garib Kalyan Anna Yojana

- PM had approved the new integrated food security scheme for providing free foodgrains for a year beginning January 1, 2023 to beneficiaries under the NFSA -

1. Antyodaya Anna Yojana (AAY)
2. Primary Household (PHH)

How is it different from earlier scheme?

- The difference between the two schemes is that about 81 crore NFSA beneficiaries were entitled to get free of cost 5 kg foodgrain per person in a month over and above their monthly entitlements.
- However, they were required to pay the subsidised rate of foodgrains (Rs 3 per kg rice, Rs 2 per kg wheat and Rs 1 per kg coarse grains) to purchase the quantity for which they were entitled—35 kg per Antyodaya Anna Yojana Household and 5kg per person to a Priority Household in a month.
- In the new scheme, the government has done away with the subsidised prices and is providing foodgrains free of cost for a year.
- Now the additional quantity, which was available during the Covid pandemic, will not be provided to these beneficiaries.
- They will receive as much quantity of foodgrains, for which they are entitled under the NFSA.

Implementation strategy

- For effective and uniform implementation of NFSA 2013, PMGKAY will subsume the two subsidy schemes of Department of Food & Public Distribution –
 1. Food Subsidy to FCI and
 2. Food Subsidy for decentralized procurement states dealing with procurement, allocation and delivery of free foodgrains to the states under NFSA

National Food Security (NFS) Act

- The NFS Act, of 2013 aims to provide subsidized food grains to approximately two-thirds of India's 1.2 billion people.
- It was signed into law on 12 September 2013, retroactive to 5 July 2013.
- It converts into legal entitlements for the existing food security program of the GoI.
- It includes the Midday Meal Scheme, Integrated Child Development Services (ICDS) scheme and the Public Distribution System (PDS).
- Further, the NFSA 2013 recognizes maternity entitlements.
- The Midday Meal Scheme and the ICDS are universal in nature whereas the PDS will reach about two-thirds of the population (75% in rural areas and 50% in urban areas).

- Pregnant women, lactating mothers, and certain categories of children are eligible for daily free cereals.

Key provisions of NFSA

- The NFSA provides a legal right to persons belonging to “eligible households” to receive foodgrains at a subsidized price.
- It includes rice at Rs 3/kg, wheat at Rs 2/kg, and coarse grain at Rs 1/kg – under the Targeted Public Distribution System (TPDS).
- These are called central issue prices (CIPs).

26. Section 6A of Citizenship Act

A constitution bench of the Supreme Court has noted that it will examine the constitutional validity of Section 6A of the Citizenship Act before looking into deeper citizenship matters pertaining to Assam.

Section 6A deals with “special provisions as to the citizenship of persons covered by the Assam Accord”.

Assam Accord

- Assam Accord was signed in 1985 between the Union government and the All Assam Students’ Union at the end of a 6-year-long agitation against the influx of migrants from Bangladesh into the state.
- It determines who is a foreigner in the state of Assam.
- The plea before the Supreme Court challenges one of the core elements of the Assam Accord and the basis of the final National Register of Citizens (NRC) in Assam, published in 2019.
- Clause 5 of the Assam Accord states that January 1, 1966 shall serve as the base cut-off date for the detection and deletion of “foreigners”.
- But it also contains provisions for the regularisation of those who arrived in the state after that date and up till March 24, 1971.

Section 6A

- Section 6A of the Citizenship Act 1955 is a special provision on the citizenship of persons covered by the Assam Accord.
- Under this section, people who entered India between January 1, 1966, and March 25, 1971, and have been living in Assam, will be allowed to register themselves as citizens.
- Section 6 A of the Citizenship Act, was inserted as an amendment to establish March 24, 1971 as the cut-off date for entry into the state.

- It states that while those who came to Assam on or after January 1, 1966 but before March 25, 1971 from Bangladesh shall be detected as “illegal immigrants” or “foreigners”.
- These people would have to register themselves according to rules made by the Central Government.
- Till a period of 10 years from the date they were detected as foreigners, they would have the same rights and obligations as citizens except being included in electoral rolls for any assembly/ parliamentary constituency.
- At the end of the ten-year period, they were to be deemed citizens.
- The final NRC in Assam which was published in 2019 was conducted with this cut-off date of 24 March 1971.

What is the plea?

- The Supreme Court is faced with a batch of petitions which have sought the quashing of Section 6A.
- In 2012, the Assam Sanmilita Mahasangha and others have plead that Section 6A is “unconstitutional” as it establishes a different cut-off date for Indian citizenship in Assam than in the rest of India - July 1948.
- It has urged that 1951 be considered as the cut-off date for inclusion in the NRC instead of 1971 for Assam. Other organisations have intervened in favour of the section.
- While hearing the 2012 plea, a two-judge bench of Justices Ranjan Gogoi and Rohinton had framed 13 questions on Section 6 A for deliberation by a constitutional bench, in an order passed on December 17, 2014.

27. Mental Health Problem and effective policy

The fifth Global Mental Health Summit, co-sponsored by over half a dozen organisations engaged with mental health, was held in Chennai to discuss mental health in the context of human rights, ethics and justice. Highlighting the importance of mental health, it gave a call for action against the continued neglect by society at large and the governments at central and state levels, in particular.

Findings of national mental health survey

- **The National Mental Health Survey (NMHS):** The latest National Mental Health Survey (NMHS) conducted by National Institute of Mental Health and Neuro Sciences (NIMHANS) in collaboration with the Ministry of Health and Family Welfare and WHO, was published in 2016.

- **Prevalence of mental disorder:** According to the survey, the prevalence of mental disorders among adults in India is around 10.6%. The most common disorders were anxiety disorders (7.3%) and mood disorders (4.5%).
- **Higher among women than men:** The survey also found that the prevalence of mental disorders was higher among women than men, and that the majority of people with mental disorders did not receive any treatment.
- **Prevalence of mental disorders is higher in urban areas:** It also found that the prevalence of mental disorders was higher in urban areas than in rural areas, and that there was a higher prevalence of mental disorders among people with lower levels of education and income.
- **Gap in treatment coverage for people with mental disorder :** The survey highlighted that there is a significant gap in treatment coverage for people with mental disorders, and that the majority of people with mental disorders do not receive any treatment.
- **Plan for mental health:** The survey has provided an important information for Indian government and mental health professional to plan and implement mental health programs and policies in the country.

What constitutes good policy making on mental health?

- **Policy should be based on research and findings:** Policies should be based on sound research and evidence from scientific studies. This helps to ensure that policies are effective in addressing mental health issues and are not based on assumptions or stereotypes.
- **Active engagement of stakeholders:** Policy making should involve a wide range of stakeholders, including people with lived experience of mental health issues, mental health professionals, and representatives from relevant government departments and non-governmental organizations.
- **A comprehensive and integrated approach:** Mental health policies should be comprehensive and address a wide range of issues, including prevention, early intervention, treatment, and recovery. They should also be integrated with other policies, such as those related to education, housing, and employment.
- **Ensure easy access to mental health care:** policies should ensure that people have access to appropriate and affordable mental health care, including both medication and psychosocial therapies.
- **Public awareness and Sensitization :** policies should ensure that people with mental health issues are treated with dignity and respect, and that their human rights are protected.

Case study: How India tackled HIV/AIDS?

- **Active surveillance system:** The need for crafting strategic interventions based on epidemiological evidence from an active surveillance system.
- **Modelling different options:** The importance of modelling different options of addressing the wide array of interventions required in different geographies, among different target groups, to provide the data related to cost effectiveness as well as efficacy of the interventions required for scaling up.
- **Proactive advocacy of systemic issues among all influencers:** The proactive advocacy of systemic issues among all influencers the media, judiciary, politicians, police and other intersectoral departments whose programmes and activities have had a direct bearing on the key populations being worked on.
- **Community engagement:** The use of peer leaders and civil society that was allocated over 25 per cent of the budget. Though a central sector programme was fully funded by the central government, every intervention was formulated with active participation and dialogue among the states and constituencies of local leaders.

Strategy for better implementation of mental health policy

- **Clear goals and objectives:** Having clear and measurable goals and objectives can help to ensure that policies are implemented effectively and that progress can be tracked.
- **Training and capacity building:** Providing training and capacity building for mental health professionals, as well as for other relevant stakeholders such as community leaders, can help to ensure that policies are implemented effectively.
- **Community engagement:** Involving communities in the planning and implementation of mental health policies can help to ensure that policies are responsive to the specific needs and priorities of local populations.
- **Monitoring and evaluation:** Regularly monitoring and evaluating the implementation of policies can help to identify any barriers or challenges, and make adjustments as necessary.
- **Multi-sectoral approach:** Adopting a multi-sectoral approach that involves collaboration between different sectors, such as health, education, social welfare, housing, and employment can help to ensure that policies are implemented in a coordinated and effective manner.
- **Policy flexibility:** Policies should be flexible enough to adapt to changing circumstances, and be responsive to feedback and suggestions from the community and stakeholders.

Latest research in mental health domain

- **The growing recognition of the importance of early intervention in mental health:** Research has shown that early intervention can prevent mental health issues from becoming more severe, and can help individuals to recover more quickly.
- **The use of technology in mental health:** There has been an increase in the use of technology, such as mobile apps, virtual reality, and teletherapy, to deliver mental health care. Studies have shown that these technologies can be effective in improving mental health outcomes.
- **The impact of the COVID-19 pandemic on mental health:** The pandemic has had a significant impact on mental health, and research has been conducted to understand the extent of the impact and to develop strategies to mitigate it.
- **Advancements in brain imaging and genetics:** Researchers are using brain imaging techniques and genetic studies to gain a better understanding of the underlying causes of mental disorders and to develop more effective treatments.
- **The use of personalized medicine in mental health:** There is growing interest in the use of personalized medicine, which involves using genetic and other information to tailor treatment to the individual patient, to improve mental health outcomes.
- **The benefits of nature-based interventions for mental health:** Studies have shown that spending time in nature can have a positive impact on mental health, including reducing symptoms of stress, anxiety, and depression.
- **The importance of social determinants of mental health:** Research has highlighted the importance of social determinants such as poverty, education, and social support in mental health.
- **The importance of addressing mental health in the workplace:** Studies have highlighted the impact of workplace stress and burnout on mental health and the importance of workplace interventions to promote mental well-being.

Do you know Neuralink?

- Neuralink is a gadget that will be surgically inserted into the brain using robotics. In this procedure, a chipset called the link is implanted in the skull.
- Neuralink can be used to operate encephalopathy. It can also be used as a connection between the human brain and technology which means people with paralysis can easily operate their phones and computer directly with their brain.

Conclusion

- Mental health problems are not related to age of persons. From children to old age all can suffer from this menace. Government of the must formulated, implement the effective, result oriented mental health policy as earliest as possible

28. Mental Health Problem and effective policy

The fifth Global Mental Health Summit, co-sponsored by over half a dozen organisations engaged with mental health, was held in Chennai to discuss mental health in the context of human rights, ethics and justice. Highlighting the importance of mental health, it gave a call for action against the continued neglect by society at large and the governments at central and state levels, in particular.

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- **Monitoring and evaluation:** Regularly monitoring and evaluating the implementation of policies can help to identify any barriers or challenges, and make adjustments as necessary.
- **Multi-sectoral approach:** Adopting a multi-sectoral approach that involves collaboration between different sectors, such as health, education, social welfare, housing, and employment can help to ensure that policies are implemented in a coordinated and effective manner.
- **Policy flexibility:** Policies should be flexible enough to adapt to changing circumstances, and be responsive to feedback and suggestions from the community and stakeholders.

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- **Advancements in brain imaging and genetics:** Researchers are using brain imaging techniques and genetic studies to gain a better understanding of the underlying causes of mental disorders and to develop more effective treatments.
- **The use of personalized medicine in mental health:** There is growing interest in the use of personalized medicine, which involves using genetic and other information to tailor treatment to the individual patient, to improve mental health outcomes.
- **The benefits of nature-based interventions for mental health:** Studies have shown that spending time in nature can have a positive impact on mental health, including reducing symptoms of stress, anxiety, and depression.

- **The importance of social determinants of mental health:** Research has highlighted the importance of social determinants such as poverty, education, and social support in mental health.
- **The importance of addressing mental health in the workplace:** Studies have highlighted the impact of workplace stress and burnout on mental health and the importance of workplace interventions to promote mental well-being.

Conclusion

- Mental health problems are not related to age of persons. From children to old age all can suffer from this menace. Government of the must formulated, implement the effective, resulted oriented mental health policy as earliest as possible

29. Sri Lanka pledges full implementation of 13th Amendment

The Sri Lankan government will “fully implement” the 13th Amendment, promised President Ranil Wickremesinghe.

13th Amendment

- It is an outcome of the Indo-Lanka Accord of **July 1987, signed by the then PM Rajiv Gandhi** and President J.R. Jayawardene, in an attempt to resolve the ethnic conflict and civil war.
- The 13th Amendment led to the creation of Provincial Councils and assured a power-sharing arrangement to enable all nine provinces in the country, including Sinhala majority areas, to self-govern.
- Subjects such as education, health, agriculture, housing, land and police are devolved to the provincial administrations.

Why is it contentious?

- The 13th Amendment carries considerable **baggage from the country’s civil war years**.
- It was opposed vociferously by both Sinhala nationalist parties and the LTTE.
- The opposition within Sri Lanka saw the Accord and the consequent legislation as an imprint of Indian intervention.
- It was widely perceived as an imposition by a **neighbor wielding hegemonic influence**.
- The Tamil polity, especially its dominant nationalist strain, does not find the 13th Amendment sufficient in its ambit or substance.

- However, some find it as an important starting point, something to build upon.

Why India objects over this?

- Because of restrictions on financial powers and **overriding powers given to the President**, the provincial administrations have not made much headway.
- In particular, the **provisions relating to police and land have never been implemented.**

Why is it significant?

- Till date, the Amendment represents the only **constitutional provision on the settlement of the long-pending Tamil question.**
- In addition to assuring a measure of devolution, it is considered part of the few significant gains since the 1980s, in the face of **growing Sinhala-Buddhist majoritarianism.**

30. Voting Rights of Migrant Workers

It is very worrying that a third of the eligible voters, a whopping 30 crore people, do not vote. Among the many reasons, including urban apathy and geographical constraints, one prominent reason is the inability of internal migrants to vote for different reasons.

Efforts by election commission to address the problem

- **Committee of Officers on Domestic Migrants:** The Election Commission had earlier formed a “Committee of Officers on Domestic Migrants” to address this issue. The Committee’s report submitted in 2016 suggested a solution in the form of “remote voting”.
- **All party representative:** To further address this serious problem, the EC invited representatives from all recognised national and state political parties to discuss the legal, administrative, and statutory changes to resolve the issue.
- **All party consensus:** The discussion took place in the presence of a technical expert committee. It is important to recall that the last major decision about the voting system was the introduction of Voter Verifiable Paper Audit Trail (VVPAT), with the consensus of all political parties in 2010.

Migrant workers and their voting rights

- **Least represented group:** The Constitution guarantees freedom of movement to every citizen and freedom to reside in any part of the country. However, migrant workers, especially circular or short-term migrants, constituting tens of millions of citizens are some of the least represented groups in the ballot.
- **Lack of access to vote:** The issue of disenfranchisement faced by migrant workers is not one arising out of deliberate denial of the right to vote, but for lack of access to vote.
- **Fundamental right:** The Supreme Court, in a series of cases, has conclusively interpreted the freedom to access the vote as within the ambit of Article 19(1)(a).

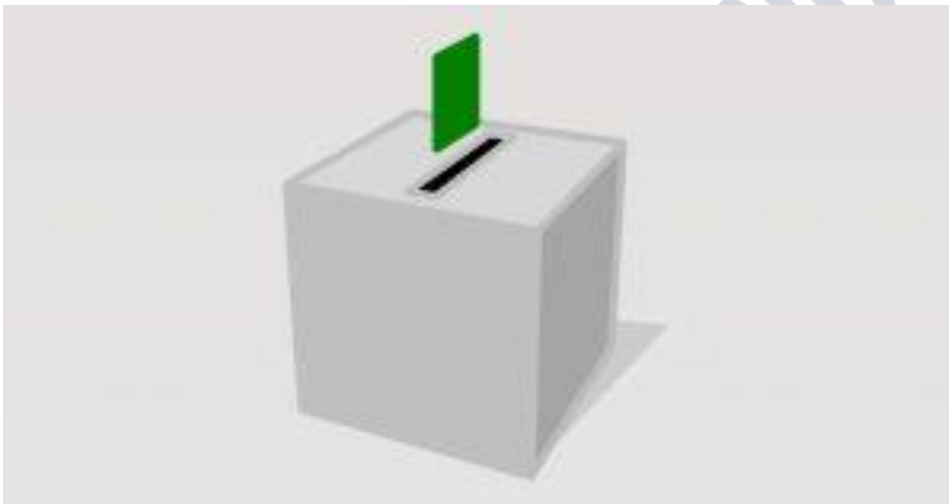
Problems related to migrant workers and Voting

- **Large scale migration:** According to the 2011 Census, the number of internal migrants stands at 450 million, a 45 per cent surge from the 2001 census. Among these, 26 per cent of the migration (117 million) occurs inter-district within the same state, while 12 per cent of the migration (54 million) occurs inter-state.
- **Alienation by residency criteria:** The root cause of the migrant voters' issue is that the individual's inalienable right to vote is conditioned by a rather strict residency qualification. As a consequence, it tends to disenfranchise the migrant population.
- **60% migrants could not vote:** In the survey report, 'Political inclusion of Seasonal Migrant Workers in India: Perceptions, Realities and Challenges' by Aajeevika Bureau, it was found that "close to 60 per cent of respondents had missed voting in elections at least once because they were away from home seeking livelihood options".

Way forward

- **Electronically Transmitted Postal Ballot System:** Section 60(c) of the Representation of People Act, 1951 empowers the Election Commission of India, in consultation with the government, to notify "classes" of voters who are unable to vote in person at their constituencies owing to their physical or social circumstances. Once notified, the voters are eligible for the ETPB system (Electronically Transmitted Postal Ballot System). In the 2019 general elections, the ETPB system was accessed by 18 lakh defence personnel across the country.
- **Postal ballots for migrants:** In 2019, in the backdrop of a PIL before the Supreme Court, a bill was floated to extend a similar remote voting possibility to over 10 million adult NRIs in order to "boost their participation in nation-building". In the 2019 Lok Sabha elections, more than 28 lakh votes were received via postal ballots.

- **Migrants are also equal citizens:** In the existing system, remote voting within the constituency by voting via postal ballot is available to senior citizens, people with disabilities, and Covid-affected personnel. The postal ballot voting outside the constituency is available only to service voters, persons on election duty and persons on preventive detention. The Indian migrant worker too deserves the secured right to have access to vote through some mechanism.
- **Remote electronic voting machine:** The Election Commission has proposed the use of remote voting for migrant workers wherein a modified version of the existing model of M3 EVMs will be placed at remote polling stations. In fact, the Electronic Corporation of India Ltd. has already developed a prototype of a Multi-constituency Remote EVM (RVM) a modified version of the existing EVM which can handle 72 constituencies in a single remote polling booth. Technical details will be available only after the crucial demonstration.



Conclusion

- Migrant workers are also the equal citizens of the country. Social-economic and structural barriers should not be the hurdle in their right to vote. Election commission of India has taken the step in the right direction. However, consensus needs to be built over the voting rights of migrants.

31. Chinese hydro-hegemony over Brahmaputra

India has planned to build a buffer reservoir in the proposed Arunachal hydropower project to counter China's proposed 60,000 MW Medog hydropower project on the Brahmaputra River.

Brahmaputra hydrology: A tool of aggression for China

- China has continued to use the water of river Brahmaputra for its interest and has intentionally created hazardous conditions for downstream states like India and Bangladesh.
- Concerns over China's proposed 60,000 MW hydropower in Medog, Tibet are influencing the design of a proposed hydropower project in Arunachal Pradesh's Upper Siang district.
- Still only in the planning stage, a 'pre-feasibility report' on the 11,000 MW project, or more than five times the size of the largest such projects in India - has been submitted.

Medog super-dam Project

- China is planning a mega dam in Tibet able to produce triple the electricity generated by the Three Gorges – the world's largest power station.
- The structure will span the Brahmaputra River before the waterway leaves the Himalayas and flows into India.
- It is billed as able to produce 300 billion kilowatts of electricity each year and said to be largest dam in the world once completed.

India's plan: To build buffer reservoir

- The design of the proposed project incorporates a "**buffer storage**" of **9 billion cubic metres** (or about 9 billion tonnes of water) during monsoonal flow.
- This could act as a store of water worth a year's flow that would normally be available from the Brahmaputra or buffer against sudden releases.

Threats posed by Medog Project

Chinese dams can hold large amounts of water, during times of droughts China could stop the flow of the river, jeopardizing the lives of millions of people in Arunachal Pradesh, Assam, and Bangladesh.

- **Reduced flow in the Brahmaputra:** The 60,000 MW dam in Medog could reduce the natural flow of water from the Brahmaputra.
- **Triggering artificial floods:** Away from India during lean patches, it might be used to trigger "artificial floods" in the Brahmaputra basin.
- **Degradation of the entire basin: Silt carried by the river would get blocked by dams leading to a fall in the quality of soil and eventual reduction in agricultural productivity.**
- **Seismic threats:** Seismologists consider the Himalayas as most vulnerable to earthquakes and seismic activity.

- **Ecological threats:** The cumulative impact of these two megaprojects might aggravate ecological degradation, converting lotic ecosystems into lentic ones.
- **Water security:** Damming Brahmaputra would result in water security in an era of unprecedented shifting climate patterns.
- **Catastrophic threat:** Any damage to the mega dam, if constructed here, will cause dam breaching and consequent flood havoc in India and Bangladesh.

India's dilemma

- **Flood control dichotomy:** India's hydropower projects, while potentially beneficial in controlling flooding from the Brahmaputra in Assam and Arunachal Pradesh.
- **No deterrence to China:** This might not necessarily serve as a strategic deterrent to China.
- **Resentment to Bangladesh:** A large dam in India may help control floods within India but might open fresh disputes over water sharing with Bangladesh downstream.

Way forward

- There must be **collaborative management** of our shared rivers.
- **Hydro-diplomacy** should form an important ingredient of Indian foreign policy, especially as India shares river basins with neighbors.

32. Judiciary and Its Collegium System

There is a current tussle between the judiciary and the union government over the appointment of judges.

Background of the issue

- For too long, the union government ran roughshod over the appointments process with little to no protest from the collegium or the rest of the judiciary.
- It segregated nominees for appointment, returned reiterated nominees, or simply refused to make appointments until nominees quit on their own out of frustration.
- All of this was quite contrary to the Memorandum of Procedure set out consequent to the Third Judges' case.
- The assertion of the sanctity of the collegium process and the Memorandum of Procedure is thus welcome.

Collegium system

- In the original constitution, there is **no mention** of a collegium.
- Supreme Court - According to **Article 124**, Supreme Court judges are appointed by the President of India in consultation with Chief Justice of India (CJI) and other judges that he deems fit.
- The collegium consists of CJI and 4 senior most judges of the Supreme Court.
- These appointments could be in the form of elevation when High Court judges are appointed to the Supreme Court or direct appointments when experienced lawyers may be directly appointed.
- High Court - According to Article 217, High Courts judges are appointed by the President in consultation with CJI, Governor of the State and Chief Justice of that court.
- In case of transfers, President may move a judge from one High Court to another, after consulting the CJI.
- The High Court collegium has the chief justice of the High court with two other senior most judges.
- The high court collegium only sends the recommendation to the Supreme Court collegium on judicial appointments.
- The final decisions are taken by a collegium of the CJI and two senior most judges of the SC.
- This collegium of the three senior-most SC judges also decides transfers of HC judges in the country.

Memorandum of Procedure for appointment of judges

- Memorandum of Procedure (MoP) is an agreement between the judiciary and the government.
- It contains a set of guidelines for making appointments to the Supreme Court and High Court.
- MoP starts with the recommendation of the High Court Collegium to the center for the appointment of other judges. The Chief Justice of the High Court(HC) heads the collegium.
- Once the center receives recommendations, it asks for the opinion of state governments and the input from the Intelligence Bureau (IB).
- The government then forwards the files, along with the IB inputs to the Supreme Court collegium.
- If the Supreme Court collegium clears the names, the files return to the central government. It then either notifies the appointments or sends them back with objections or its views.
- At this stage, the Supreme Court collegium can seek additional inputs on the government's opinion. Accordingly, it can either reject or reiterate the proposal.
- If the collegium reiterates its decision, then, under the MoP, the government is bound to notify the appointments.

- However, the MoP does not specify a timeframe for the central government to act on a collegium decision.

Concerns with the collegium system

- That said, the collegium system is by no means the best or the most effective system for the appointment of judges in India.
- The collegium system of the appointment of judges was introduced in the Second Judges' case.
- It has outlived its use and perhaps stands in the way of true judicial reform.
- Three failings are obvious—it is non-transparent, inefficient, and there is stifling diversity in the judiciary.
- There are presently no clear criteria communicated to the public as to how the suitability of candidates for judgeship is assessed by the collegium.
- This absence becomes more acute when questions are raised about the integrity and ability of individual judges.
- With greater scrutiny of the judiciary than ever before, the public's faith in the judicial system slips even further with every questionable appointment and their unacceptable conduct on the bench.
- At the same time, the collegium system has fallen short in the task of efficiently filling up the vacancies at the high court level.
- It is not clear whether the retirement of one judge shall be a ground to withdraw a considered decision, even if some consultations were incomplete.
- It is now widely accepted that seniority cannot be the sole criterion for elevation to the Supreme Court.
- However, the fact that there are three other judges senior to Justice Khanna in the Delhi High Court itself, two of them serving elsewhere as chief justices, is bound to cause some misgivings.
- Hence, the credibility of the collegium system has once again been called into question.
- Also, the Collegium system is still not accountable to any other authority.

Way forward

- The failings of the collegium system cannot be addressed by reverting to some prior, discredited system of appointment that gives the union government a predominant say in the process.
- Likewise, resurrecting the failed model of the **National Judicial Appointments Commission (NJAC)** will not work.
- What is needed at the moment is a greater focus on the how of judicial appointments rather than just the who.

- Specifically, what is needed is an appointment process that focuses on clear criteria for the appointment of judges, ensures transparency in the process, and is efficient in being able to ensure timely appointments.
- Missing also in the current discussion about the collegium is the presence of the citizen in the process.
- If there was one commendable aspect of the NJAC amendment, it was the inclusion of an “eminent person” in the NJAC.
- This is an idea that deserves to be built upon in envisioning a new appointments system, greater say for the citizens.

33. Highlights of ASER 2022

Pratham’s Annual Survey of Education Report (ASER) 2022 – the first full-fledged one after the pandemic has now been published.

ASER Survey

- This is an annual survey (published by the education non-profit Pratham) that aims to provide reliable estimates of children’s enrolment and basic learning levels for each district and state in India.
- ASER has been conducted every year since 2005 in all rural districts of India. It is the largest citizen-led survey in India.
- It is also the only annual source of information on children’s learning outcomes available in India.
- The survey is usually done once in two years.

How is the survey conducted?

- ASER tools and procedures are designed by ASER Centre, the research and assessment arm of Pratham.
- The survey itself is coordinated by ASER Centre and facilitated by the Pratham network. It is conducted by close to 30,000 volunteers from partner organizations in each district.
- All kinds of institutions partner with ASER: colleges, universities, NGOs, youth groups, women’s organizations, self-help groups, and others.
- The ASER model has been adapted for use in several countries around the world: Kenya, Uganda, Tanzania, Pakistan, Mali, and Senegal.

Assessment parameters

- Unlike most other large-scale learning assessments, **ASER is a household-based rather than school-based survey.**

- This design enables all children to be included – those who have never been to school or have dropped out, as well as those who are in government schools, private schools, religious schools or anywhere else.
- In each rural district, **30 villages are sampled**. In each village, **20 randomly selected households are surveyed**.
- Information on schooling status is collected for all children living in sampled households who are in the age group 3-16.
- Children in the age group 5-16 are tested in basic reading and basic arithmetic. The same test is administered to all children.
- The highest level of reading tested corresponds to what is expected in std 2; in 2012 this test was administered in 16 regional languages.
- In recent years, this has included household size, parental education, and some information on household assets.

Highlights of ASER 2022

The ASER 2022 report, which surveyed 6.99 lakh children aged 3 to 16 across 616 rural districts, however, bears some good news. School-level enrolment continues to grow strong and fewer girls are now out of school.

(1) Enrolment

- India has recorded a 95% enrolment for the last 15 years in the 6-14 age group.
- Despite the pandemic forced school closure, the figure rose from 97.2% in 2018 to 98.4% in 2022.
- Only 1.6% children are now not enrolled.
- There is a clear increase in government school (6-14) enrolment across states – it rose from 65.6% in 2018 to 72.9% in 2022.
- This is contrast to the trend in the 2006-14 period, which marked a steady decline in government school enrolment for the 6-14 age group.
- From 10.3% of 11-14 year old girls not enrolled in schools in 2006, the proportion came down to 4.1% in 2018 and is at 2% in 2022. Save Uttar Pradesh, where it is at 4%, the number is lower across states.

(2) Learning Loss

- The ASER 2022 report says that children's basic reading ability has dropped to 'pre2012 levels, reversing the slow improvement achieved in the intervening years'.
- The decline is seen across gender and across both government and private schools and is more acute in lower grades.

- Percentage of children in Class III in govt or private schools who can read at Class II level dropped from 27.3% in 2018 to 20.5% in 2022.
- Class V students who can at least read a Class II level text fell from 50.5% in 2018 to 42.8% in 2022.
- Nationally, 69.6% of Class VIII students can read at least basic text in 2022, falling from 73% in 2018.

(3) Arithmetic abilities

- Students in Class III who are able to at least do subtraction dropped from 28.2% in 2018 to 25.9% in 2022.
- For Class V, students who can do division has also fallen from 27.9% in 2018 to 25.6% in 2022.
- Class VIII has done better with an improvement recorded – proportion of children who can do division has increased from 44.1% in 2018 to 44.7% in 2022.
- ASER says that this increase is driven by improved outcomes among girls as well as among children enrolled in government schools, whereas boys and children enrolled in private schools show a decline over 2018 levels.

(4) Tuition dependency

- Rural India has been reporting an uptick in Class I-VIII paid tuition classes and it has moved up from 26.4% in 2018 to 30.5% in 2022.
- In UP, Bihar, and Jharkhand, the proportion of children taking paid private tuition increased by 8 percentage points.

(5) English proficiency

- ASER recorded English abilities last in 2016 and the trend stays similar till date.
- Children's ability to read simple English sentences was at 24.7% in 2016 and is found at 24.5% in 2022.
- Class VIII has shown some improvement from 45.3% in 2016 to 46.7% in 2022.
- Children's basic reading ability has dropped to pre-2012 levels, reversing the slow improvement achieved in the intervening years, while the basic maths skills have declined to 2018 levels nationally.

(6) Schools improvement

- Average teacher attendance increased from 85.4% in 2018 to 87.1% in 2022, while average student attendance persists at 72% as before.
- Textbooks had been distributed to all grades in 90.1% of primary schools and in 84.4% of upper primary schools.

- Fraction of schools with useable girls' toilets increased from 66.4% in 2018 to 68.4% in 2022.
- There were 76% schools with drinking water facilities compared with 74.85% in 2018, but there are interstate variations.
- In 2022, 68.9% schools had a playground, up slightly from 66.5% in 2018.

Way forward

- In the past 10 years, we've seen improvement, but it has been in small bits. So it means that we really need to shake up things.
- It is a critical thing for improving the productivity of the country. Business as usual is not going to work.
- Again, it's not a new message, but it's a message that needs to be reiterated.
- There are Anganwadi everywhere and their enrollment has gone up. Integration between the Anganwadi system and the school system is urgently needed because the work starts there.

34. Authorizing Fact Checking

The Centre has added a clause to a proposed IT Rules amendment which would require social media platforms to remove content deemed false or misleading by the Press Information Bureau (PIB).

Proposed amendment

- Ministry of Electronics and Information Technology would force social media platforms to take down content "fact-checked" by the PIB as false.
- The proposed amendment to the IT Rules opens the door for the PIB's fact-check unit, or any other agency authorised by the central government for fact checking for the purpose of such takedowns.
- This is problematic at many levels, with **deep implications for free speech and information.**

What is the issue?

The PIB's job is "to disseminate information to the print and electronic media on government policies, programmes, initiatives and achievements". The PIB launched its fact-checking division in 2019.

- At the basic level, the question to be asked is how a wing of the "nodal agency of the Government of India (PIB)" could be the deciding authority on what is factual and what is not.

- The disturbing absurdity of an interested party also playing the judge cannot be missed.
- If the proposal is implemented, the government can play the **super censor at will**.
- This proposal signals a new low in the administration's thinking on matters of regulating news and information.

What are the similar proposals even before this proposed amendment?

- Even before this proposal, the government in recent years has given enough indications that it wants to control the news sphere.
- The reworked IT Rules in early 2021 are an example of this.
- A similar mindset was reflected in the provisions of the data privacy Bill that gave government agencies a free pass.

How does the PIB work on the information sphere?

- Defending the government and its institutions in the public sphere by putting out data or statements is very much within the PIB's ambit and logically defensible.
- But fact-checking is a very different thing. This is not to say that the PIB's fact check unit has not debunked rumours circulating on various social media platforms.
- It has, but it has done so as the agency of the government.
- However, making its "fact-checks" binding on news disseminating platforms will allow the government to easily throttle voices opposing it.

What does other stakeholders say?

- The Editors Guild of India has rightly criticised the proposal by pointing out that "determination of fake news cannot be in the sole hands of the government and will result in the censorship of the press".
- Fake news has to be dealt with in an appropriate manner, but the proposal in question will only make the task harder.

35. Women-In-Command in Indian Army

As many as 108 women officers in the Army are set to be cleared for the rank of Colonel (selection grade) by the Special No 3 Selection Board.

A total of 60 affected women officers have been called as observers for the Selection Board to ensure fair conduct.

Selection procedure

- The Special No. 3 Selection Board is the promotion board that promotes the women officers from the rank of Lieutenant Colonel to Colonel.
- Unlike other promotion boards, this selection board is being held every day for a particular batch, starting with the 1992 batch, and the results are being declared on the same day.
- Every officer gets three chances for promotion and thus the reviews, too, are being held within three days of the declaration of the result.

Why is this significant?

- It grants women officers parity with their male counterparts.
- Earlier, with a limited period career in the force, there were no promotion avenues for women officers to become a Colonel and command a unit like male Army officers.
- In the past, women officers reached the rank of Colonel or beyond but only in two branches where they were granted permanent commission in 2008. These two branches are
 - the Judge Advocate General (JAG) branch and
 - the Army Education Corps.
- However, these were staff appointments - which are more administrative in nature - and not purely command appointments in which an officer commands troops on ground.

The Supreme Court's order to grant permanent commission to women Army officers in February 2020 opened the doors for promotion to women officers across all streams of the Army, except pure combat arms.

Why did the Colonel promotions of the women officers of the batches as early as 1992 batch come so late?

- An officer in the Army is promoted to the rank of Colonel only after serving between 16 and 18 years, based on certain criteria such as annual confidential reports and various courses.
- Women officers who were inducted into the Army were inducted as Short Service Commission (SSC) officers in 1992 and in the years after did not have the choice to opt for permanent commission.
- The JAG and Army Education Corps were exceptions, where a permanent commission was opened for them in 2008.
- For other arms and services, women had to retire much before they completed the service period that is mandatory to become a Colonel.

What did the Supreme Court order in 2020?

- In 2019, the Army changed its rules allowing SSC women officers to opt for permanent commission who would have otherwise retired after 14 years of service.
- However, this was not retrospective, and applied only to the batches of women officers starting their career in the Army in 2020.
- With the Supreme Court judgment of February 2020, permanent commission was granted to women officers with retrospective effect.
- This opened the doors for a longer career for women officers in the Army, and made sure they will be considered for promotions, including to the rank of Colonel and beyond.

Commanding a unit

- Once promoted to a Colonel, an officer is eligible to command troops directly in the Army, which is an acknowledgment of the leadership qualities of the officer.
- It is considered a coveted appointment because in no other rank - including higher ranks like Brigadier or Major General - does an officer interact directly with troops on the ground.
- For a woman officer, this is an empowering move as it will give them an opportunity to prove their leadership skills.

In which arms and services will women officers command units?

- Women officers in Army streams of Army Air Defence, Aviation, Signals, Engineers, Electronics and Mechanical Engineers, Army Service Corps, Ordnance Corps, and Intelligence Corps - will be commanding units.
- They are still not eligible in core combat arms such as Infantry, Mechanised Infantry and Armoured Corps, as the Army is not open to women fighting wars at the borders as foot soldiers.
- However, the Army has recently decided to open the Corps of Artillery, a combat support arm, to women.

All major countries including the United States, United Kingdom, Russia, and Israel, allow women in command positions of their national armed forces.

What about the Indian Navy and the Indian Air Force?

- Women officers have been inducted into all branches of the Navy, and they will be eligible for permanent commission in the future.
- Women officers can command shore-based units and, as they join the service and become eligible for permanent commission, they would be able to command ships and air squadrons.

- The IAF has opened all branches for women officers, including the fighter stream and the new weapon systems branch.
- As they are granted permanent commission based on eligibility and vacancies, they will be eligible to command units in the future.

The Army, being the largest of the three services, has the largest number of women officers at 1,705, followed by 1,640 women officers in the IAF, and 559 in the Navy.

36. India's Stand on Implementation of 13A in Sri Lanka

In 1987, India and Sri Lanka signed an agreement to implement the 13th amendment of the Sri Lankan constitution. According to the agreement, the Sri Lankan Government will provide powers to the Tamil community in the country. Recently, External Affairs Minister Jai Shankar declared that India ponders the implementation of 13A "CRITICAL". According to India, 13A is essential for the Sri Lankan Government to reconcile with the Tamil community in the country.

13A

13A is the 13th amendment of the Sri Lankan constitution. It will give more power to the Tamil people in the country. Tamilians are the minority in the country of Sri Lanka. The Tamil community in the country is demanding a separate state. In 1987, with the Indian Union Government's efforts, the Sri Lankan Government agreed to increase the powers of Tamilians in the country through 13A. However, 13A was not implemented.

Why 13A?

The root cause of the issue dates back to British rule. During the British period, the Tamilians were powerful in the country. Tamilians constituted only 11% of the Sri Lankan population and the Sinhalese constituted 11.2%. After the British left the island in 1948, the pattern started changing. More Sinhalese were coming to power. Upcoming Sinhalese started disenfranchising the Tamilians. This led to the formation of the Liberation Tigers of Tamil Eelam, that is, LTTE in 1976. Fights between LTTE and the Sri Lankan Government reached their peak in 1983. This is when India started interfering. And in 2009, the war ended with the Sri Lankan Army killing the LTTE leader. Though the war ended, the condition of Tamilians in the country has meagerly improved. They are still facing discrimination. This is why India is making statements yet again.

37. India International Science Festival, 2023

The eighth India International Science Festival is to be held in Bhopal. The Union Minister Jitendra Singh inaugurated the festival. According to the Government of India, the festival is a step in moving towards “AMRIT KAAL”.

The theme of India International Science Festival, 2023

Marching Towards AMRIT KAAL with Science and Technology

Significance of the theme

The theme aligns with and signifies the following:

- Self-Reliant India
- G20 vision of India in 2023 (India is hosting the 2023 G20 meet)
- One Earth One Family One Future

Events at IISF

This year IISF features 14 events. They are related to student science, Guinness world records, how to develop science through games and toys, scientist conclave, innovation festivals, technology shows, etc.

Key features

Students from more than 2500 schools are to participate. Also, startups from the Biotech and agricultural fields will also participate in the festival

What is AMRIT KAAL in the festival?

The IISF is to focus on AMRIT KAAL. During the 75th Independence Day celebrations held in 2021, PM Modi unveiled a new road map for India. This road map is for 25 years. It talks about how to make India a developed country, how to reduce the differences between rural and urban areas, and more. All these are to be achieved using science and technology. These 25 years were referred to by the Prime Minister as AMRIT KAAL. And the term was frequently used by the finance minister during Budget presentations. The IISF is striving forward in this context.

38. World Economic Forum Summit 2023

The World Economic Forum's annual meeting 2023 in the Davos, Switzerland was the largest in history, convening a record number of leaders from governments, businesses, and civil society.

World Economic Forum (WEF)

- **WEF** - The World Economic Forum (WEF) is a non-governmental and non-profit organisation based in **Geneva, Switzerland**.
- WEF is known for its annual summit in Davos, Switzerland.
- **Objective** - The forum strives to demonstrate entrepreneurship in the global public interest while upholding the highest standards of governance.
- **Founder Chairperson** - Economist Klaus Schwab founded the WEF in 1971 and has been its chairperson since then.
- **WEF Partners** - The WEF is largely funded by its partnering corporations.
- **Annual summit** - WEF is known for its annual summit in Davos, Switzerland.
- The theme of this year was 'Cooperation in a Fragmented World'.
- **Major reports published by WEF**
 - Global Competitiveness Report
 - Global IT Report
 - Global Gender Gap Report
 - Global Energy Transition Index
 - Global Risk Report
 - Global Travel and Tourism Report

Key takeaways from the WEF's 2023 meeting

- **Economy** - Major economies such as the US, the European Union (EU) and China are seemingly beyond the risk of a recession now.
- As the richer nations look to focus inwards, protecting their own workers, energy sufficiency, supply lines, etc., concerns were raised that this policy direction would hit developing economies.
- A warning has been issued on **friendshoring** (limiting the trade of key inputs to trusted countries in order to reduce the supply chain risks).
- **Ukraine** - Ukraine kept up its demand for more military aid to fight its war against Russia and more financial aid to rebuild after the war.
- **Climate** - The World Economic Forum, supported by more than 45 partners launched the **Giving to Amplify Earth Action (GAEA)**.
- It is a global initiative to fund public, private and philanthropic partnerships (PPPPs) to help unlock the 3 trillion dollar of financing needed each year to reach net zero, reverse nature loss and restore biodiversity by 2050.

- Pakistan brought up the issue of a loss and damage fund for the developing countries.
- Loss and Damage (L&D) Fund is a financing mechanism that was agreed in COP27 of UNFCCC to compensate the most vulnerable countries from climate-linked disasters.

What does it hold for India?

- **India's efforts** - Global leaders hailed India for its strong ability to attract global investments amid a churning in the supply chains with its policies like Product-Linked Incentives (PLI).
- IMF deputy managing director Gita Gopinath also praised India's digital and physical infrastructure prowess and called for reforms in land and labour markets.
- India is also expected to remain resilient despite the global slowdown impacting the emerging markets.
- **Projects launched** - More than 50 "high-impact initiatives" was launched at the event.
- Maharashtra Institution for Transformation (MITRA) signed a partnership with the forum on urban transformation.
- A thematic centre on healthcare and life sciences is to be set up in Telangana.

39. Prison reforms and Criminal Justice System in India

Prime Minister Narendra Modi recently called for prison reforms and recommended repealing obsolete criminal laws.

Introduction:

- Prime Minister Narendra Modi at 57th All India Conference of Directors-General and Inspectors-General of Police organised by the Intelligence Bureau (IB) suggested prison reforms to improve the jail management, and recommended repealing obsolete criminal laws.
- He also suggested making the police forces more sensitive and training them in emerging technologies such as National Data Governance Framework for smoothing of data exchange across agencies.
- He emphasised enhanced cooperation between the State Police and the Central agencies to leverage capabilities and share best practices.

PRISONS AND PRISON LAWS IN INDIA:

- Prison is a State subject under List-II of the Seventh Schedule in the Constitution. The management and administration of Prisons falls exclusively

in the domain of the State Governments, and is governed by the Prisons Act, 1894 and the Prison Manuals of the respective State Governments. Thus, States have the primary role, responsibility and power to change the current prison laws, rules and regulations. Important statutes which have a bearing on the regulation and management of prisons in the country are:

- (i) The Indian Penal Code, 1860.
- (ii) The Prisons Act, 1894.
- (iii) The Prisoners Act, 1900.
- (iv) The Identification of Prisoners Act, 1920.
- (v) Constitution of India, 1950
- (vi) The Transfer of Prisoners Act, 1950.
- (vii) The Representation of People Act, 1951.
- (viii) The Prisoners (Attendance in Courts) Act, 1955.
- (ix) The Probation of Offenders Act, 1958.
- (x) The Code of Criminal Procedure, 1973.
- (xi) The Mental Health Act, 1987.
- (xii) The Juvenile Justice (Care & Protection) Act, 2000.*
- (xiii) The Repatriation of Prisoners Act, 2003.
- (xiv) Model Prison Manual (2016).

- Further, it is important to note that, despite the relatively low number of persons in prisons as compared to many other countries in the world, there are some very serious problems in prisons across India.
- These are as follows:
Overcrowding, prolonged detention of undertrials, unsatisfactory living conditions, staff shortage and poor training, corruption and extortion, inadequate social reintegration programmes, poor spending on healthcare and welfare, lack of legal aid and even inhuman approach of prison staff among others.
- On some occasions, such as the blinding of prisoners in Bhagalpur, the stark human rights situation also attracted great attention.
- The murder of a woman life convict in the Byculla women's prison in Mumbai in June 2017 has brought the focus back on custodial violence, especially the vulnerability of inmates to authoritarian behaviour.

.In 1980 the Government of India set-up a Committee on Jail Reforms under the Chairmanship of Justice A. N. Mulla. The Mulla Committee submitted its report in 1983. Some of the prominent recommendations of the Mulla committee are:

- Improving prison condition by making available proper food, clothing, sanitation;
- The prison staff to be properly trained and organized into different cadres.

- Setting up an All India Service called the Indian Prisons & Correctional Service.
- After-care, rehabilitation and probation to be an integral part of prison service.
- The press and public to be allowed inside prisons and allied correctional institutions periodically, so that the public may have first-hand information about the conditions of prisons and be willing to co-operate in rehabilitation work.
- Undertrials in jails to be reduced to bare minimum and they be kept away from convicts.
- Undertrials constitute a sizable portion of prison population. Their number to be reduced by speedy trial and liberalization of bail provisions.
- The Government may make an effort to provide adequate financial resources.

40. Population Decline in China

China's National Bureau of Statistics has recently announced that the country's population had fallen by 8,50,000 in 2022.

Recent trend about

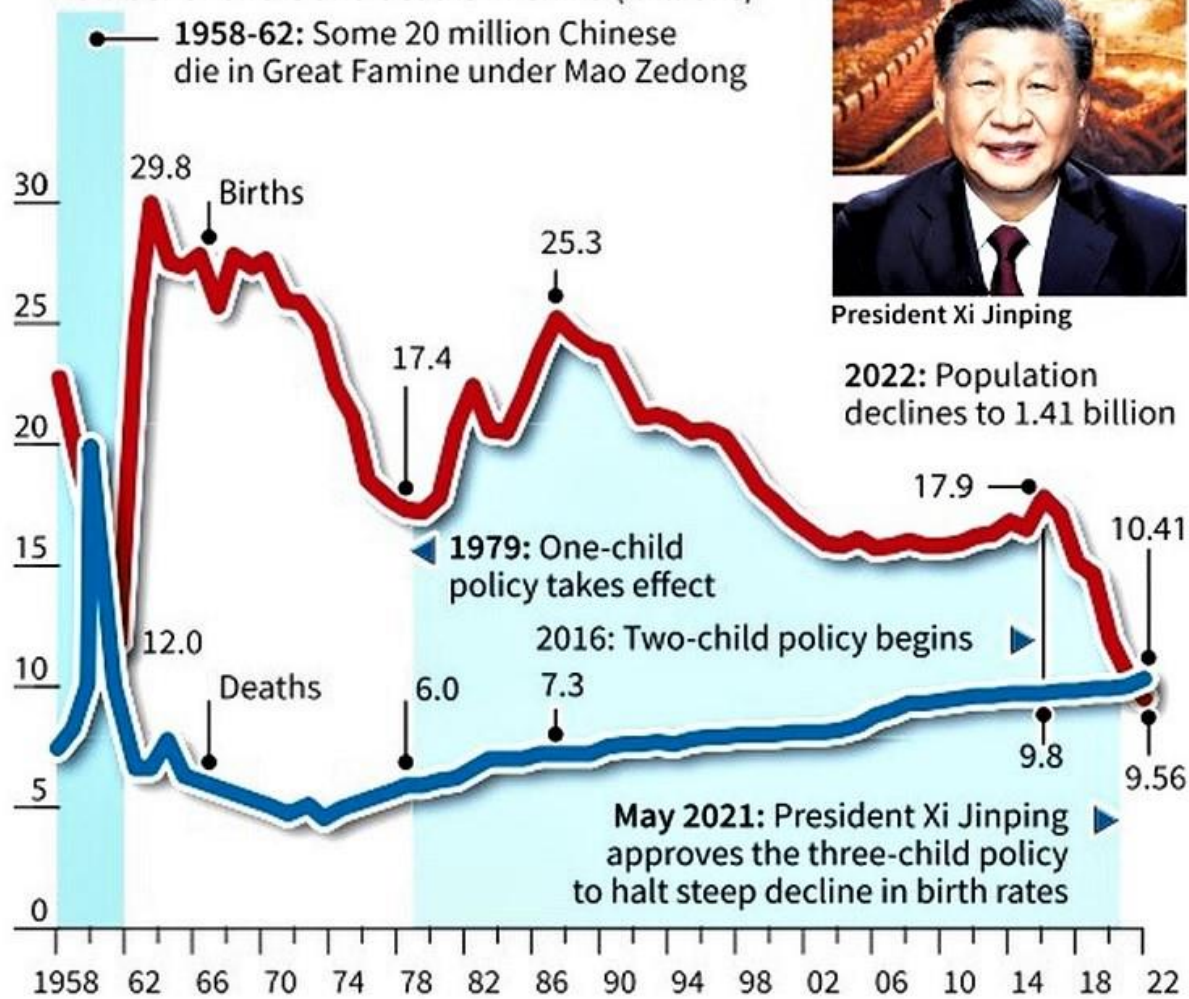
By the end of the century, the Chinese population is expected to shrink by 45%, according to the United Nations.

- Throughout much of recorded human history, China has boasted the largest population in the world.
- The country has witnessed a population decline, the first decline since 1961 when the country was amid a four-year famine following the failed '**Great Leap Forward**' campaign.
- For the first time in six decades, deaths in the previous year outnumbered births.
- The fertility rate (average number of children born to women) is at 1.3, meaning that population shrinkage is inevitable without immigration.
- By 2040, around a quarter of the Chinese population is predicted to be over the age of 65.
- **Reasons for this trend** - The "one-child policy" introduced harsh measures such as forced abortions and high financial penalties.
- There is a growing preference among young Chinese for getting married later and choosing to have fewer or no children.

Declining strength

China has announced that the country's population had fallen by 8,50,000 in the year 2022. For the first time the number of births fell below the number of deaths, a more than 10% drop from 2021.

Number of births and deaths in China (millions)



2023: India expected to overtake China as the most populous nation

How has the Chinese government responded to the population crisis?

- **Scrapping of one-child policy** - Beijing finally abandoned the one-child policy in 2016 and introduced the two-child policy.
- **Introduction of two-child policy** - However, it failed to elicit the desired response which is attributed to high costs of healthcare and education.
- **Introduction of three-child policy** - In 2021, a three-child policy was rolled out including financial inducements for families with three children.
- It has pledged to address the economic factors such as healthcare costs and education expenses, by cracking down on expensive private education companies.

Demographers say that, India is set to become the most populous nation in 2023.

What will be the impact of shrinking population on China?

On Economy

- **Labour availability** - There will be fewer workers able to feed the economy and spur further economic growth.
- **Shift in manufacturing base** - With wages rising, many factories in the lower end of the manufacturing spectrum are already moving out to Southeast Asia and Bangladesh.
- **Aged population** - According to China's National Working Commission on Ageing, healthcare spending on the above-60 population will rise to 26% of the GDP by 2050.

On Society

- **For aged population** - The large number of aging parents with only one child to rely on will need emotional and social support as a result of extended life expectancy.
- **For children** - It will also impose constraints on those children themselves, who will need to fulfill obligations to their career, provide for their own children and support their elderly parents simultaneously.
- **Pension systems** - The social pension systems in China are highly segmented and unequally distributed.

On Politics

- **Status** - Failure to live up to the expectations of the public could result in loss of prestige for the government.
- **Legitimacy of Communist Party** - Any economic decline could have severe consequences for the Chinese Communist Party.

GS 3 : Economy, Science and Technology, Environment

1. Mutual Legal Assistance Treaties (MLATs)

India and Saudi Arabia are in talks to sign a Mutual Legal Assistance Treaty (MLAT) to obtain formal assistance from each other in investigations related to criminal cases.

- Saudi Arabia is only among a dozen other countries that does not have either an MLAT or any other bilateral agreement with India to facilitate such investigations.
- India has so far signed MLATs with 45 countries, and is also in talks to finalise MLATs with Italy and Germany.

MLATs

- The MLATs in criminal matters are the bilateral treaties entered between countries for providing international cooperation and assistance.
- These agreements allow for the exchange of evidence and information in criminal and related matters between the signing countries.

Benefits of Treaty

- It enhances the effectiveness of participating countries in the investigation and prosecution of crime, through cooperation and mutual legal assistance.
- It will provide a broad legal framework for tracing, restraining and confiscation of proceeds and instruments of crime as well as the funds meant to finance terrorist acts.
- It will be instrumental in gaining better inputs and insights in the modus operandi of organized criminals and terrorists.
- These in turn can be used to fine-tune policy decisions in the field of internal security.

Enforcing MLATs in India

- The Ministry of Home Affairs (MHA) is the nodal Ministry and the Central authority for seeking and providing mutual legal assistance in criminal law matters.
- The Ministry of External Affairs (MEA) may be involved in this process when such requests are routed through diplomatic channels by these Ministries.
- Section 105 of the Criminal Procedure Code (CrPC) speaks of reciprocal arrangements to be made by the Centre with the Foreign Governments

Why is India seeking such a treaty with Saudi?

- In the past, Saudi Arabia has **deported several terror suspects** on India's request.
- The treat would help in getting a conviction for an accused in a court of law, based on evidence gathered through the mutual agreement.

2. Tamil Nādu undertakes project to conserve Nilgiri tahr

India's first project to conserve Nilgiri Tahr will be taken up in the state of Tamil Nadu.

Nilgiri Tahr project

- It is India's first project to conserve the **State animal of Tamil Nadu**.
- It will be taken up at a cost of **₹25.14 crore**.
- It will have **9 components**.
 - It includes bi-annual **synchronised surveys across the division, diagnosis** and treatment for affected individuals and **Shola grassland restoration pilot** in Upper Bhavani.

Nilgiri Tahr

- It was formerly called **Hemitragus hylocrius**.
 - Its generic name was changed to **Nilgiritragus** after the phylogenetic research by **Ropiquet and Hassanin** in 2005.
- It is one of the few species of mountain Caprinae, and the only Tahr.
- **IUCN: Endangered**
- **Wildlife (Protection) Act 1972 status: Schedule-I.**
- It is a congener of the **Himalayan tahr** (*Hemitragus jemlahicus*) found in **Kashmir and Bhutan**.
 - **Arabian tahr** (*Arabitragus jayakari*) found in **Oman and United Arab Emirates**.
- It is endemic to the southern part of the **Western Ghats**.
- It is the only mountain ungulate in Southern India among the **12 species** present in India.
- Its population has been estimated at **3,122 in the wild**, according to a report released by **World Wildlife Fund India in 2015**.

Habitat

- It used to be found along the entire stretch of **Western Ghats** but in small fragmented pockets.
 - It is between Nilgiris in the north and Kanyakumari hills in the south of the region.
- Its species is found in a roughly **400 km stretch** in the Western Ghats.
 - It falls in the states of **Kerala and Tamil Nadu**.
- There are smaller populations found in the Palani hills, Srivilliputtur, and the Meghamalai and Agasthiyar ranges.

- **Eravikulam National Park in Anamalai hills** has the highest density and largest surviving population of Nilgiri tahr.

Threats

- Hunting for its meat and skin
- Habitat loss due to rampant deforestation
- Competition with domestic livestock
- hydroelectric projects in habitat
- monoculture plantations

Conservation

- Conservation efforts have been on for quite a long time and the numbers have recovered around **1,000 in 1970** to around **2,600 in 2010**.

3. What should India do in the current international energy market?

India marches ahead carrying the same challenge projected as last year that it will have to navigate the choppy waters of a volatile petroleum market without straying from the green path towards clean energy. Energy security cannot be achieved by focusing only on the supply and distribution side of the equation. The demand conservation and efficiency sides are equally important.

Current situation of international energy market

- **Fragmented energy market:** the energy market has fragmented and energy nationalism is the driving force behind policy.
- **Restricted markets for Russia:** Irrespective of how and when the Ukraine conflict ends, Russia will not be allowed access to the western markets for as long as President Putin is at the helm of the affairs. One fallout is the tightening energy embrace between Russia and China.
- **Declining western orbit and increasing non-aligned approach:** Three, OPEC plus one which is, in effect, Saudi Arabia plus Russia has stepped outside the Western orbit. Saudi Arabia has made clear it intends to pursue a Saudi first, non-aligned approach to international relations including with the US.
- **Emergence of new energy centres:** The new centres of energy power are emergent around countries that have a large share of the metals, minerals and components required for clean energy. China is currently the dominant power.

What should India do against this backdrop?

- **Government must increase productivity of existing sources:** Discounted Russian crude is an opportunistic panacea. It does not provide a sustainable cover to meet our requirements. To secure such a cover, government must increase the productivity of our existing producing fields; additional resources should be allocated for accessing relevant enhanced oil recovery technologies.
- **Secure long- term supply relationship with Saudi Arabia and Iran:** Further, it should leverage the country's market potential to secure a long-term supply relationship with Saudi Arabia and an equity partnership with Iran.
- **Enhance the strategic petroleum reserves:** It should enhance the strategic petroleum reserves to cover at least 30 days of consumption and remove the sword of Damocles that the CBI/CVC/CAG wield over the heads of the public sector petroleum companies so that their traders can, without fear, take advantage of market volatility.
- **Expediate gas pipeline grid:** The construction of a pan-India national gas pipeline grid should be expedited.



Analysis: Phasing out coal and the energy transition in India

- **Coal one of the major sources of energy in India:** Coal will remain the bulwark of India's energy system for decades. It is no doubt the dirtiest of fuels, but it remains amongst, if not the cheapest, source of energy. Plus hundreds of thousands depend on the coal ecosystem for their livelihood.

- **Phasing out is not yet a near possibility:** The option of phasing out coal whilst environmentally compelling is not yet a macroeconomic or social possibility.
- **Need a balance:** In the interim, the government has to find an energy transition route that balances livelihoods and pushes forward the green agenda.
- **Steps to be taken:** Some small, politically feasible steps in that direction would include increased R&D expenditure for coal gasification and carbon capture and sequestration technologies; setting a carbon tax; the establishment of regulatory and monitoring mechanisms for measuring carbon emissions from industry; the closure of inefficient and old plants and a decision not to approve any new ones.
- **Determining competitiveness:** In parallel, it would help if Niti Aayog were to pull together a group of economists and energy experts to determine the competitiveness of coal versus solar on a full-cost basis

Other possible measures

- **Upgrading the transmission grid:** Allocation of funds for upgradation of the transmission grid network to render it resilient enough to absorb clean electrons on an intermittent basis. The sun does not shine at night and the wind does not blow all the time. In parallel, the underlying structural issues currently impeding the scaling up of renewables must be addressed.
- **Repairing the balance sheets of discoms through various regulatory reforms:** In parallel, the repair of the balance sheets of state distribution companies (discoms), easing the procedures for the acquisition of land and the removal of regulatory and contract uncertainties are most important.
- **Building up the domestic chip industry:** It will take decades to harness our indigenous resources of the metals and minerals critical for clean energy and build up a domestic chip industry. In the interim, diplomats should secure diversified sources of supply to reduce the country's vulnerability.
- **Developing and commercializing 3G clean energy technologies:** Finally, the creation of an enabling ecosystem for developing and commercializing third-generation clean energy technologies like hydrogen, biofuels and modular nuclear reactors. Nuclear, in particular, should be pushed.



Conclusion

- India is not responsible for global warming, but it will be amongst the worst affected. Millions live around its coastline. Their livelihoods will be undermined by rising sea levels. Millions will also be affected by melting glaciers and extremes of temperatures. So irrespective of who is to blame, India has to stay on the path of decarbonization. It cannot afford to develop first and clean up later.

4. E-waste sector and Gender Justice



According to the Global E-waste Monitor 2020, out of the total 56.3 million tonnes of discarded e-waste products generated in 2019, only 17.4 percent was officially recorded as being collected and recycled. The rest end up in landfills, in scrap trade markets or are recycled by the informal markets.

E-waste in India

- **Third largest contributor:** India is the third largest contributor to this great wall of waste after China and the United States (US) with a whopping 1,014,961.21 tonnes generated in 2019-2020, out of which only 22.7 percent was collected, recycled or disposed of.
- **More than 12 million workers:** For the 12.9 million women working in the informal waste sector, Waste Electric and Electronic Equipment (WEEE's) are lifelines as it contains valuable recyclable metals notwithstanding the detrimental effects it can have on health and the environment.

E-waste and Burden on women

- **Less women in value chain:** Inequalities are particularly pronounced in this largely gender-neutral sector across the value chain which is heightened by the barriers in decision-making roles.
- **Negligible percent of women:** With reliable data hard to come by from this sector recent reports indicate that an estimated 0.1 percent of waste pickers account for India’s urban workforce with women populating the lower tiers in this economy as collectors and crude separators at landfill sites.
- **Men at skilled position:** Men unsurprisingly dominate the entire spectrum of skilled positions as managers, machinery operators, truck drivers, scrap dealers, repair workers and recycling traders.
- **Women mostly from poor background:** Workers in this ‘grey sector’ are some of the most marginalised, poverty-stricken, uneducated people from vulnerable backgrounds with little social or financial security. They remain unprotected at their workplaces, and often are victims of sexual abuse with no bargaining power in selling their goods. All of these factors then act upon their exclusion as cities begin to formalise the waste sector to effectively control discarded goods.

| HAZARDS | E-WASTE ITEMS |
|---|---|
| <p>AIR When E-Waste is treated in an informal manner like burning it contaminates the air which results in air pollution and damages the respiratory health</p>  | <ul style="list-style-type: none"> • TVs, Monitors, Music System, Speakers • Keyboards, Desktops, Laptops, Notepads, CPU |
|  <p>WATER Heavy metals like lithium, mercury, lead and barium are the basic elements of water contamination.</p> | <ul style="list-style-type: none"> • Fridge, Washing Machine, Geyser • Air Conditioner, Cooler, Ceiling Fan, Table Fans |
| <p>SOIL When E-Waste is disposed on landfills, certain metals like copper and flame retardants seep directly into the soil contaminating the crops that can enter in to the food chain.</p>  | <ul style="list-style-type: none"> • Mobiles, Land phones, Wifi Routers • Chargers, Adapters, Extension chords, Cables • Mixie, Grinder, Ovens, Iron Box • Tape Recorders, Radio • Printers, Projectors, CDs, DVDs • UPS, Batteries |

E-waste Impact on Health

- **Incineration and leaching:** Open incineration and acid leaching often used by informal workers are directly impacting the environment and posing serious health risks, especially to child and maternal health, fertility, lungs, kidney and overall well-being.
- **Occupational health hazards:** In India, many of these unskilled workers who come from vulnerable and marginalised are oblivious to the fact that that what they know as ‘black plastics’ have far reached occupational health

hazards especially when incinerated to extract copper and other precious metals for their market value.

- **Exposures to children:** This 'tsunami of e-waste rolling out of the world', as described in an international forum on chemical treaties, poses several health hazards for women in this sector as they are left exposed to residual toxic elements mostly in their own households and often the presence of children.
- **Constant contact with organic pollutants:** According to a recent WHO report, a staggering 18 million children, some as young as five, often work alongside their families at e-waste dumpsites every year in low- and middle-income countries. Heavy metals such as lead, as well as persistent organic pollutants (POPs), like dioxins, and flame retardants (PBDEs) released into the environment, have also added to air, soil, and water pollution.

Laws and regulations related to E-waste

- **India's E-waste (Management) Rules, 2016:** Released by the Ministry of Environment, Forest and Climate Change (MoEFCC) flagged e-waste classification, extended producer responsibility (EPR), collection targets, and restrictions on imports of e-wastes containing hazardous substances.
- **Amendment to Rules:** The amended Electronic Waste Management Draft Rules 2022, expected to come into effect by early next year has also emphasised on improving end-of-life waste throughout the circular economy.
- **Lack of clear guidelines:** These progressive measures, however, lack clear guidelines on the role of informal recyclers and have particularly blind sighted the role of women creating a lacuna in equitable growth.
- **The Beijing Platform of Action:** It is worth mentioning that The Beijing Platform of Action clearly maintains that a properly designed e-waste processing system can meet both economic and environmental goals to improve the status of women in the informal economy. Sculpting this blueprint in a variegated social and cultural milieu can perhaps play out to examine best practices and success stories around the world.

How to make E-waste sector more gender inclusive

- **Ownership of supply chain:** The social stigma attached to this sector progressively manifests in discrimination and loss of dignity. Women lack ownership at the end of the value chain as business owners of material processing units nor have access to capital for starting business ventures.
- **Separate policy for ground workers:** Educating the un-educated takes more than simply designing training modules, skill development and generating awareness about e-waste should be tailored to run at ground-zero where workers operate without disrupting their daily work schedules.

- **Gendered data collection:** All of these factors compounded by the severe lack of gender-disaggregated data necessitate earmarked gender budgeting to shape an inclusive e-waste management system.

Conclusion

- The concept of the 3R's, Reduce, Reuse, recycle as envisaged under Mission LiFE will have to invest in women as drivers of a responsible waste management economy, recognising their critical role to minimise the quantum of waste with the ultimate objective of zero waste.

5. Developing the Blue Economy

- The ocean is the next big economic frontier, with the rapidly growing numerous ocean-based industries.
- This article talks about different strategies and methods needed to develop the blue economy.

Blue economy

- Blue economy relates to presentation, exploitation and regeneration of the marine environment.
- It is used to describe sustainability-based approach to coastal resources, ranging from fisheries, aquaculture to maritime issues, coastal issues and maritime tourism.

Significance of the marine environment

80% of world trade happens using the seas, 40% of the world's population live near coastal areas, and more than three billion people access the oceans for their livelihood.

- While maritime transport plays a big role in the globalised market in the form of containerships, tankers, and ports, coastal tourism is the largest employer within ocean-related activities.
- The value of the marine environment is estimated to be over \$25 trillion.
- The annual value of produced goods and services estimated to be \$2.5 trillion per year, equivalent to the world's seventh largest economy in gross domestic product (GDP) terms.

What is worrisome?

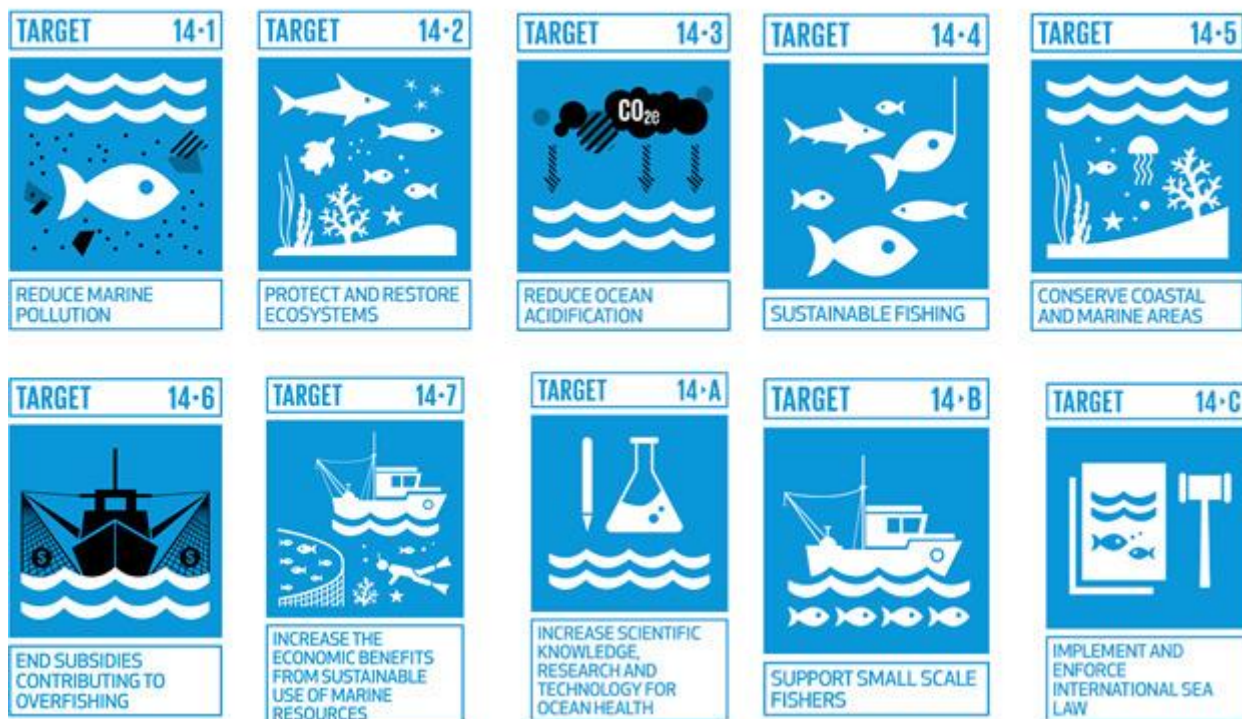
- The ocean is the next big economic frontier, with the rapidly growing numerous ocean-based industries.

- Yet the worry is that the oceans are under severe threat by human activities, especially when the economic gains come at the cost of maintaining environmental sanity.
- Marine activities have brought in pollution, ocean warming, eutrophication, acidification and fishery collapse as consequences on the marine ecosystems.

What are some goals to protect the oceans?

- The SDG 14 (Life Below Water) concerns conservation and sustainable use of the oceans, seas and marine resources for sustainable development.
- The SDG 14 demands international cooperation for the oceans to get back in balance.

Key Targets of SDG14



What is needed to achieve the SDG14 goal?

- Achieving this goal would need **tremendous human effort**, and would call for **global cooperation** through various legal and institutional frameworks.
- This also includes the need to develop newer sectors such as renewable ocean energy, blue carbon sequestration, marine biotechnology and ex-tractive activities, with due attention paid to the environmental impacts.
- The ocean is uncharted territory, and rarely understood by financial institutions.

- Hence **preparedness of the financial institutions** in making available affordable long-term financing at scale is nearly zero.

What are the things that countries lack?

- In this journey of achieving blue economy goals, it is developing nations that pay a heavy economic price.
- Many of the developing nations
 - have high levels of external debt,
 - lack of capacity and technology needed for transition between agri economy and marine economy.
- The blue economy is based on multiple fields within ocean science, and so it needs inter-sectoral experts and stakeholders.
- It is imperative to involve the civil society, fishing communities, indigenous people and communities for an inclusive discussion.

What is needed further?

- Developing the blue economy should be based on national and global expertise.
- It is important that any blue economy transformation should include using integrated marine spatial planning.
- This would provide collaborative participation of all stakeholders of the oceans, and would make room for debate, discussion and conflict resolution between the stakeholders.

6. Investing in Human Capital

Sometime in April 2023, it is estimated that India's 1.43 billion people will exceed China's population. This milestone is bittersweet.

Why is this milestone bittersweet?

- Sweet because we have more than doubled the horrible 31-year life expectancy the British left us with in 1947, without brutal freedom-destroying state interventions like China's one-child policy.
- Bitter because mass prosperity for massive populations is hard.

For what strong case is made?

- India's large remittances from a small population overseas reinforce that our mass prosperity strategy should be human capital and formal jobs.

- A strong case for human capital-driven productivity is our **software employment** - 0.8% of workers generate 8% of GDP.
- This case is reinforced by remittances from our overseas population of less than 2% of our resident population crossing \$100 billion last year.
- **Remittance level** - A World Bank report suggests that there is a significant qualitative shift during the previous 5 years,
 1. from low-skilled, informal employment in Gulf countries (share of Saudi Arabia, the UAE, Kuwait, Oman, and Qatar dropped from 54% to 28%)
 2. to high-skilled formal jobs in high-income countries (share of the US, UK, and Singapore increased from 26% to 36%).
- In 2022, the US replaced the UAE as the single biggest source country with 23% of remittances.
- India's rich forex remittance harvest, which is 25% higher than FDI and 25% less than software exports, is the fruit from the tree of human capital and formal jobs.

What could the government do?

Global experience suggests where governments spend money (pensions, interest, salaries, education, healthcare, etc) and how this spending is financed (taxes or debt) matters more than how much is spent.

- The Union budget in February 2023 will renew the reform agenda.
- The Finance Bill must target productivity and continuity by legislating human capital and formal job reforms previously proposed.
- It should reduce the implementation path for the National Education Policy 2020 from 15 years to 5 years.
- It should abolish separate licensing requirements for online degrees and freely allow all accredited universities to launch online learning.
- It should accelerate growing our 0.5 million apprentices to 10 million by allowing all universities to launch degree apprentice courses under tripartite contracts with employers under the Apprentices Act.
- It should notify the four labour codes for all central-list industries while appointing a tripartite committee to converge them into one labour code by the next budget.
- It should continue Ease of Doing Business (EODB) reforms by designating every enterprise's PAN number as its Universal Enterprise Number.
- It should explode manufacturing employment by abolishing the Factories Act and require all employers to comply under each state's Shops and Establishment Act (like Infosys, TCS, and IBM India do).
- It should create a non-profit corporation (like NPCI in payments) that will operate an API-driven National Employer Compliance Grid.

- This non-profit must enable central ministries and state governments to rationalise, digitise and decriminalise their employer compliances.
- The government should reduce the gap between the money numbers in employment letters and money received in hand by
 1. making employees' PF contributions optional and
 2. raising employer PF contributions from the current 12% to 13%.
- It should notify a previous budget announcement to create employee choice in their contributions to health insurance (ESIC or insurance companies) and pensions (EPFO or NPS).
- It should link all employer subsidies and tax incentives to high-wage employment creation (difficult-to-fudge & easy-to-measure effectiveness metric for this public spending is employer provident fund payment).

What is the comparison?

- India and China's per capita GDP was equal in 1991. But now, China's is 5 times higher.
- Unlike when China started serious reform in 1978, India today faces a more unfavourable global context of growth, manufacturing, and exports.
- Also, China's reforms were faster and crisper without the fixed costs of democracy. But this deficit led to their unchallenged policies of Cultural Revolution, one-child norm, and zero-Covid.
- India's cantankerous democracy is a strength.
- Experience and evidence now firmly suggest the odds of mass prosperity in India rise from possible to probable by anchoring our strategy in human capital and formal jobs rather than fiscal or monetary policy.

7. Demonetization and the digital payment ecosystem

Paperless payments have been a big national goal ever since 8 November 2016, when India rendered ₹500 and ₹1,000 currency notes useless in a stunning decision that was upheld as valid by the Supreme Court on recently. Today, our cash intensity remains roughly on the same incline as it was earlier. But online payments have soared. This means a fine policy judgement call will need to be made soon.

Demonetization: A brief Analysis

- The supreme court rejected petitions arguing that demonetization was done illegally and by 4:1 bench majority Supreme court held the process as satisfactory.
- The overnight note-ban was also found to satisfy a general test of proportionality. For all the hardship caused by weeks of cash starvation, that exercise of authority was not judged too drastic for its aims.

- The extent to which unaccounted-for money was flushed out, terror funding frozen and commerce formalized cannot reliably be estimated, but small businesses were clearly hit hard and India's economy slowed down soon after.

The changing trend: How we are transacting?

- **Rise of digital payments:** The past half decade's big trend in our use of money has been the exponential rise of a platform that's part of our digital stack of public goods.
- **Spectacular success of UPI:** Designed for instant transfers between bank accounts done via mobile phones, the Unified Payments Interface (UPI) has been a spectacular success since its 2016 launch.
- **UPI transactions for instance:** According to National Payments Corporation of India (NPCI), its operator, UPI processed more than 74 billion transactions in 2022, up 90% over 2021, worth almost ₹126 trillion, a 76% leap.

Examining feasibility of levying user fee on UPI and the E-rupee

- **Financial support to UPI:** The case for UPI as India's payment bedrock is weakened by the fact that while it levies no user fee, it isn't a costless service. Last year, the finance ministry justified financial support for UPI on the ground that it's a digital public good with immense convenience for the public and productivity gains for the economy.
- **Cost benefit review must be done:** If public funds are increasingly needed to back UPI as it expands, we must put it to a cost-benefit review as we go along; UPI is already logging huge sums and the total for 2023 may be much more.
- **Promoting E-rupee:** It's not just a cost consideration that should make us promote RBI's retail e-rupee instead for routine payments.
- **E-rupee is a direct liability of RBI:** The E-rupee's mass usage would involve circulation of money that's a direct liability of the central bank (an IOU issued by it, i.e., like cash), which would better serve the cause of economic stability. This is because what RBI owes its currency bearers is entirely free of risk, while the same cannot be said of banks.

Why India needs a digital rupee?

- **Online transactions:** India is a leader in digital payments, but cash remains dominant for small-value transactions.
- **High currency in circulation:** India has a fairly high currency-to-GDP ratio.

- **Cost of currency management:** An official digital currency would reduce the cost of currency management while enabling real-time payments without any inter-bank settlement.

Conclusion

- For superior systemic safety, the e-rupee should get a significant share of online payment swipes. Even if its holdings earn no interest, it could catch on if the security of its value, ease of liquidity and erasure of data trails (below a limit) are duly advertised. For an e-rupee to aid macro level prudence, it will have to eat into UPI.

8. AI generative models and the question of Ethics

2022 had an unusual blue-ribbon winner for emerging digital artists; Jason Allen's winning work Théâtre D'opéra Spatial was created with an AI Generative model called Midjourney.

Midjourney

- Midjourney is an AI based art generator that has been created to explore new mediums of thought.
- It is an interactive bot, which uses machine learning (ML) to create images based on texts. This AI system utilises the concepts and tries to convert them into visual reality.
- It is quite similar to other technologies such as DALL-E 2.

The journey of AI generative models so far

- **Midjourney generator:** Midjourney is one of the rash of AI-generated Transformer or Generative or Large Language Models (LLMs) which have exploded onto our world in the last few years.
- **Earlier models:** Models like BERT and Megatron (2019) were relatively small models, with up to 174 GB of dataset size, and passed under the collective public radar.
- **Composition skills of GPT3:** GPT3, released by OpenAI with a 570 GB dataset and 175bn parameters was the first one to capture the public consciousness with some amazing writing and composition skills.
- **Models that creat images or videos based on texts:** The real magic, however, started with Transformers which could create beautiful and realistic pieces of art with just a text prompt OpenAI's DALL-E2, Google's Imagen, the open-

source Stable Diffusion and, obviously, Midjourney. Not to be left behind, Meta unleashed a transformer which could create videos from text prompts.

- **ChatGPT, a latest and more evolved, like real communication:** Recently in late 2022 came the transformer to rule them all ChatGPT built on GPT3, but with capabilities to have real conversations with human beings.



Are these models ethical?

- Ethics is too complex a subject to address in one short article. There are three big ethical questions on these models that humanity will have to address in short order.
 1. **Environmental:** Most of the bad rap goes to crypto and blockchain, but the cloud and these AI models running on it take enormous amounts of energy. Training a large transformer model just once would have CO2 emissions equivalent to 125 roundtrips from New York to Beijing. This cloud is the hundreds of data centres that dot our planet, and they guzzle water and power at alarming rates.
 2. **Bias; as it do not understand meaning and its implications:** The other thorny ethical issue is that sheer size does not guarantee diversity. Timnit Gebru was with Google when she co-wrote a seminal research paper calling these LLMs 'stochastic parrots', because, like parrots, they just repeated a senseless litany of words without understanding their meaning and implications.
 3. **Plagiarism, question of who owns the original content:** The third prickly ethical issue, which also prompted the artist backlash to Allen's award-winning work is that of plagiarism. If Stable Diffusion or DALL-E 2 did all the work of scouring the web and combining multiple images (a Pablo

Picasso Mona Lisa, for example), who owns it. Currently, OpenAI has ownership of all images created with DALL-E, and their business model is to allow paid users to have rights to reproduce, paint, sell and merchandise images they create. This is a legal minefield the US Copyrights office recently refused to grant a copyright to a piece created by a generative AI called Creativity Machine, but South Africa and Australia have recently announced that AI can be considered an inventor.



Do you know ChatGPT?

- ChatGPT is a chatbot built on a large-scale transformer-based language model that is trained on a diverse dataset of text and is capable of generating human-like responses to prompts.
- A conversation with ChatGPT is like talking to a computer, a smart one, which appears to have some semblance of human-like intelligence.

What are the other concerns?

- **Besides the legal quagmire, there is a bigger fear:** This kind of cheap, mass-produced art could put artists, photographers, and graphic designers out of their jobs.
- **Machine does not have human like sense:** A machine is not necessarily creating art, it is crunching and manipulating data and it has no idea or sense of what and why it is doing so.
- **As it is cheap, corporate might consider using it at a large scale:** But it can do so cheaply, and at scale. Corporate customers might seriously consider it for their creative, advertising, and other needs.

Conclusion

- Legal and political leaders across the world are sounding the alarm about the ethics of large generative models, and for good reason. As these models become increasingly powerful in the hands of Big Tech, with their unlimited budgets, brains and computing power, these issues of bias, environmental damage and plagiarism will become even more fraught. Such AI models should not be used to create chaos rather a harmonious existence.

9. Broadcasting Infrastructure and Network Development (BIND) Scheme

The Cabinet Committee on Economic Affairs approved the “Broadcasting Infrastructure and Network Development (BIND)” scheme to upgrade Prasar Bharati to expand the public service broadcasting infrastructure across the country.

BIND Scheme

- BIND scheme is the vehicle for providing financial support to Prasar Bharati for expenses related to expansion and upgradation of its broadcasting infrastructure, content development and civil work.
 - Its features include-
1. **Outreach expansion:** It will enable the public broadcaster to undertake a major upgradation of its facilities with better infrastructure which will widen its reach, in the LWE, border and strategic areas and provide high quality content to the viewers.
 2. **Quality content:** Another major priority area of the scheme is the development of high-quality content for both domestic and international audience and ensuring availability of diverse content to the viewers.
 3. **More TV channels:** It seeks to upgrade the capacity of DTH platform to accommodate more channels.
 4. **Expansion of radio coverage:** The scheme will increase coverage of AIR FM transmitters in the country to 66 percent by geographical area and 80 percent by population up from 59 percent and 68 percent respectively.
 5. **Free DISH services:** The scheme also envisages free distribution of over 8 lakh DD Free Dish STBs to people living in remote, tribal, left wing extremism inflicted and border areas.

Benefits provided

Ans. Employment generation

- The project has the potential to generate indirect employment by way of manufacturing and services related to supply and installation of broadcast equipment.
- Content generation and content innovation for AIR and DD has the potential of indirect employment of persons with varied experience of different media fields in the content production sector including TV/radio production, transmission and associated media-related services.
- Further, the project for expansion of the reach of DD Free Dish is expected to generate employment opportunities in the manufacturing of the DD Free Dish DTH boxes.

10. Hospitality Industry in India: Adhering to the principle of Atithi Devo Bhava

As the world moves on, the service sector travel and tourism business included is emerging as a major growth engine for the Indian economy. People are once again flying in great numbers, airports are crowded, hotels are well booked, and travellers want to explore, connect and feel alive through the exhilarating emotion of travel. Despite several difficulties and challenging infrastructure in hospitality, the industry has fared extremely well.

Hospitality

- Hospitality refers to the friendly and generous treatment of guests or strangers.
- It involves making guests feel welcome, comfortable, and attended to during their stay or visit.
- The goal of hospitality is to create a positive experience for the guest and to ensure that they have everything they need to feel at home and enjoy their time.

Hospitality Industry in India

- **Hospitality contributes to the economy:** The hospitality industry in India is a growing industry which contributes significantly to the country's economy.
- **India a choiced tourist destination:** India is home to number of popular destinations for tourists, due to its diverse culture, ancient civilization, art and architecture, spiritual knowledge centre and the paradise of natural beauty.
- **Infrastructure upgraded with time:** The hospitality industry in India has undergone significant growth in recent years, fueled by an increase in domestic and international tourism, as well as the development of new infrastructure, such as airports and roads.

- **Hospitality companies determined to offer diverse experience:** Hospitality companies have consistently added supply across all segments budget, business and luxury hotels, homestays, villas and so forth by developing new circuits and offerings that tap into the diverse and myriad potential of Incredible India.



How Hospitality Industry contributes to the Economy?

- **Tourism a driving force:** Tourism is seen as a major driving force for any economy. It has a multiplier effect on associated industries like hospitality.
- **Spillover earning: Not only improves economic condition but also enhances standard of living:** The spillover of earnings from tourism into other industries not only improves economic conditions but also enhances the standards of living of the local population.
- **For instance, GDP and employment in Goa:** This is most apparent at the popular beach destination of Goa. Contributing over 16 per cent to the GDP and 35 per cent to direct employment within the state as per the IBEF Report 2022, the domino effect of the sector on indirect job creation is unrivalled. Today, led by tourism, Goa leads the nation in per capita NSDP (Net State Domestic Product) as per the RBI.

- **Significant impact on high employability:** As per trends, every hotel room generates five to seven jobs, both directly and indirectly, further leading to a significant impact on other high-employability sectors such as real estate and infrastructure.
- **Will generate more than 100 million jobs globally:** In fact, according to the latest World Travel and Tourism Council (WTTC) report, the sector is expected to create nearly 126 million new jobs globally within the next decade with at least 20 per cent of these from the Indian subcontinent. However, government support will be instrumental in achieving this.
- **Will augment the Indian economy to reach \$1 trillion by 2047:** With Indian companies reporting positive earnings this fiscal, the sector is poised to potentially grow three times compared to the pre-pandemic levels to touch \$250 billion by 2030 and further accelerate to reach \$1 trillion by 2047.

Way ahead

- **Upgrading the infrastructure to cater new consumer demands well:** The travel and tourism industry is constantly evolving, catering to rapidly changing consumer demands. A capital-intensive industry, the hospitality sector needs to continually plough back to keep the ball rolling.
- **Attracting more investments:** A good start will be the Centre according infrastructure status to the sector, which will boost the industry, incorporating required incentives including regulatory ease, cheaper loans, tax concessions and contributing to a cycle of attracting more investments.
- **Augmenting the infrastructure growth:** In addition, industry status at the state and Union territories-level and augmenting the infrastructure growth will also have a much-needed positive impact. States like Maharashtra, Karnataka, Assam, Goa, Gujarat, Madhya Pradesh and Rajasthan have taken the lead, and more should follow suit.

11. RBI to issue first-ever Sovereign Green Bonds

The RBI would issue Sovereign Green Bonds (SGrBs) in two tranches of ₹8,000 crore each on January 25 and February 9.

Sovereign Green Bonds

- A bond is an instrument to raise debt.
- Since 2007, a market for bonds specifically self-labelled or designated as 'green' has emerged.

- This label differentiates a green bond from a regular bond, which signifies a commitment to exclusively use funds raised to finance or re-finance “green” projects, assets, or business activities.
- When these bonds carry guarantees related to the repayment of principal and payment of interest by the sovereign or the government, they are called sovereign green bonds (SGrB).

How are the projects for green bonds selected?

- A project is classified “green” on the basis of four key principles. These include-
 1. Encouraging energy efficiency in resource utilisation
 2. Reducing carbon emissions and greenhouse gases
 3. Promoting climate resilience and
 4. Improving natural ecosystems and biodiversity, especially in accordance with SDG (Sustainable Development Goals).

When is the first sovereign green bond likely to be issued?

- In her Budget speech early this year, Finance Minister announced that sovereign green bonds will be issued for mobilising resources for green infrastructure.
- The proceeds will be deployed in public sector projects that help in reducing the carbon intensity of the economy.
- These green bonds would be available in 5-year and 10-year tenure.

How are they different from conventional government bonds?

- Government bonds or government securities (G-Secs) are normally categorised into two – Treasury Bills and dated or long-term securities.
- These bonds carry coupon rates and are tradable in the securities market.
- SGrB is one form of dated security. It will have a tenor and interest rate.
- Money raised through SGrB is **part of overall government borrowing**.

Who are likely to be the buyers of these bonds?

- Both domestic and international investors are expected to be interested in SGrB.
- However, one thinking is foreign investors may be slightly hesitant due to currency risk.

12. Deepor Beel

A bird survey was conducted on January 4 in Deepor Beel, Assam.

Key Details:

- Guwahati Wildlife Division conducted the bird count on January 04, 2023 by dividing the entire Deepor Beel wetland into nine areas. The methodology of visual encounter survey was adopted during the bird count.
 - The Assam Forest Department manages the 4.1 sq km Deepor Beel Wildlife Sanctuary in the central part of the greater wetland named Deepor Beel.
- Over 26,000 birds of 97 species were recorded during the count. This was a significant increase from 10,289 birds, belonging to 66 species, in the previous bird-counting exercise in 2021.
- The data on bird species and numbers obtained through such monitoring can help greatly in conservation planning in the long run.

Issue of Developmental Projects:

- Deepor Beel is Assam's only Ramsar site. It is troubled by development projects and urban waste.
- A road and railway line passing through the bird sanctuary has also been posing a danger to the wildlife in and around the lake.
 - Deepor Beel adjoins the Rani Reserve Forest from where herds of elephants come periodically to forage in the wetland.
 - The road-gauge single railway line has served as a death bed for several elephants over the years.
 - In 2019, the railways had decided to construct a double railway through the lake. The project was stalled after stiff resistance from environmentalists and locals.
- Deepor Beel has also suffered contamination because of a garbage dump on its edge at Paschim Boragaon. Guwahati generates an average of 500 metric tonnes of garbage daily.
 - Birds and animals feed on rotten flesh and waste from the site, littering the waterbody and threatening their lives.
 - Government has recently shifted the city's landfill from Paschim Boragaon to Belortol with a compost cum refuse-driven fuel plant being built to manage the garbage.
- Concrete factories, houses and warehouses built illegally on the wetland also greatly damages the ecology.

- Discharge from a local oil refinery has been further polluting the water and affecting the fish population in the wetland.

13. Over-application of Urea and DAP

India's fertiliser sector which has been riddled with distortions from excessive use of urea is seeing a similar phenomenon of over-application of Di-ammonium phosphate (DAP) due to underpricing.

Major reasons behind over usage

The ideal Nitrogen, Phosphorus, Potassium (NPK) use ratio is **4:2:1**.

- **High fertilizer subsidy** - High government subsidies are behind the low pricing, and high sales, of these two fertilisers.
- Under the Nutrient based subsidy scheme, a fixed amount of subsidy, decided on an annual basis, is provided on each grade of subsidised phosphatic and potassic (P&K) fertilisers, **except for urea**, based on the nutrient content present in them.
- **Cooling of global fertilizer prices** - The easing of global fertilizer prices significantly improved overall availability of the fertilizers, except Muriate of Potash (MOP), during the ongoing rabi cropping season.
- India is the top country by diammonium phosphate import in the world.

What efforts were taken to optimize the fertilizer usage in India?

Urea has 46% nitrogen (N), while DAP contains 46% phosphorus (P) plus 18% N and MOP has 60% potassium (K).

- **NBS scheme** - The nutrient-based subsidy (NBS) scheme was launched in 2010 to discourage farmers from applying too much urea, DAP and MOP.
- By moving away from product-specific subsidy, to one where the government fixed a per-kg NBS rate for each nutrient (N, P, K and sulphur or S), it was expected to promote balanced fertilisation.
- It also meant more use of complex fertilisers and single super phosphate (SSP, which contains 16% P and 11% S).
- **Neem coating of urea** - The government made coating of urea with neem oil compulsory from 2015-16, to check illegal diversion of the heavily-subsidised fertiliser for non-agricultural uses.
- Neem oil acted as a mild nitrification inhibitor, allowing a gradual release of nitrogen thus promoting nitrogen use efficiency.

What is the concern now?

- The current fiscal has witnessed a worsening of nutrition imbalances.
- Consumption of both urea and DAP has shot up while the sales of complexes (SSP and MOP) have reduced.
- The problem is attributed the imbalances to “**disturbances in the price hierarchy**”.
- Among the non-urea fertilisers, the maximum retail price (MRP) was normally the highest for DAP and lowest for MOP.
- But it's the other way round now, prompting the farmers to use more DAP.

What is the road ahead?

- **Restriction of DAP** - The DAP use must be restricted to rice and wheat.
- All other crops can meet their Phosphorus requirement through SSP and complexes.
- **Promotion of SSP** - The SSP's acceptance can be raised by permitting sale only in granular and not in powdered form as SSP powder is prone to adulteration with gypsum or clay.
- Farmers can be assured of quality through granules, which will also promote slower release of P without drift during application.

14. Antimicrobial resistance (AMR): The silent health catastrophe

Antimicrobial resistance (AMR), often also called antibiotic resistance, is a global health challenge and a looming public health crisis. The WHO has declared it as one of the top 10 health threats facing humanity.

Antimicrobial resistance (AMR)

- AMR is the ability of a microorganism (like bacteria, viruses, and some parasites) to stop and survive exposure to an antimicrobial (such as antibiotics, antivirals and antimalarials) from working against it. As a result, standard treatments become ineffective, infections persist and may spread to others.

How AMR occurs?

- **Improper use of antimicrobials:** Antimicrobials, chemicals or molecules that kill harmful bugs, are the backbone of modern medicine. Improperly used antimicrobials create selective pressure on bugs.
- **Resilient bugs survive the exposure to antimicrobials:** The bugs most vulnerable to the drugs die quickly, while the most resilient ones survive,

replicate and become superbugs. AMR occurs when superbugs develop and antimicrobials stop working.

- **For example:** Microorganisms (bugs) are everywhere with some being helpful like the yoghurt-making lactobacillus and some being harmful like the typhoid-causing salmonella.

What are superbugs?

- Microorganisms that become resistant to most antimicrobials are often referred to as superbugs.
- Superbugs makes medical procedures such as organ transplantation, cancer chemotherapy, and other major surgeries very risky.



Interesting fact

- Research has shown that the use of certain types of antimicrobials in animal feed can lead to the development of antimicrobial-resistant bacteria in food-producing animals.
- These resistant bacteria can then be transmitted to humans through the food supply, leading to the spread of AMR.



Prescription to reduce and potentially reverse AMR

- **The first prescription is prevention:** Disease prevention and wellness are key to public health and thus preventing infections whenever and wherever possible is equivalent to averting resistance. We need to spearhead sanitation drives, ensure a clean water supply and support hospital-driven infection-control programmes.
- **Judicious prescription of antimicrobials:** Reducing AMR also requires prescribing antimicrobials judiciously and only when they are absolutely needed.
- **Effective coordination and management:** There is also a need for more cohesion within management strategies. Coordination across the animal industry and environmental sectors to prevent the unnecessary use of antibiotics in farms these nurtures drug-resistant organisms in our food supply is necessary.
- **Robust surveillance systems to detect resistant pathogens of all kinds:** Other prescription closely connected with prevention is the development of robust surveillance systems that allow us to detect resistant pathogens of all kinds in the environment and hospitals that would eventually allow containment.
- **Heavy investment in research and development:** There is an urgent need for a strong pipeline of new antibiotics; an essential component in restoring the balance and ensuring that we have new tools in the fight against AMR. Bringing a new antibiotic from basic research through clinical trials takes more than a decade and requires upward of \$1 billion. So there is need to invest heavily in research and development through both government and private funding.

- **New financial incentives to make it profitable keeping in mind the social value:** Profits on these drugs are negligible. Hence, there is need to formulate new types of financial incentives to measure return on investment and measure profitability by the social value of the antibiotic, breaking the conventional link between sales and profits.
- **Bringing in the collective moral vision:** Last but not least, we need to bring a collective moral vision to AMR and start thinking of antibiotic/antimicrobial drugs as limited resources that should be available to all.



Conclusion

- Although seemingly distant and abstract, AMR is in the air and potentially catastrophic for those burdened by it. The success of modern medicine, women's health, infectious diseases, surgery and cancer would be at increased risk for lack of working antimicrobials. The cost of AMR to the economy is significant and it is critical to develop policies and implement them through a holistic One Health approach.

15. Joshimath Crisis

Almost a week after cracks appeared in many roads and hundreds of houses of Joshimath, Uttarakhand, authorities declared it a landslide and subsidence-hit zone.

Land subsidence

- According to the US-based National Oceanic and Atmospheric Administration (NOAA), land subsidence is the **sinking of the ground** because of underground material movement.
- This phenomenon can happen over very large areas like whole states or provinces, or very small areas like the corner of house yard.
- **Reasons** - This phenomenon can happen for a host of reasons, man-made or natural, such as the removal of water, oil, or natural resources, along with mining activities.
- Earthquakes, soil erosion, and soil compaction are also some of the well-known causes of subsidence.

What can be the reasons behind Joshimath's subsidence?

- The exact reason behind Joshimath land subsidence is still unknown.
- But experts suggest that the incident might have occurred due to a massive infrastructural project called the **Char Dham road project** that is being implemented in the Uttarakhand Himalaya.
- The residents have also blamed NTPC's **Tapovan Vishnugad Hydro Power Project** for the incident.
- They allege that the tunnel had water seepage "from a punctured aquifer, leading to the drying of water sources in Joshimath."
- But NTPC denied the allegations saying that the tunnel built by NTPC does not pass under Joshimath town.
- Other reasons may be
 1. Unplanned construction,
 2. Over-population, and
 3. Obstruction of the natural flow of water and hydel power activities.
- Not only this, the area is a seismic zone, which makes it prone to frequent earthquakes.
- The possibility of a land subsidence incident happening in the region was first highlighted around 50 years by the MC Mishra committee report was published.
- This report also cautioned against "unplanned development in this area, and identified the natural vulnerabilities."
- **Lack of a proper drainage system** - result of unplanned construction - might have also contributed to the sinking of the area.
- Reports have pointed out that subsidence in Joshimath might have been triggered by the **reactivation of a geographic fault** where the Indian Plate has pushed under the Eurasian Plate along the Himalayas.

A geographic fault is defined as a fracture or zone of fractures between two blocks of rock.

Why Joshimath city is extremely vulnerable?

- Joshimath city has been **built on an ancient landslide material** - meaning it rests on a deposit of sand and stone, not rock, which doesn't have high load-bearing capacity.
- This makes the area extremely vulnerable to ever-burgeoning infrastructure and population.

What are the future plans of the government?

- In the next decade, the Government proposes to build 66 tunnels in the Uttarakhand Himalaya and 18 tunnels are already in operation.
- Building these subsurface structures could result in gross damage to the environment, including
 1. concentration of pollutants from traffic exhaust compounded by a microenvironment with no sunlight and
 2. limited dispersion in such long-distance tunnels.
- The constant vibrations during the train movements will keep the mountain slope eternally unstable and thus, make it vulnerable to slide at the slightest trigger.

The construction of highways and railway tracks has become a prime cause for landslides and its occurrences have doubled over the years.

What could be done?

- A development strategy for the Himalayas should be primarily based on the region's natural resources such as biodiversity, ecotourism, etc
- Rather than building massive dams, focus should be on small projects that would be helpful in providing local energy supply.
- Most of the farmers have now abandoned their traditional practices and only less than 20% of the agricultural land in the Himalayan districts of Uttarakhand is now being farmed and the rest has become fallow land.
- An appropriate strategy for human well-being should use traditional knowledge, agricultural practices, construction practices and local cultural aspects.
- Going by the past experiences of forming expert committees and having their recommendations ignored, it is not clear what benefit would accrue by creating another one by the government.
- The Joshimath episode is a warning that the Himalayan environment may not be able to withstand another push generated by intrusive anthropogenic activities.

16. New India: The world's next engine of growth

The pandemic has proven to be the breakout moment in India's long overdue emergence as the world's next engine of growth. New India is bearing fruit at a time when one-third of the world's economy is facing a slowdown. Speaking at FICCI's 95th annual general meeting, Finance Minister said that the upcoming budget will set the template for the next 25 years, which is India's Amrit Kaal.

A gloomy global outlook

- **Prospectus of global growth:** According to the International Monetary Fund (IMF), global growth will nearly halve to 3.2 per cent in 2022 and fall further to 2.7 per cent in 2023, reflecting stalling growth in the US, China and the Euro Zone.
- **Global inflation:** Higher food and energy prices have led to global inflation peaking at 8.8 per cent in 2022 which is, however, expected to decline to 6.5 per cent in 2023 and 4.1 per cent in 2024.
- **Developed nations are struggling to tame inflation:** Developed nations have adopted excessive stimulus measures. According to a report by the McKinsey Global Institute, in 2020 and 2021, households globally added \$100 trillion to global wealth on paper as asset prices soared and \$39 trillion in new currency and deposits were minted and debt and equity liabilities increased by about \$50 trillion and \$75 trillion, respectively, as governments and central banks stimulated economies.
- **Russia- Ukraine conflict inflicting fiscal pain:** Meanwhile, the continuing Russia-Ukraine conflict is inflicting fiscal pain beyond the immediate region
- **Disrupted supply chain by China's covid policy:** While China's Covid policy has disrupted supply chains, which are now once again threatened by a potential fallout of an abrupt reversal.
- **India's inflation is largely imported:** India's own fight against inflation, which is largely imported, has been aided by fiscal and monetary policy working in tandem with a little help from easing commodity prices.



India stands at a bright spot amidst significant challenges

- **Fastest-growing large economy in the world:** However, India stands out as a rare bright spot with the economy estimated to grow around 7 per cent in FY23 and a growth forecast of 6.1-6.5 per cent in FY24, thus retaining the tag of the fastest-growing large economy in the world.
- **Inflation coming down within RBI's tolerance level:** In an encouraging sign, retail inflation eased to 5.88 per cent in November, thus coming within the RBI's tolerance band after 11 months. While it is too early to declare victory in terms of taming inflation, policymakers must now chart out a path that prioritises growth
- **India likely to overtake Japan and Germany to become 3rd largest economy:** Having recently surpassed the UK to become the world's fifth-largest economy, India is likely to overtake Japan and Germany before the end of the decade to become the third-largest economy in the world.
- **What made this possible:** Reforms aimed at enhancing ease of doing business and reducing the cost of doing business in a large, unified domestic market along with a focus on boosting the manufacturing sector through the Production Linked Incentive (PLI) schemes, which are helping attract large investments including in critical areas like semiconductors.

Mission LiFE makes
us all trustees of the
environment.

What India has to share with the world?

- **G20 leadership to bring about structural transformation:** Its priority as G20 president is to focus on areas, which have the potential to bring about structural transformation leading to accelerated, inclusive and resilient growth.
- **Concept of LiFE for a sustainable lifestyle:** Similarly, the concept of LiFE (Lifestyle for the Environment) draws upon ancient sustainable traditions to reinforce modern-day environmentally conscious practices.
- **Knowledge sharing:** Finally, knowledge sharing in areas like digital public infrastructure and financial inclusion will enable the wider adoption of disruptive technologies.

Conclusion

- Investors both domestic and global must now come forward and participate in the India growth story which, in turn, will give a much-needed boost to global growth going ahead. Speaking at the World Economic Forum last year, PM Modi said “Make in India, Make for the World”. There has never been a better time to invest in India and reap the benefits of what it has to offer.

17. Pakistan's Economic Crisis

At the International Conference on Climate Resilient Pakistan (ICCRP) that began in Geneva, Pakistan’s Prime Minister made a desperate plea for help from the current economic crisis that Pakistan is undergoing.

Crisis in Pakistan

- Pakistan's economy is in dire straits with very high inflation, very low foreign exchange reserves, and global lenders like the International Monetary Fund (IMF) refusing to disperse further funds.
- This reflects the legacy of uneven and procyclical economic policies in recent years aiming to boost growth, but at the expense of rising vulnerabilities and lingering structural and institutional weaknesses.
- While the Pakistan economy has been doing badly for quite some time, the floods of 2022 caused unprecedented damage to the country with critical infrastructure destroyed and millions displaced.

Impact of Pakistan's 2022 floods

- In 2019, Pakistan had come to an agreement with the IMF about an EFF worth \$6 billion, which was later increased to \$7 billion.
- To this precarious situation, the floods of 2022 brought unimaginable economic damage that took Pakistan to the brink of disaster.
- Deemed to be a consequence of climate change, the floods inflicted an estimated loss of \$3 billion on the country, and caused over 1,700 deaths.
- The floods derailed any semblance of economic recovery, and Pakistan failed to keep the promises it had made to the IMF when the EFF was sanctioned.
- Thus, in November 2022, the IMF refused to release a pending payment of \$1.18 billion due to the government's unwillingness to meet certain demands including assurances from Pakistan on
 1. increasing energy rates,
 2. imposing more taxes, and
 3. artificial control over the exchange rate.

What is the forex crunch that Pakistan is currently in?

- Currently, the country is in the midst of a severe cash crunch.
- Its foreign exchange reserves in the State Bank of Pakistan (SBP) is depleting to \$5.576 billion during the week ended on Dec 30, 2022.
- Along with another \$5.8 billion held by commercial banks, the forex reserves are just about adequate to pay for 3 weeks of imports to the country.
- As Pakistan still reels from the effect of the 2022 floods, servicing foreign debt and paying for crucial commodities such as medicine, food, and energy are among its chief concerns.
- According to data released by Pakistan's central bank, the reserves are less than half of what they were a year ago and at an 8-year low.
- However, Pakistan is scheduled to pay \$8.3 billion to external lenders over the first three months of 2023.

- Without any relief, the country is set to default on these payments.

What is the solution?

- Currently, Pakistan sits on the verge of economic collapse with its hopes pinned on
 - getting concessions from the IMF on the Extended Fund Facility (EFF) established in 2019, and
 - getting help from friendly nations in the form of long-term loans or donations.
- Already, Pakistan has turned to friendly countries and other international aid for help.
- Help could potentially come from China, Pakistan's "all-weather friend".
- At the ICCRP meeting, Pakistan has received funding pledges from US, France, Saudi Arabia, China, and Japan, with the Asian Development Bank and Asian Infrastructure Investment Bank also promising help.

What is the situation of the people there?

- As its leaders try to rally global support and assuage concerns regarding Pakistan's capacity and commitment to its international obligations, ordinary citizens have been suffering.
- With massive spikes in prices of food products and other essentials, Pakistan recorded an inflation rate of around 24.5% in December.
- This number was even higher in rural Pakistan, close to 29%, according to data from Pakistan Bureau of Statistics (PBS).
- Prices of perishable food items have soared by nearly 56%.
- Wheat, a staple in the Pakistani diet, has seen prices increase by 57%.
- The nation could no longer sustain its energy consumption. In a slew of energy-conserving measures, shopping centres were ordered to close at 8 pm local time, and marriage halls and restaurants by 10 pm.
- 20% of government employees have been asked to work from home.

18. VSHORAD Missile System

The Defence Acquisition Council (DAC) is set to procure the Very Short Range Air Defence System or VSHORAD (IR Homing) missile system.

VSHORAD Missile System

- Meant to kill low altitude aerial threats at short ranges, VSHORADS is a man portable Air Defence System (MANPAD).

- It is designed and developed indigenously by DRDO's Research Centre Imarat (RCI), Hyderabad, in collaboration with other DRDO laboratories and Indian Industry Partners.
- The missile is propelled by a dual thrust solid motor – incorporates many novel technologies including miniaturised Reaction Control System (RCS) and integrated avionics, which were successfully proven during the tests conducted last year.
- The DRDO has designed the missile and its launcher in a way to ensure easy portability.

Unique features

- Being man portable and lightweight compared to the other missile systems in the Army's armoury, it can be deployed in the mountains close to the LAC at a short notice.
- Others like the Akash Short Range Surface to Air Missile System are heavier with a theatre air defence umbrella.
- They are perceived to be the best option for mountain warfare since they can be deployed quickly in rugged terrain.

Significance of the missile

- The development comes amid the ongoing military standoff with China at the LAC in eastern Ladakh and reports of air violations by China along the LAC last year.
- India has been in talks with Russia since 2018 to procure the Igla-S air defence missiles at a cost of \$1.5 billion under the VSHORAD programme in a bid to replace the Russian Igla-M systems.

19. WEF Global Risks Report 2023

The World Economic Forum's annual Global Risks Report has highlighted the cost of living crisis as the biggest short-term risk facing the world right now, with climate change as the biggest long-term threat. The report, which is published ahead of the Davos summit, factors the views of 1,200 figures across the private and public sectors. This year's edition was produced with professional services firm Marsh McLennan and Zurich Insurance Group.

Cost of Living Crisis

The report states that Russia's war in Ukraine and the Covid-19 pandemic have propelled the energy crisis, food scarcity, and inflation as the most pressing global issues. The impact of the cost of living crisis on vulnerable populations is "very difficult to accept," according to Carolina Klint, Risk Management Leader for Continental Europe at Marsh. Governments are now working towards mitigating the impact of the cost of living crisis while also trying to protect from spiralling inflation and servicing historically high debt loads.

Climate Change

The report states that the world must collaborate more effectively on climate mitigation and adaptation over the next decade to avoid "ecological breakdown" and continued global warming. Governments will face "trade-offs" in the coming years, as societal challenges, the environment, and security risks compete for their attention. The most-cited long-term risks included climate change, extreme weather, biodiversity loss, and human-made environmental damage.

Other Risks

The most-cited two-year term risks included natural disasters, geo-economic confrontation, the erosion of social cohesion, widespread cybercrime, large-scale involuntary migration, and natural resource crises, alongside climate change. Cybercrime and migration also featured as long-term risks, though climate-related issues took the top four spots. The cost of living was absent from the list.

The WEF Global Risks Report 2023 highlights the cost of living crisis and climate change as the top short and long-term risks facing the world. The report states that governments will face "trade-offs" in the coming years as they try to navigate societal challenges, the environment, and security risks. The report stresses the need for more effective collaboration on climate mitigation and adaptation over the next decade to avoid "ecological breakdown" and continued global warming.

20. Indian Coastal Community and Climate Change

The Indian coastline has undergone physical changes throughout its geological past.

Status of Indian coastal areas

- The coastal areas of India experience tropical climates and have diverse geological, geomorphologic, and ecological setups.

- The Indian coast is endowed with a wide range of biotic and abiotic resources which provide many demanding products that are essentially required for the welfare of human development.
- Most of India's coastal regions are low-lying and densely populated, with nearly 250 million people living within 50km of the coast.

What is the impact of climate change on the Indian coastal community?

- **Sea Level Rise (SLR)** - It is a major impact on coastal regions that cause a combination of risks in retreat, submersion, erosion, and increased vulnerability to extreme marine events.
- Coastal communities and other stakeholders are impacted by loss of land, erosion, flooding, and saltwater intrusion in coastal aquifers.
- **Increased Sea Surface Temperature (SST)** - SST is the water temperature close to the ocean's surface.
- As greenhouse gases trap energy from the sun, the oceans absorb heat, resulting in an increase in SST.
- Due to changes in SST, several species have disappeared or migrated to other regions.
- Tropical disturbances normally become cyclones if the SST is more than 26 degree Celsius.
- **Frequency of cyclones and floods** - During the 21st century, there has been an increase in the occurrence and severity of flood hazards in India.
- Cyclones and floods cause casualties and injuries besides the devastation of coastal infrastructures, road networks, schools, cyclone centres, health centres, houses, and other common properties.
- **Saltwater Intrusion** - Seawater intrusion problem takes place in the dug wells and bore wells of households and enterprises which are close to the shore, during the summer months.
- High population pressure, intense human activities, inappropriate and indiscriminate landscape alterations, resource use, and the absence of proper management practices add to the deterioration of water resources.
- **Drought** - Climate change parameters also increase drought conditions in coastal areas.
- Drought affects the coastal village through prolonged shortages in the water supply on the surface and groundwater.
- An increase in water demand for drinking, domestic purposes, and agricultural and industrial usage are the major consequences of drought.

How can the situation be managed?

- Coastal habitats shall be demarcated and suitable locations for shelter during the flood which are the high elevated areas along the coasts shall be identified.
- To maintain the fish stock in the coastal zone, fish stock trends and assessments shall be conducted to develop policies and schemes to replenish the economically important fishery resources with the involvement of local stakeholders.
- The codes for the construction of buildings and infrastructure in cyclone-prone areas for disaster preparedness to mitigate climate change impacts should be incorporated into the building plans.
- The efficient use of hazard lines, disaster management plans, Hazard Profile maps, and other relevant local management plans thus support the mitigation of climate change risks experienced by the coastal communities.

21. A Defective Data Protection Board

The Digital Personal Data Protection Bill, 2022 is notably silent on the Data Protection Board which is the sole mechanism for the enforcement of rights and liabilities under the bill.

What has the bill provided on the Data Protection Board?

- **Clause 19** of the Digital Personal Data Protection Bill, 2022 provides for the creation of the Data Protection Board.
- However, it is not created as a permanent body by the bill and is left to the government to issue a notification to create it.
- It also lacks details on its composition, qualifications of the chairperson, members and chief executive, the tenure and terms of conditions and even the appointment process.

What are the constitutional infirmities with the bill regarding the board?

- The **bill excludes the jurisdiction of the civil courts** in relation to the enforcement of rights provided under the bill.
- It makes the Data Protection Board the sole forum to address the violations.
- With the jurisdiction of a civil court being taken away, there has to be an efficacious alternate remedy without which the law will be struck down as being unconstitutional.
- This was the fate of the National Tax Tribunal Act, 2005, which was struck down in **Madras Bar Association v Union of India and Anr (2014)**.
- Any violation of privacy or terms of contract relating to data protection can be addressed in the nearest court of law.

- However, the bill seeks to vest jurisdiction in this matter only with the board, thus reducing the access to effective remedies to the citizens.

Difficulties in implementing the Bill

- **Exemptions** - Sub clause (2) of Clause 18 allows the union government to exempt certain entities and certain kinds of processing from the provisions of the bill.
- In exempting certain kinds of processing, it states that such a processing need to be carried out in accordance with the standards laid down by the board.
- However, the bill contains no provision that gives the board the power to prescribe and enforce standards.
- **Exercising the functions** - As per Clause 20, the functions of the board are not just to adjudicate non-compliance with the provisions of the act but also to carry out such functions as the government may assign to the board.
- It is not clear whether the board will actually be able to exercise these functions as it lacks the legal powers to exercise these functions.
- **Directing the data fiduciaries** - The board has been given a function to direct a data fiduciary to take measures to prevent or mitigate harm to them as a result of a personal data breach.
- However, there is no provision regarding the power of the board to direct data fiduciaries or what happens if it fails to comply with the directions of the board.
- A power to direct a data fiduciary also brings the issue of whether the board is a purely adjudicatory body or if it has been delegated legislative and executive power as well.

What does this imply?

- **Independence and impartiality** - The provisions give little certainty on the independence and impartiality of the board in respect of resolving disputes.
- **Right to privacy** - The lack of clarity in respect of the board has serious implications for the right to privacy itself.
- **Burden on the data principal** - By providing for a stripped-down board, the bill effectively places the burden on enforcing the provisions of the bill on the data principal.

22. A Bumpy Ride for India's Economy in 2023: A perspective

India's general elections, scheduled for 2024, will also bring in their wake high-pitched rhetoric and spin-doctoring to further muddy the waters. In short, buckle up because the next 12 months promise a flurry of conflicting signals and a rather bumpy ride. A perspective on Indian economy in 2023.

Turbulent global situation

- **Pandemic plus Ukraine war:** One conflicting signal is already staring us in the face, the seemingly doomed future of globalization. Post-Brexit, the covid pandemic and Russia-Ukraine conflict, there are multiple signs indicating retrenchment of globalization.
- **Collapse of Supply chains:** The collapse of global supply chains due to economic lockdowns has refocused attention towards near-shoring or on-shoring.
- **Trade barriers:** In an associated move, nations have erected protective trade barriers; both the US and EU are using climate plans to renege on free-trade promises. The end result, reduced global trade.

What are the prospects from international institute?

- **BlackRock Investment Institute's 2023 Global Outlook:** Various financial institutions across the globe are trying to wrap their heads around the phenomenon. According to BlackRock Investment Institute's 2023 Global Outlook, "We see geopolitical cooperation and globalization evolving into a fragmented world with competing blocs.
- **Citi's wealth outlook for 2023:** Citi's wealth outlook for 2023 intoned ominously, as a less globalized, more polarized world presents challenges for investors.



Effect of globalization and policy change by developed economies

- **Rising federal rates:** As US employment numbers and demand data continue to stay elevated (despite, paradoxically, slowing growth), the Federal Reserve is likely to be unrelenting in its endeavor to bring the inflation rate back to 2%.
- **Rise in domestic interest rates:** The Fed's actions will undoubtedly strengthen the dollar further, forcing many central banks across the global economy to raise interest rates in tandem. Interestingly, central banks in emerging economies today face threats to their independence from an external agency and not from the political dispensation at home.
- **Increase in food and fuel cost:** Beyond interest rates, inflation also travels easily across national boundaries, especially through food and fuel trade. The fractured supply chains and war in Europe have ensured that inflation's harmful impact might sustain through 2023.
- **Omicron variant and travel restrictions:** The other undesirable effect of globalization could be the persisting effect of the Omicron variant that has travelled seamlessly from one corner of the world to another. The Indian government has been forced to resume random screening of passengers arriving from different parts of the world to test for the numerous Omicron variants that have witnessed a resurgence in recent times.

Impact on Indian Economy

- **Over-priced equity markets:** Indian equity markets have been soaring since early 2020, once the initial shock of the covid pandemic was negotiated. Cross-country comparisons across emerging markets by various valuation indices show the Indian market to be considerably over-priced currently, both relative to its own past performance as well as compared with the rest of the world.
- **High retail investors:** Interestingly, the market held its own despite foreign portfolio investors (FPI) pulling out money over the past few months. Domestic investment institutions and retail investors are believed to have kept the market valuation up. But below this cheery visage lies a grim reality.
- **Worrisome credit records:** Sectoral credit deployment data from the Reserve Bank of India (RBI) shows credit growth in commercial banks in recent months has been driven by only two segments: non-bank financial companies (NBFCs) and consumer loans.
- **High retail borrowings:** A large chunk of the NBFC borrowing was also for on-lending to retail borrowers, given tepid industrial credit demand. RBI data for commercial banks shows consumer loans in four categories advances against fixed deposits, advances against shares or bonds, loans against gold jewellery and other personal loans grew by almost 71% between April 2020 and November 2022.

- **Loans for equity investments:** It is quite likely that a large proportion of these loans have found their way into stock markets; the Nifty-50 index gained close to 118% between April 2020 and November 2022, at a time when FPI investments during the same period witnessed a net inflow of only ₹1,464 crore.

Conclusion

- The year 2023 appears to be very bumpy for economy in general and credit growth and recovery in particular. SEBI and RBI need to protect the retail investors from Ponzi scheme and fake promises of guaranteed returns.

23. Making The Case for Wealth Tax

The discourse on efficient, effective and equitable public spending often takes us into the realm of limited resources facing competing demands. India definitely needs to widen its revenue collection as well as base. In this context, it is important to discuss the need for levying a wealth tax, and levying it now.

Why wealth needs to be taxed?

- **Accumulation of wealth:** The most compelling reason stems from evidence that there has been massive accumulation of wealth in a few hands. A small section of people has access to a large share of economic assets and resources that remain almost completely untaxed and thus unavailable for public allocation.
- **Wealth without hard work:** Wealth, much less than even income, has little to do with one's education, merit or efforts; it is largely dependent on inheritance and opportunities that come with the advantages associated with belonging to one of India's privileged classes and castes.
- **Income inequality:** India's top 10% population owns 65% of the country's wealth, while the bottom 10% owns only 6%, according to the World Inequality Database, 2022.
- **Wealth of rich doubled in pandemic:** An Oxfam report has highlighted how India's richest doubled their wealth during the pandemic. This happened for a variety of reasons, including profits made on vaccines and commodity and asset price movements.
- **Wealth doesn't translate into productive resources:** But the fact remains that India, despite facing grave financial and economic challenges, has no means to convert any of this growing wealth into productive resources that can generate employment opportunities and push up the incomes of multitudes, which in turn can drive demand for goods something that is needed to counter an economic drag-down.

Government's attitude towards wealthy

- **Rich knows how to invest:** One may argue and it is common to hear this that wealth is better left to the wealthy, as they know best how to invest. This has not been in sufficient evidence, at least in India.
- **Corporate tax lowered:** The government lowered the corporate tax rate significantly from 30% to 22% in 2019-20, which has continued despite the economic crises caused by the pandemic. However, this did not elicit much private investment.



History of Wealth taxation in India

- **Wealth tax:** Wealth tax, which is a direct tax unlike the goods and services tax or value-added tax, can take several forms, such as property tax, inheritance or gift tax and capital gains tax.
- **Capital gains tax:** Capital Gains tax exists in India, but applies only to transactions and hence is limited in its base.
- **Estate duty:** India scrapped its estate duty in 1985 and has no inheritance tax. Although the receipt of gifts is subject to income tax in the beneficiary's hands, it has various exemptions; it is almost entirely exempt if received from within the family, including the extended family of self and spouse.
- **Exemption leads to accumulation:** These exemptions shrink the base significantly, as most accumulated wealth is acquired through family, and that remains outside the gift tax's ambit. Given the cultural context of wealth inheritance, some exemptions make sense, but upper thresholds can be easily added to make it more effective.

Present status of wealth taxation

- **No wealth tax:** India presently does not have any wealth tax i.e., a tax levied on one's entire property in all forms.
- **One time solidarity tax:** It did not impose a one-time 'solidarity tax' on wealth in post-covid budgets that could have generated resources for essential public investment.
- **Example of developing countries:** A number of Latin American countries, including Argentina, Peru and Bolivia, have either introduced or are introducing a progressive annual wealth tax levied on the wealth gains of each year or a one-time covid 'solidarity' tax.



Conclusion

- Idea of wealth tax appear good on paper however; it may negatively impact the domestic and foreign investment in the country. Direct tax slab for superrich in India is already among the highest in the world. The idea of wealth taxation needs careful deliberation before implementation.

24. RBI proposes Expected Loss-based Approach for Loan Provisioning

The Reserve Bank of India (RBI) has proposed a framework for the adoption of an expected loss-based approach for loan provisioning by banks.

Loan Loss Provisioning

- A loan loss provision is an income statement expense set aside as an allowance for uncollected loans and loan payments.
- This provision is used to cover different kinds of loan losses such as non-performing loans, customer bankruptcy, and renegotiated loans that incur lower-than-previously-estimated payments.
- Loan loss provisions are then added to the loan loss reserves, a balance sheet item that represents the total amount of loan losses subtracted a company's loans.

Loan Loss Provisioning in India

- Presently, banks are required to make loan loss provisions based on an '**incurred loss**' approach, which used to be the standard globally till recently.
- An incurred loss model assumes that all loans will be repaid until evidence to the contrary (known as a loss or trigger event) is identified.
- Only at that point is the impaired loan (or portfolio of loans) written down to a lower value.

What is the Expected Loss-based Approach?

- To further enhance the resilience of the banking system, RBI proposed the expected losses (EL) approach.
- The impact of adopting the forward-looking expected credit loss approach to estimating loss provisions is likely to **result in excess provisions** as compared to shortfall in provisions.

Key requirements EL model

- The key requirement under the proposed framework shall be for the banks to classify financial assets (primarily loans, including irrevocable loan commitments, and investments classified as held-to-maturity or available-for-sale) into one of the three categories – Stage 1, Stage 2, and Stage 3.
- This shall be based upon the **assessed credit losses** on them, at the time of initial recognition as well as on each subsequent reporting date and make necessary provisions.
- As per the norms, banks will be allowed to design and implement their own models for measuring expected credit losses for the purpose of estimating loss provisions in line with the proposed principles.

Which banks are covered under this approach?

- The proposed norms are for **all scheduled commercial banks**, excluding regional rural banks.
- Regional rural banks and smaller cooperative banks (based on a threshold to be decided based on comments) are proposed to be kept out of the framework.

25. Agnipath Scheme game changer says PM

The Agnipath scheme for recruitment is a “transformative policy” which will be a “game changer” in strengthening the armed forces, said the Prime Minister.

Agnipath Scheme

- This will be the **only form of recruitment** of soldiers into the three defence services from now.
- Recruits under the scheme will be known as '**Agniveers**'.
- After completing the four-year service, they can apply for regular employment in the armed forces.
- They may be **given priority** over others for various jobs in other government departments.
- The move is expected to **decrease the average age profile of armed forces personnel** from the current 32 to 24-26 years over a period of time.

Working of the scheme

- The process of recruitment will commence in 90 days with a planned intake of 46,000 young men and women this year.
- Enrolment to all three services will be through a centralized online system, with special rallies and campus interviews at recognized technical institutes.
- Recruitment will be carried out on an "**All India All Class**" basis with the eligibility age ranging from 17.5 to 21, with medical and physical fitness standards in accordance with existing norms.

Payouts of the Agniveers

- The 'Agniveers' will receive an annual package of ₹4.76 lakh in the first year to ₹6.92 lakh in the fourth year, apart from risk and hardship and other allowances as applicable.
- Under the 'Seva Nidhi' package, they will receive about ₹11.71 lakh, including contribution and interest, on completion of service.
- The recruits will have to contribute 30% of their monthly emoluments to **Seva Nidhi**, with a matching contribution made by the government.
- There will be no entitlement to gratuity and pension benefits under the scheme.
- However, the 'Agniveers' will be provided a non-contributory life insurance cover of ₹48 lakh during their service.

Why are aspirants protesting?

- **Contractualisation of armed forces:** The foundation of this scheme is a four-year contract.
- **Jobs for the majority:** States such as Bihar, Jammu & Kashmir, Punjab, Himachal Pradesh, Haryana, Uttar Pradesh, Uttarakhand and Rajasthan, are where the bulk of the Army recruitment takes place.

- **Perks and benefits:** Many of these people value job stability, which includes retirement benefits and pensions over competitive salaries.
- **Uncertainty after end of commission:** Most of them will be forced to leave the job within four years, which doesn't fit into their hopes and aspirations.
- **Casualization of Training:** It reportedly takes two to three years to train a member of the army, but as a part of the Agnipath, soldiers will only be trained for six months.
- **Threats to national security:** Defence analysts have allegedly pointed out that the Russian soldiers who were trained for a limited amount of time before they went to war have performed disastrously.
- **Conflicts of interest:** Apprehensions have been voiced against how the new recruits will be adjusted in the existing system under which most of the Army units are region, caste or class-based.

Reasons behind aspirants' frustration

- **Unemployment:** Analysts always cite the crunch of gazetted officers in the Armed forces and there has been no recruitment for the last two years.
- **Pandemic impact:** Many aspirants lost their chance to join the Armed forces as they are now overage.'
- **Unanticipated reforms:** In guise of a push for "major defence policy reform", the scheme is a fuss.
- **Coaching mafias:** Coaching mafias have played a significant role in sparking and provoking protesters.

Need for the Scheme: Official explanation

- **Budgetary efficiency:** With the largest volunteer army in the world, paying an increased salary and pension bill, given rising incomes all around, has steadily eroded the capital side of the defence budget.
- **Preferential treatment:** For job-seekers, the government has already said they will get priority in the Central Armed Police Forces.
- **Promotional avenues:** One significant advantage of this scheme would be the much lower age profile of the service. It will increase the promotional avenues of the permanent cadre.
- **Diverse career options:** Once retired, aspirants will be free to pursue other careers, with several departments and governments.
- **Selective skilling:** Aspirants will get preference, educational credits, skill certificates, to help them rehabilitate in other fields.
- **Financial assistance:** Those wishing to be entrepreneurs will get a financial package and bank loans and those wishing to study further will be given 12 class equivalent certificate.

Way forward

- **Longer contract term:** Make the period of the contract for new recruits longer than four years. The present clarification fails to address this issue.
- **Continuance of the commission:** Relook the 25 per cent re-enlistment at the end of the contractual period. Ideally, it should be over 50 per cent retention for long-term posts.
- **Policy commitment for reabsorption:** For those leaving after their short service, do obtain a binding commitment from CAPFs, states' police forces and other organisations that they are willing to absorb this trained military manpower.
- **Gradual shift in recruitment policy:** Continue with existing regular enrolment, in reduced numbers, and gradually shift to the Tour of Duty once it stabilizes after five to ten years.

Conclusion

- A nation should never compromise with the personnel who make up the fighting sinews of its armed forces.
- The best way to prevent such an impression is to look upon them not as a burden to the exchequer, but as rough diamonds, to be cut and polished to their maximum capabilities and then deployed in the defence of the nation.
- A diamond is forever, our future men and women in uniform too deserve to serve to their maximum for the betterment of the nation and their own lives.

26. UNSC bans LeT's Makki after China lifts its hold

The ISIL and Al Qaida Sanctions Committee of the UN Security Council (UNSC) has placed Abdul Rehman Makki, a fundraiser and key planner of the Pakistan-based terrorist outfit Lashkar-e-Taiba (LeT), on its sanctions list.

Blacklisting Maki: Under UNSC 1267 list

- The UNSC resolution 1267 was adopted unanimously on 15 October 1999.
- It came to force in 1999, and strengthened after the September, 2001 attacks.
- It is now known as the Da'esh and Al Qaeda Sanctions Committee.

UNSC 1267 committee

- It comprises all permanent and non-permanent members of the United Nations Security Council (UNSC).
- The 1267 list of terrorists is a global list, with a UNSC stamp.

- It is one of the most important and active UN subsidiary bodies working on efforts to combat terrorism, particularly in relation to Al Qaeda and the Islamic State group.
- It discusses UN efforts to limit the movement of terrorists, especially those related to travel bans, the freezing of assets and arms embargoes for terrorism.

How is the blacklisting done?

(1) Submission of Proposal

- Any member state can submit a proposal for listing an individual, group, or entity.
- The proposal must include acts or activities indicating the proposed individual/group/entity had participated in the financing, planning, facilitating, preparing, or perpetrating of acts or activities linked to the said organizations.

(2) Actual decision

- Decisions on listing and de-listing are adopted by consensus.
- The proposal is sent to all the members, and if no member objects within five working days, the proposal is adopted.
- An “objection” means rejection for the proposal.

(3) Putting and resolving ‘Technical Holds’

- Any member of the Committee may also put a “technical hold” on the proposal and ask for more information from the proposing member state.
- During this time, other members may also place their own holds.
- The matter remains on the “pending” list of the Committee.
- Pending issues must be resolved in six months, but the member state that has placed the hold may ask for an additional three months.
- At the end of this period, if an objection is not placed, the matter is considered approved.

How China supports Terror in Pakistan?

- China has exposed its double standards on the issue of terrorism for consistently stopping the listing of Pakistan-based terrorists.
- This time, Beijing has argued that the blacklisting is in fact a “recognition” of Pakistan’s record of fighting terrorism.

Here is a timeline of how China disrupts the global efforts against terrorism:

- **2009:** After the 26/11 Mumbai attacks, India moved an independent terror designation proposal against Masood Azhar but China blocked the move.
- **2016:** After seven years, India proposes listing of Masood Azhar as a global terrorist and is supported by the US, the UK and France. China blocks the move again.
- **2017:** The trio moves a third proposal only to be blocked by China again.
- **2019:** After the attacks on the CRPF personnel in J-K's Pulwama, India calls 25 envoys of different countries to highlight the role Islamabad plays in funding, promoting and strengthening global terrorism. India moves the fourth proposal demanding Masood Azhar's listing. China lifted its technical hold.
- **June 2022:** China blocked a proposal by India and the US to list Pakistan-based terrorist Abdul Rehman Makki as a 'Global Terrorist'
- **August 2022:** China blocks India-US joint proposal to list Jaish-e-Mohammad (JeM) deputy chief Abdul Rauf Azhar as UNSC designated terrorist.

Why China shields Pak-based terrorists?

- **Rewarding Pakistan:** China rewards Pakistan to keep India engaged in regional battles and internal conflicts.
- **Oppressing the Uighurs:** The quid pro quo is that Pakistan does not utter a word against Uighur Muslim oppression by China in restive Xinjiang province.

Conclusion

- China's actions expose its double speak and double standards when it comes to the international community's shared battle against terrorism.
- This clearly depicts its care for its vassal state Pakistan.

27. National Coal Index (NCI)

The Ministry of Coal has launched the sixth round of commercial coal mines' auction for 141 coal mines.

- As per the provisions of the tender document, the Performance Bank Guarantee (PBG) to be submitted for each successfully auctioned coal mine is to be revised annually based on the National Coal Index (NCI).

National Coal Index (NCI)

- Ministry of Coal has started commercial auction of coal mines on revenue share basis.

- In order to arrive at the revenue share based on market prices of coal, one National Coal Index (NCI) is conceptualized.
- The NCI is a price index which reflects the change of price level of coal on a particular month relative to the fixed base year.
- The base year for the NCI is FY 2017-18.
- NCI is a price index combining the prices of coal from all the sales channels- Notified Prices, Auction Prices and Import Prices.
- It is released every month.

Components of NCI

- The concept and design of the Index as well as the Representative Prices have been developed by the Indian Statistical Institute, Kolkata.
- NCI is composed of a set of five sub-indices: three for Non-Coking Coal and two for Coking Coal.
- The three sub-indices for Non-Coking Coal are combined to arrive at the Index for Non-Coking Coal and the two sub-indices for Coking Coal are combined to arrive at the Index for Coking Coal.
- Thus, indices are separate for Non-coking and Coking Coal.
- As per the grade of coal pertaining to a mine, the appropriate sub-index is used to arrive at the revenue share.

Implementation of NCI

- The amount of revenue share per tonne of coal produced from auctioned blocks would be arrived at using the NCI by means of a defined formula.
- The Index is meant to encompass all transactions of raw coal in the Indian market.
- This includes coking and non-coking of various grades transacted in the regulated (power and fertilizer) and non-regulated sectors.
- Washed coal and coal products are not included.

28. The conflict behind eco-sensitive zones

The creation of Ecologically sensitive zones (ESZ) across the country has led to protests in states such as Kerala and other regions.

Ecologically sensitive zones (ESZ)

- Eco-Sensitive Zone (ESZ) is a vulnerable or fragile piece of area around protected areas declared by the Ministry of Environment, Forest, and Climate Change (MoEFCC).

- Eco-Sensitive Zones (ESZs) are also known as Ecologically Fragile Areas (EFAs).
- The geological range of ESZs can range from 0 to the extent of 45.82 km (in Pin Valley National Park, Himachal Pradesh from the boundary of protected areas.
 - About 15 States in the Country have ESZs exceeding 10 km.
- At present, about 341 ESZs have been notified in 29 States and five Union Territories, while another 85 ESZs are awaiting notification.
- Protected areas along with ESZs cover over 8.66% of India's land area and most of them have also come under gram sabhas' jurisdiction under the Forest Rights Act (FRA).

Implementation of Ecologically sensitive zones (ESZs)

- According to the Wildlife Conservation Strategy of 2002 areas within 10 km of the boundaries of protected areas must be notified as ecologically fragile zones under Section 3(2)(v) of the Environment Protection Act 1986 and its Rules 5(viii) and (x).
- The MoEFCC was entrusted to undertake measures to protect the environment by regulating and prohibiting industries, operations and processes.
 - However, Rule 5(1)(vi) had provisions for permitting environmentally compatible land-use in areas around protected areas.
- Further, the National Board for Wildlife (NBWL) in 2005 decided to define site-specific ESZs to regulate specific activities instead of a blanket ban on them. Thus the MoEFCC directed the States and UTs to propose ESZs.
- As per the guidelines of the MoEFCC, in order to declare areas as ESZs, a committee consisting of the Wildlife Warden, an ecologist, and an official from the local government was to determine the extent of each ESZ.
 - The Chief Wildlife Warden was entrusted with the task of preparing a list of those activities that are to be prohibited or restricted or that can be allowed with additional safeguards.
- Later, the State government must submit this list along with the geographical description, biodiversity values, the rights of local communities, their economic potential and implications for their livelihoods, as a proposal to the MoEFCC for notification.
- Further, the State government is mandated to come up with a draft Zonal Master Plan within two years of notification.

Protected areas in India

- Protected areas are those which are notified under the Wildlife (Protection) Act, 1972.

- The protected areas mentioned under the Wildlife (Protection) Act include Sanctuaries, National Parks, Tiger Reserves, Conservation Reserves, and Community Reserves.
- Protected areas account for about 5.26% of India's land area which includes 108 national parks and 564 wildlife sanctuaries.
- Even the activities that are allowed in the "reserve forests" are banned in protected areas thus the declaration of protected areas dilutes the rights of forest-dwelling communities unless specifically allowed.
- Further, this rights-negating "fortress conservation model" has attracted widespread criticism from environmental experts.

Forest Rights Act (FRA)

- the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 which is also known as the Forest Rights Act (FRA) was brought in to recognise the rights of the forest dwelling tribal communities on forest resources which are essential for the communities' livelihood, habitation and other socio-cultural needs.
- FRA recognises the customary and traditional rights of forest-dwelling communities on forest resources including in protected areas both individually as well as collectively.
- Through the introduction of FRA, the policymakers have tried to undo a historic injustice done to the forest dwelling communities.
- The gram sabhas are now empowered to determine the rights by adopting an open democratic process.
- The gram sabhas are made the statutory authorities empowered to conserve, protect and manage forests, wildlife and biodiversity within the village boundaries.
- The areas under the ambit of the gram sabhas are called "community forest resource (CFR)" and the gram sabhas are mandated to integrate their CFR conservation plan with the "working plans" of the Forest Department.

The core issue

- The parts of the ESZs in about ten States in the country which include Chhattisgarh, Himachal Pradesh, Jharkhand, Madhya Pradesh, and Odisha among others fall within the Scheduled Areas notified under the **Fifth Schedule of the Constitution**.
- These Scheduled Areas account for more than 11% of India's land area and comprise thick forests and mountains.
- Such areas mainly host Scheduled Tribe groups and are notified by the President under **Article 244** where the Provisions of the Panchayat (Extension to Scheduled Areas) Act (PESA) of 1996 apply.

- However, the MoEFCC has shown no interest to introduce amends to the Indian Forest Act 1927, the Wildlife (Protection) Act, 1972 and the Environment (Protection) Act 1986 (under which ESZs are notified) to comply with the PESA and FRA.
- Further, the Ministry has also overlooked demands of the National Commission for Scheduled Tribes to bring back the erstwhile FRA compliance procedure.
- Additionally, there has been no information to the public on a Zonal Master Plan which the states were mandated to draft since 2012 when ESZs were first notified.

The reasons for recent protests

- The Supreme Court in June 2022 gave its directions on ESZs wherein the Court held that the MoEFCC guidelines must be implemented in the area proposed in the draft notification awaiting finalisation and within a 10-km radius of yet-to-be-proposed protected areas.
- The Court also permitted the States to alter the minimum width of ESZs.
- The Court further vested the powers to ensure compliance with the guidelines with the Principal Chief Conservator of Forests (PCCF) and the Home Secretary of the respective State or UTs.
- The Court also declared that no new permanent structure can be built for any purpose within an ESZ.
- These orders of the Court meant that all the activities permitted by the guidelines and which are already being carried out can continue only if the PCCF grants permission, and that too within six months of the court's order.
 - Therefore the lives of many people are now put in the hands of the PCCF whose authority has also extended beyond the forest to revenue lands that fall within an ESZ.
- Furthermore, the ban on new structures could also include the establishment of electric poles, public buildings, roads and bridges which will affect forest-dwellers living on the forest land and the fringes of forests.

29. Decline in Number of birds in Kole Wetlands

Kole wetlands are located in Kerala. The Asian Water Bird Census recently reported that the number of birds in the wetland has reduced significantly. The number of water birds in the wetland has decreased from 15,959 in 2022 to 9,904. This is huge and the survey accuses unscientific construction in the region of the decline.

The 2023 census was the 23rd AWC. Kole wetlands are of major concern due to the huge water bird population decline. The population decline was mainly due to

habitat loss in the region. This occurs because of unscientific construction and waste dumping.

Rare birds in the Wetland

In the 2023 census, the ornithologists spotted some rare birds. And therefore are more concerned about the expropriation of their home. Some of the rare birds spotted in the region are Amur Falcon, Wood Sandpiper, and Cattle Egret. Rare migratory birds were also spotted in the region such as Painted Storks, Whiskered Tern, Garganey, and Ibis.

About Asian Water Bird Census

The census identifies and counts water birds and predominantly focuses on the declining population of the birds in wetlands. It is a part of the International Waterbird Census. These censuses are conducted by Wetland International. The census is conducted in different parts of the world such as Asia, Africa, the Caribbean, and the Neotropics. Neotropics includes South America and Central America.

Asian Water Bird Census in India

In India, the census was first conducted in 1987. The Bombay Natural History Society assists Wetlands International in conducting the survey in the country.

Significance

The survey aids to get an outlook on the bird population. Has the bird population declined? Are more birds becoming endangered? Causes of bird population decline. Also, it helps in better implementation of the Convention on Biological Diversity and Convention on Migratory Species

30. Industrial Revolution 4.0

The World Economic Forum (WEF) has chosen Hyderabad for establishing its Centre for the Fourth Industrial Revolution focused on healthcare and life sciences. C4IR Telangana will be the 18th centre to join WEF's Fourth Industrial Revolution (4IR) network that spans four continents.

- The first industrial revolution **used water and steam power to mechanise production (the 1800s).**
- The second used **electric power to create mass production (the early 1900s).**

- The third **used electronics and information technology** to automate production (the late 1900s).

About Industrial Revolution 4.0:

- The term '**Industry 4.0**' was coined by the **German government in 2011**.
- Industry 4.0 refers to a new phase in the Industrial Revolution that **focuses heavily on interconnectivity, automation, machine learning, and real-time data**.
- Industry 4.0, which encompasses **IoT's and smart manufacturing, marries physical production and operations with smart digital technology, machine learning, and big data**.
- Industry 4.0 comes into play when every company and organization operating today is different, they all face a common challenge – the need for connectedness and access to real-time **insights across processes, partners, products, and people**.

Industry 4.0 Technologies:

Significance of Industrial Revolution 4.0:

- It has the potential to raise global income levels and improve the quality of life for populations around the world.
- It will also lead to a **supply-side miracle, with long-term gains in efficiency and productivity**.
- **Transportation and communication costs will drop, logistics and global supply chains** will become more effective, and the cost of trade will diminish, **all of which will open new markets and drive economic growth**.
- Governments will gain new technological powers to increase their control over populations, based on pervasive surveillance systems and the ability to control digital infrastructure. .
- Advances in technology will create the potential to reduce the scale or impact of violence, through the **development of new modes of protection, for example, or greater precision in targeting**.

Challenges of IR 4.0:

- The **immediate fear is that of job loss**, particularly in the **informal sector**.
- It could yield greater inequality, particularly in **its potential to disrupt labor markets**.
- Besides all these, there are several other **critical concerns surrounding safety, ethics, and the short- and long-term socio-economic impact** that remain unanswered.

- There is a growing concern that **the existing fallacies in humans might only get more accentuated after 4IR.**
- There are several studies that show how **facial recognition technologies** have a higher chance of **misidentifying African and Asian people** compared to their Western counterparts. It is also going to be skewed as developing and least developed countries lack the data framework and infrastructure.
- It will also profoundly **impact the nature of national and international security**, affecting both the probability and the nature of the conflict. This will lead to new fears.
- One of the greatest individual challenges posed by new information technologies is privacy.

Need for India to adopt IR 4.0:

- Advanced data analysis will help its manufacturing capacity and increase the quality of the product.
 - Business Analytics will work on the prediction and prevention of production defects.
- Digitization of numerous manufacturing processes will lead to cost reduction with an improved experience for consumers.
- The implementation of automation will reduce manufacturing cycles, decrease cycle time, and will reduce wasteful use of capital.
- IoT and man-machine connectivity will help supply chains to decrease lead times.

Status in India:

- India is moving towards becoming a hub of global manufacturing, **3D printing, machine learning, data analytics, and IoT are key to promoting industrial growth,**
- In November 2020, the **Modern Coach Factory (MCF)** at Raebareli, Uttar Pradesh, rolled out smart railway coaches that are fitted with a battery of sensors to provide a comfortable experience to passengers.
- In May 2020, the Union Ministry of Heavy Industries launched the **Smart Advanced Manufacturing and Rapid Transformation Hub (SAMARTH) scheme**, which brings together manufacturers, vendors, and customers to make them aware of 4IR technologies.
- In 2022's budget speech, the Union finance minister announced a slew of new 4IR-driven projects, including **Drone Shakti**, to encourage start-ups that will facilitate the use of drone services.
- India even has a **4IR centre in Mumbai run by WEF**, which is closely working with several state governments.

- The Centre has recently come up with the **Fourth Industrial Revolution for Sustainable Transformation (FIRST) Cancer Care model** in which 4IR technologies would be used to provide better healthcare for cancer patients
- In February 2022, Government launched the **pan-India 3D maps programme by Genesys International for the 100 smart cities.**
- The company plans to map an entire city in intricate detail so that many 4IR revolution technology-based projects, such as driverless cars, will become easier to implement.

Way Forward:

- Industry 4.0 has started to make an influence in manufacturing and other various sectors in India.
 - Data-driven decision-making is getting implemented in numerous fields.
- Though certain steps have already been taken, a lot of work needs to be done.
- Instead of just spending more capital, the emphasis must be on increasing the current asset base.
- The implementation of smart manufacturing, data analytics, and the Internet of Things will give a positive direction to Indian industries.
- To secure India's active involvement in the fourth industrial revolution, it will be necessary to restructure some vital domestic industries and strengthen institutional capability.

31. Export Promotion Capital Goods scheme

The Indian government has announced a one-time relaxation from maintaining average export obligation and an option to extend the export obligation period for certain sectors under the Export Promotion Capital Goods (EPCG) Scheme.

Capital Goods:

- Capital goods are physical assets that a company uses in the production process to manufacture products and services that consumers will later use.
- Capital goods include buildings, machinery, equipment, vehicles, and tools.
- Capital goods are not finished goods, instead, they are used to make finished goods.
- The Capital Goods sector has a multiplier effect and has bearing on the growth of the user industries as it provides critical input, i.e., machinery and equipment to the remaining sectors covered under the manufacturing activity.

Export Promotion Capital Goods Scheme:

- EPCG Scheme was launched in the 1990s to facilitate import of capital goods with the aim to **enhance the production quality of goods and services, thereby, increasing India's international manufacturing competitiveness.**
- Under the scheme, manufacturers can import capital goods for pre-production, production and post-production goods without attracting any customs duty on them.
- **Second-hand capital goods** may also be imported without any restriction on age under the EPCG Scheme.
- The EPCG scheme is administered by **the Directorate General of Foreign Trade (DGFT)** and is governed by the **Foreign Trade Policy of India.**
- It can be explained as **"Duty-Free (Zero Customs Duty) Import of Capital Goods/Machinery for the manufacture of products meant for Export."**

Eligible Sectors:

- The sectors that are eligible for this relief are the **Hotel, Healthcare, and Educational sectors.**
- These sectors will also have the option to extend the export obligation period for a longer duration, without having to pay any additional fees.

Eligibility Criteria for applying under EPCG Scheme:

- Benefits under EPCG Scheme can be applied by **any Exporter irrespective of his turnover.**
- EPCG License can be issued to the following category of Exporters:
 - Manufacturer Exporter.
 - Merchant Exporter with a supporting manufacturer.
 - Service Provider (who is exporting services) For Example. Hotel Industry.

New Norms:

- Imports of capital goods are **allowed duty free, subject to an export obligation.**
- The authorisation holder (or exporter) under the scheme has to **export finished goods worth six times of the actual duty saved in value terms in six years.**
- Requests for export obligation extension should be **made within six months of expiry instead of the earlier prescribed period of 90 days.**
 - However, applications made **after six months and up to six years are subject to a late fee of Rs 10,000 per authorisation.**
- According to the changes, requests for block-wise export obligation extension should be made within six months of expiry.

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- The facility to pay customs duty through scrips **MEIS (Merchandise Exports from India Scheme) / Remission of Duties or Taxes On Export Product (RoDTEP) / RoSCTL (Rebate of State and Central Taxes and Levies)** for default under EPCG has been withdrawn.

32. India's Seismic Zone Maps

The issue

1. Joshimath, a town in Uttarakhand, is in the midst of a crisis as many houses in the town have developed major or minor cracks.
2. Joshimath is located in Zone V (high-risk area) of India's seismic zone map. Let's look at the seismic zone maps of India and its history.

Seismic zones

- A seismic zone is an area where there is a high probability of earthquakes due to the area's geology.
- Seismic zonation involves dividing areas based on expected ground motion.
- It assesses the hazards related to earthquakes in such areas to provide inputs for safer constructions and other practices.

According to the Journal of the International Society for the Prevention and Mitigation of Natural Hazards, almost 65% of India falls in high to very high seismic zones.

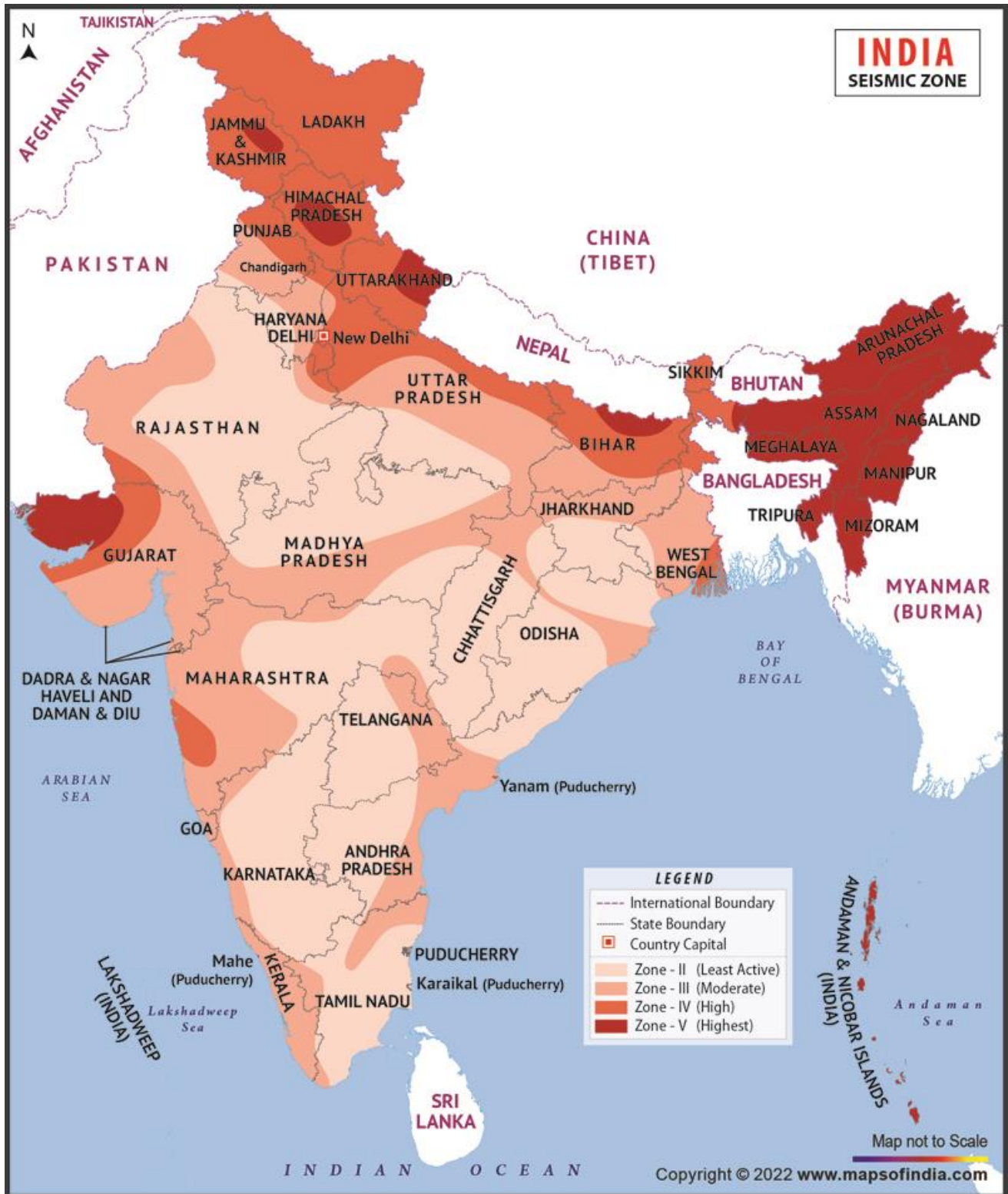
History of India's Seismic Zone Maps

- **1935** - The first national seismic zoning map of India was compiled by the Geological Survey of India in 1935, after the 1934 Nepal-India earthquake that measured over 8.0 on the Richter scale.
- It consisted of three zones - severe, light, and minor hazard, "based on the broad concept of space-time earthquake statistics and the prevailing understanding of geotectonic" movements.
- **1962** - In 1962, the Bureau of Indian Standards (BIS) published a seismic zonation map of India.
- This map marked earthquake epicentres in the country and built on the isoseismic map published by the GSI in 1935.

- It divided India into seven zones - from 0 (no damage) to VI (extensive damage). It was reviewed in 1966, using geological and tectonic features.
- **1970** - In 1967, a 6.3-magnitude earthquake struck the Koyna hydroelectric project led to revisions in 1970 seismic zone map of India.
- The 1970 map consisted of 5 zones (I, II, III, IV, V) based on the Modified Mercalli Intensity (MMI) scale with a Comprehensive Intensity Scale (CIS-64).
- The MMI scale takes into account the effect of earthquakes on people, objects, and buildings, and estimates the shaking intensity from an earthquake at a specific location.
- Zero was removed as a zone since it was deemed scientifically inappropriate to consider a region completely safe from earthquakes.
- Another major change in the 1970 version of the map was the merging of zones V and VI.
- In 1984, a new update to India's seismic zone map was released. This map identified the seismic potential of regions based on past earthquakes as well as its tectonic features.

How does the latest seismic zone map of India look like? ★

- According to the latest version of India's seismic zone map (2002), earthquake-prone regions in the country are divided into four zones (II, III, IV, and V) based on intensity levels during past earthquakes.
- Approximately 11% area of the country falls in zone V, 18% in zone IV, 30% in zone III and the remaining in zone II.



According to the revised IS 1983-2002 seismic code, seismic zones are **mapped to a modified CIS-64 scale**, an alternative to the MMI scale for seismic zoning.

| Seismic Zones of India | Intensity of the Seismic zone (based on modified CIS-64 scale) |
|------------------------|---|
| Zone II | Areas that are prone to earthquakes mapped to intensity of VI and below |
| Zone III | Areas that are prone to earthquakes mapped to intensity VII |
| Zone IV | Areas that are prone to earthquakes mapped to intensity VIII |
| Zone V | Areas that are prone to earthquakes mapped to intensity IX and above |

- Zone II, which was made by combining areas under zone I and II, indicate areas of under intensity.
- Zone III is the next classification and includes areas that are prone to earthquakes of moderate intensity.
- Zone IV includes areas prone to earthquakes of severe intensity, and include Patna, Pilibhit, Ludhiana, Roorkee, Gorakhpur, and Amritsar.
- Zone V is the most seismically active zone. This includes
 - the entire northeast India,
 - parts of northwestern Bihar,
 - Kangra Valley in Himachal Pradesh,
 - Andaman and Nicobar Islands,
 - eastern part of Uttarakhand,
 - Rann of Kutch in Gujarat, and
 - Srinagar area in Jammu and Kashmir

33. New Initiatives launched at WEF

The World Economic Forum met at Davos, Switzerland. During their meeting, the world leaders launched more than fifty initiatives focusing to build a resilient and sustainable world. Most of the initiatives addressed the food crisis issues and economic energy issues. The event is of great significance as economists are expecting an economic crisis due to geopolitical tensions. Also, recessionary risks have been forecasted. Pressure on food, inflation, and energy is expected to increase in 2023. The Ukraine war and US–China relations are to cause income-related crises and global economic runoff. The initiatives were launched considering the impacts of these issues.

Giving to Amplify Earth Action

The initiative will raise 3 trillion USD for climate and nature. That is, it will ensure that 3 trillion USD is available for the climate and nature-related actions of WEF.

HCL Technologies of India is supporting the initiative along with 45 other stakeholders. What will they do? They will help WEF raise 3 trillion USD in funds.

The main objective of GAEA

- To achieve net – zero
- Restore biodiversity by 2050
- Stop deforestation and reduce environmental destruction
- Make sure the 1.5 degrees target is in tight track

Maharashtra signed agreement

The Maharashtra State Government signed an agreement with World Economic Forum to get technical advice and strategies for Urban transformation.

Telangana signed agreement

Telangana Government signed an agreement to get a life science center and a health care center

FireAid initiative

It aims to manage wildfires using Artificial Intelligence. Under the initiative, scientists will use data and maps to determine the intensity of wildfires in different parts of the world. Based on the determined levels, the scientists will plan the logistics essential to manage the wildfire. WEF has already tested the initiative in Turkey and succeeded.

Global Collaboration Village Mission

The main objective of this initiative is to create a space for discussion. The mission will bring in all stakeholders together to discuss on the economic development of the world. It aims to bring global development.

Cyber Resilience in Oil and Gas Initiative

The oil and gas industry is becoming more prone to cyber-attacks. This initiative will work to find cyber solutions to protect oil and gas pipelines. In 2021, the US faced a major pipeline attack called the “Colonial Pipeline Attack”.

34. Export Promotion Capital Goods scheme

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35. ChatGPT - The AI Chatbot

Artificial Intelligence (AI) research company OpenAI's prototype dialogue-based AI chatbot "ChatGPT" has crossed more than a million users in less than a week.

ChatGPT

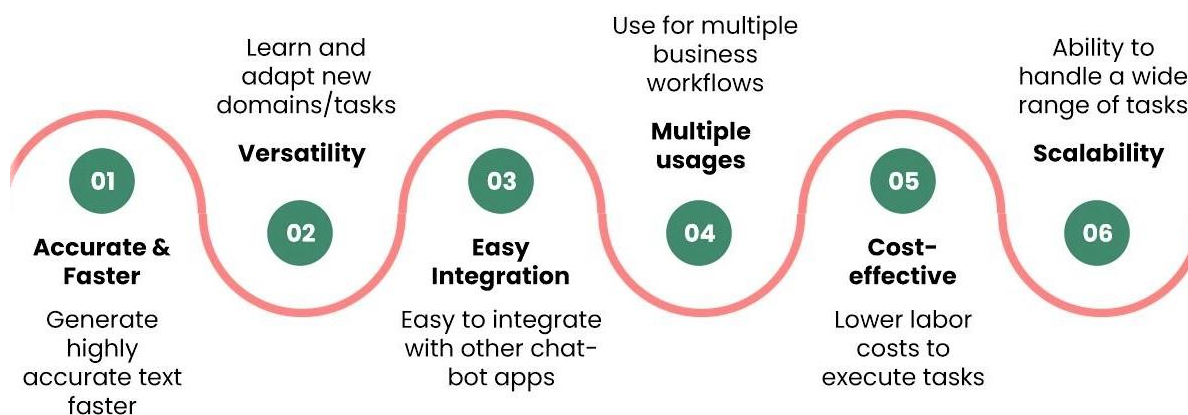
- **ChatGPT** - ChatGPT is a large language model developed by OpenAI that can be used for natural language processing tasks such as text generation and language translation.
- It is based on GPT-3.5 (Generative Pretrained Transformer 3.5) model and uses deep learning algorithms to generate text responses to prompts.

- ChatGPT uses natural language processing technology to understand and generate responses to questions and statements that it receives.
- **Applications** - The ChatGPT can
 - Write jokes and essay
 - Guess at medical diagnoses
 - Create text-based games
 - Explain scientific concepts at multiple levels of difficulty
 - Translate messages in real time,
 - Automate customer service and delivery
- It cannot independently write and run code, but can aid in the code production by outlining specific programming principles.

Key features of ChatGPT

- **Large size** - ChatGPT has been trained on a massive corpus of text data so that it can generate highly accurate and fluent responses.
- **Memory** - The bot can remember earlier comments in a conversation and recount them to the user.
- **Human-like responses** - ChatGPT is able to generate responses that are highly relevant to the prompt and that exhibit a level of knowledge and understanding that is similar to that of a human.
- **Versatility** - ChatGPT is able to adapt to different situations and contexts and is a versatile tool that can be used for a wide range of natural language processing tasks.
- **Ability to handle long-range dependencies in the input text** - The self-attention mechanisms in the GPT-3 architecture allow the model to capture the long-range dependencies and generate accurate and fluent responses.
- **Declining inappropriate requests** - ChatGPT has been trained to decline 'inappropriate' requests, presumably those which are 'illegal' in nature.
- **Clarity** - ChatGPT has surpassed Google in the clarity and practicality of some question and answer results.

Business Benefits of Using ChatGPT in 2023



What are the concerns with ChatGPT?

- **Dependence on data** - Since ChatGPT has been trained on a large corpus of text data, the accuracy of the model's responses will depend on the quality and diversity of the data that it has been trained on.
- **Credibility** - Even artificial intelligence can make some mistakes due to resource or technical limitations.
- **Limited understanding** - Unlike Google, ChatGPT doesn't crawl the web for information on current events, and its knowledge is restricted to things it learned before 2021, making some of its answers feel stale.
- **Job loss** - Some believe that it would be the beginning of the end of all white-collar knowledge work, and a precursor to mass unemployment.
- **Biases** - There are also concerns regarding biases (racist and sexist outputs) within the bot's responses – issues that have plagued models before it, such as Microsoft's Tay chatbot and Meta's Galactica.
- **Privacy** - There are also concerns over privacy and safety.
- **Effect on creativity** - Many feel that the use of ChatGPT by students for their assignments and examinations will hinder their creative and learning abilities.
- It is crucial to remember that artificial intelligence will be a tool, not a substitute for human developers.

36. Great Nicobar Project

Former civil servants write to President of India on Great Nicobar Project

Key Details:

- The Constitutional Conduct Group, which includes nearly 100 former civil servants, has written to President Droupadi Murmu protesting the government's push for a mega-infrastructure project on the Great Nicobar island.
- The Union Environment Ministry in November 2022 gave an in-principle clearance for the diversion of 130.75 sq. km. of forest in Great Nicobar island for a 72,000-crore project that includes a trans-shipment port, an airport, a power plant and a greenfield township.

Details

- The Union Environment, Forest and Climate Change Ministry has provided a Stage 1 clearance for the diversion of about 130.75 sq. km of forest on Great Nicobar Island for the development of a mega project worth ₹72,000 crores which is being implemented by the Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO).
 - The project includes a transshipment port, an airport, a power plant and a greenfield township.
- The area which is being diverted consists of about 15% of the thickly forested Great Nicobar Island that spreads over 900 sq. km and it will be one of the largest single such forest diversions in recent times.
- The latest diversion of the land is close to 25% of all the forest land diverted in the last three years across the country and nearly 65% of the 203 sq. km of forest land diverted in the period between 2015-18.
- As per the estimates of the Ministry, over 8.5 lakh trees will have to be cut in the region for the purpose of the project.

Compensatory afforestation

- One of the key conditions mentioned for the clearance is the submission of a detailed scheme for compensatory afforestation, which must be undertaken in "non-notified forest land" in Haryana.
- Conditions also include earmarking of an amount of ₹3,672 crores for the environment management plan (EMP) for the construction and operation phase of the project.
- The final environmental impact assessment (EIA) report of the project prepared in March 2022 had estimated the cost of this compensatory afforestation to be ₹970 crores which was accepted by the Ministry's Expert Appraisal Committee (EAC).
- However, the final EIA report has mentioned that the compensatory afforestation of about 260 sq km (twice the diversion area) would be undertaken in Madhya Pradesh but there is a lack of clarity on how it was changed to Haryana.

Cause of concerns

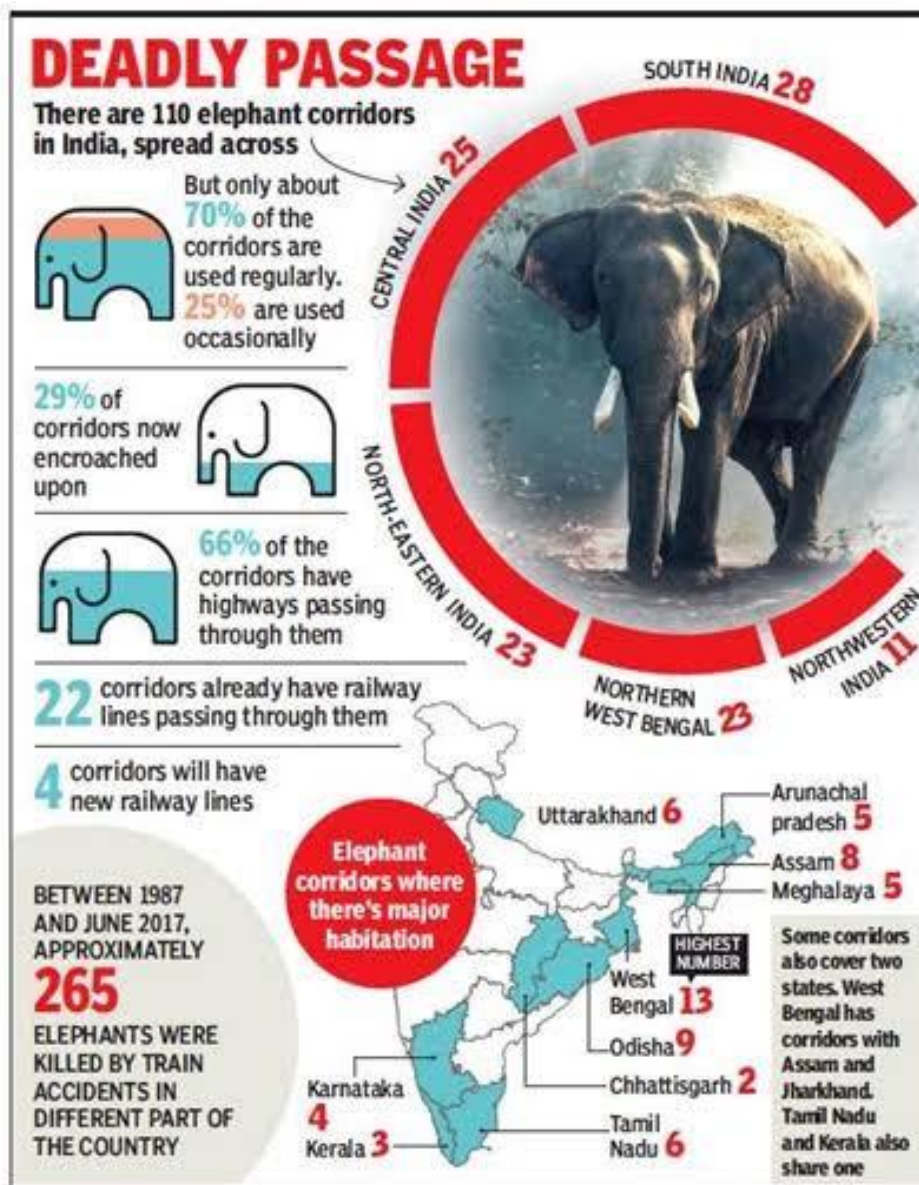
- Construction of a mega project in the region has caused severe concerns as Great Nicobar Island has one of the best preserved tropical forests in the world and is home to over 650 species of flora and nearly 330 species of fauna.
- The diversification of the forest land will impact the survival and existence of endemic species of the region such as the Nicobar paradise flycatcher, the Nicobar megapode, the Nicobar shrew, the Nicobar long-tailed macaque and the Great Nicobar crested serpent eagle.
- Experts and activists also question how the loss of virgin tropical forests with endemic and endangered species can be compensated by artificial tree plantations in Haryana which is a faraway place.
- Experts also point out that Haryana has one of the highest rates of diversion of its own forest land despite the forest cover in the State being very less.
 - As per reports, Haryana has diverted over 80 sq. km of its forest between 2014-15 and 2016-17 which was the highest in the country in that period.
- Further, Haryana has also been criticised in the past for its unwise utilization of compensatory afforestation funds as it has focused more on plantations and failed to increase the forest area.
- Additionally, activists have highlighted that the ministry while proving clearance has neglected various clauses of the Forest Conservation Rules and Guidelines in the de-reservation process and also the Supreme Court order of no further de-reservation of forests/sanctuaries/national parks.

37. Kerala's Man-Elephant Conflict

The Kerala forest department captured a rogue tusker (PT 7 or Palakkad Tusker 7) that had been raiding villages in Palakkad district for over a year.

What is the scale of human-elephant conflict in the state?

- Of the estimated nationwide population of 30,000 wild elephants in 2017, Kerala had about 5,700, or 19% of the total population.
- Kerala recorded only 5.6% population that India lost to electrocution and poaching between 2018-19 and 2020-21.
- Between 2018-19 and 2021-22, Kerala accounted for only 4% of the people killed by elephants in India.



Why is human-wildlife conflict a controversial issue in Kerala?

- **Geography** - Forest covers nearly 30% of the State's geographical area.
- Numerous densely populated human settlements are located close to protected forest regions.
- **Agriculture** - Kerala has a history of settler-agriculture since pre-Independence days, and state policy continues to allow such migration.
- Changes in agricultural practices in cropland adjoining forests also attract elephants into conflict.
- **Habitat depletion** - Elephants are far-ranging animals and fragmentation of habitats due to changes in land use squeeze the jumbos.
- **Invasive species** - Exotic invasive weeds such as Lantana and Senna have reduced the availability of food and water.

- **Monoculture** - Monoculture of species such as eucalypts and acacia has also adversely affected plant biodiversity.
- **Conflict tourism** - People blow horns impatiently, try to drive the animal away and even approach the elephant on foot for selfies.
- **Bull elephants** - The chances of coming across a rogue animal increase with the number of bull elephants roaming outside the forest whose number is on the rise in Kerala.

What efforts were taken by the State to reduce the conflict?

- **Trenches** - Elephant-proof trenches used in Kerala, are considered largely effective, provided they are properly maintained.
- **Hanging power fences** - In an Rs.620-crore masterplan to address the issue, the Forest department recommends hanging power fences that will be out of reach of elephants.
- **Indigenous plants** - As a part of Kerala's new eco-restoration policy, the Forest department aims to plant indigenous plants (wild mango, wild jackfruit) in the forest to ensure wild animals' food security and dissuade them from entering agricultural lands.
- **ESZ Norms** - Kerala's legislative assembly unanimously passed a resolution in 2022 urging the Centre to exempt the State from the Eco-Sensitive Zones (ESZ) norm.

What is the need of the hour?

- **Early warning systems** can be created to track the movement of elephants, so that people can avoid going to locations where they have been spotted.
- **Elephant sensors** can be fitted along treacherous rail routes that cut through the reserve forest to avoid accidents involving elephants.

38. The dark sky is a natural resource, and too much light is polluting it

Recently a study report titled "Citizen scientists report global rapid reductions in the visibility of stars from 2011 to 2022" was published.

Background

- In December 2022, the district administration of Ladakh designated six hamlets within the Changthang Wildlife Sanctuary as "dark-sky reserves".
- The designation of areas as "dark-sky reserves" means that efforts are to be undertaken to keep the skies dark, mainly for the purpose of astronomical observatories set up in these areas.

- Further, the skies were recognised as a natural resource capable of being polluted as SpaceX's Starlink constellation of satellites began to obscure the view of ground-based telescopes around the Earth.
- Since then, the concept of "dark-sky reserves" has become extremely popular.

Dark Sky Reserves

- A Dark Sky Reserve is public or private land with a distinguished nocturnal environment and starry nights that have been developed to prevent light pollution.
- As per the International Dark Sky Association (IDSA), Dark Sky Reserves comprise a core area with minimum criteria for sky quality and natural darkness, and a peripheral area that supports dark sky preservation in the core areas.
- The key objectives of the Dark Sky Reserves are to:
 - Promote astronomy tourism in a sustainable and environment-friendly manner
 - Facilitate astronomical observations
 - Protect nocturnal species which rely on darkness to hunt and forage
 - Use of various scientific methods to preserve the night sky from ever-increasing light pollution.
- The International Dark Sky Association (IDSA) has specified five designated categories of Dark Sky Reserves namely International Dark Sky parks, communities, reserves, sanctuaries and Urban Night Sky Places.

Key findings of the new report

- In a recent study, researchers from Germany and the U.S. have studied a global database of what the dimmest star visible from a particular location is.
- According to the study, non-natural light increased the brightness of the night sky (skyglow), by about 9.2% to 10% every year between 2011 and 2022.
- The study also notes that the skyglow had brightened by about 6.5% over Europe, 10.4% over North America, and 7.7% over the rest of the world.
- These findings of the report have gained significance as it opposes the satellite-based data, which indicated that the rate of increase has been about only 2% per year.
 - The latest study says that the discrepancy between the data is because satellites are not capable of sensing blue light emitted by LEDs and the light that is emitted parallel to the ground.
- As per the study, the visible light emitted by various sources is divergent, therefore the light emitted downwards could also find its way into the sky.

- Further, most of the surfaces in cities reflect light, and hence even the entirely down-cast light can be reflected upwards, contributing to light pollution.

The Indian context

- In March 2021, an engineer at the Indian Astronomical Observatory in Hanle had shared pictures of the impact of the lighting at the Chemrey Monastery, near Leh.
- The pictures clearly highlighted the fact that a number of stars become invisible when the monastery is lit.
- Further, a study in 2016 highlighted that 19.5% of India's population witnessed a level of skyglow that would at least keep the Milky Way galaxy out of sight and made it difficult to render the dark adaptation for human eyes.
 - The effects of which include stimulating the cone cells in human eyes, which is possible only when the surroundings are well-lit.
- According to a 2017 study, India's lit area increased by 1.07% to 1.09% between 2012 and 2016, and the average radiance of stably lit areas increased by 1.05% to 1.07%.

The impact of skyglow or artificial light pollution

- Studies have indicated that artificial light at night adversely impacts not just humans but also wildlife in significant ways.
 - As per a study conducted in 2003, light pollution near beaches deters sea turtles from coming ashore to nest.
 - Another report found that the skyglow impacts the ability of the trees to sense seasonal variations.
 - A study conducted in 2017 found that young burrow-nesting seabirds don't take flight until the nesting site becomes dark.
 - Studies have indicated that clownfish eggs don't hatch if they are exposed to artificial light at night, thus there are high chances of killing the offspring.
 - A study in 2020 revealed that the skyglow impacts various aspects of insect life and allows the predators of insects to hunt longer.
- Further, artificial light at night is known to disrupt the circadian rhythm (which is a natural and internal process that regulates the sleep - wake cycle) which in turn affects the production of melatonin, a key hormone in the human body that regulates sleep, moods and cognition.
- Furthermore, a review convened in 2009 concluded that circadian disruption increased the chances of breast cancer among night-shift workers by about 40%.

- Researchers in Australia have noted that the erasure of the night sky would dilute the indigenous cultural and ecological connection with the stars.

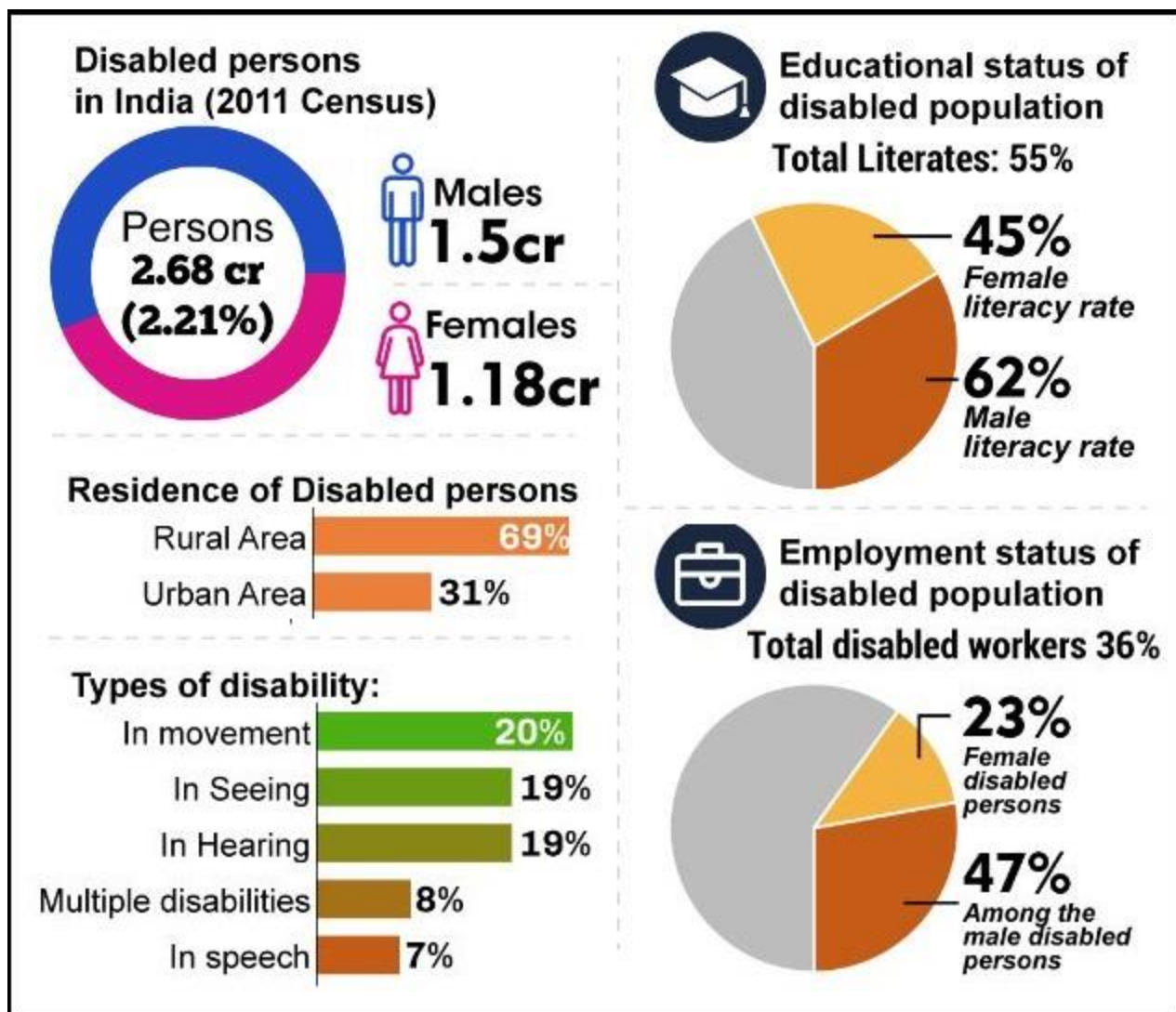
39. Inclusive Schools for Children with Disabilities

Developing inclusive and accessible schools will aid in challenging the perceptions about children with disabilities and actualise the zero-rejection policy in schools.

Persons with Disabilities (PwD) in India

The Convention on the Rights of Persons with Disabilities defines living with a disability as having long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinders one's participation in society on an equal basis with others.

- **PwD** - As per Census 2011, Persons with Disabilities (PwD) comprise around **2.21%** of the total population in India.
- The proportion of males with disabilities is higher than the woman with disabilities.
- **CWD** - As per Census 2011, Children with Disabilities (CWD) comprise **1.7%** of the total child population in India.
- They are faced with physical, institutional, socioeconomic and communication barriers from an early age.
- A UNESCO 2019 report mentioned that **more than 70%** of five-year-olds with disabilities in India have never attended any educational institution.



What are the barriers to accessibility?

Barriers to accessibility

- Inaccessible school buses
- Inaccessible facilities in schools (drinking water facilities, canteens and toilets)
- Inappropriate infrastructure in classrooms (uncomfortable seating, slippery flooring and low illumination)
- Misinformed attitudes and perceptions among parents, teachers, staff, and communities
- Lack of inclusive technologies and learning practices
- Inadequate funding for the construction of inclusive infrastructure

Need to remove the barriers

- Developing inclusive and accessible schools will be a big step towards
 - Challenging perceptions and the associated discrimination about CWD

- Actualising the zero-rejection policy in schools

What efforts were taken by the government to promote inclusiveness?

- **Article 21A** of the Constitution outlines the fundamental right to education.
- **The Right of Children to Free and Compulsory Education Act, 2009** outlines the right to have free and compulsory education for children aged 6-14 years.
- **The Sarva Shiksha Abhiyan**, which adopted a 'zero rejection policy', emphasises that every child with special needs is provided meaningful and quality education.
- India has also ratified the **UN Convention on the Rights of Persons with Disabilities**.
- The government launched the **Accessible India Campaign (Sugamya Bharat Abhiyan)** in 2015 that aims at achieving universal accessibility for all citizens and creating an enabling and barrier-free environment.
- The government has also been supportive of the principle of **Leave No One Behind (LNOB)**, which is the central promise of the 2030 Agenda for Sustainable Development.

What lies ahead?

- **Creating an enabling environment** - A multi-pronged participatory approach is needed to provide an enabling environment for the empowerment of children with disabilities. This includes
 - Awareness and sensitisation programmes for children, parents, and caregivers
 - Training trainers for upskilling of school faculty and special educators
 - Providing access to updated teaching toolkits and materials
 - Technical training for local government departments
 - Co-learning platform for knowledge-sharing
- **Providing infrastructure services** - The following principles must be embedded for providing infrastructure services in schools. It includes
 - Equitability
 - Usability and durability
 - Affordability
 - Cultural adaptability
 - Aesthetic appeal

40. Trade Pact with GCC

Despite the Gulf region being home to the largest Indian expatriate community with long-standing relations, its enormous economic potential remains unexplored.

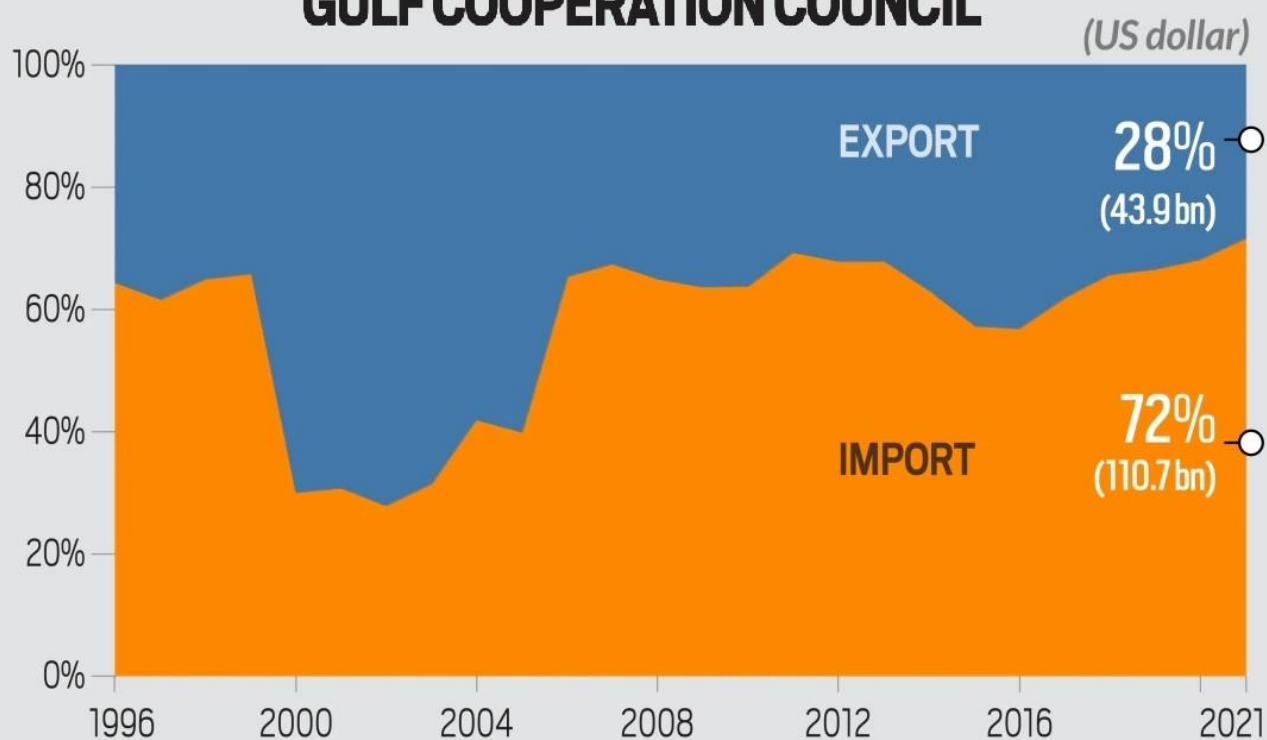
GCC

- The Gulf Cooperation Council (GCC) is a regional political and economic alliance of **6 countries** in the Gulf region - Saudi Arabia, the UAE, Qatar, Kuwait, Oman and Bahrain.
- The GCC was established by an agreement concluded in **1981** in Riyadh.
- **Headquarter - Riyadh**, Saudi Arabia
- **Aim** - To achieve ever closer union between the energy rich Gulf countries.
- **Significance** - GCC has over 8.5 million non-resident Indians, constituting around **65% of total NRIs**.
- GCC was the source of the largest foreign inward remittances, garnering **30% of total remittances**.

India-GCC trade relation

- **Economic Cooperation** - A Framework Agreement on Economic Cooperation between Republic of India and Gulf Cooperation Council was signed in **2004**.
- Since then, hardly any worthwhile progress has been made despite holding two rounds of negotiations in 2006 and 2008.
- **Trade deficit** - India has a trade deficit of 66.8 billion dollars with GCC in 2021-22.
- India had the highest trade deficit (2021-22) with Saudi, followed by the UAE and Qatar whereas India had a trade surplus with Bahrain.
- **Top imports** - Petroleum and petroleum products are among India's top imports from GCC accounting for 66% of its total imports in 2021-22.
- **Top exports** - India is a supplier of agricultural and manufactured products to GCC.
- Among the GCC countries, the UAE is India's major destination for exports, followed by Saudi Arabia and Oman in 2021-22.

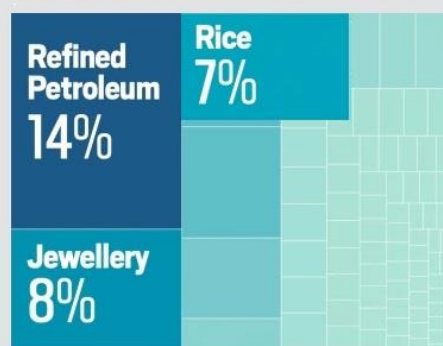
INDIA'S TRADE WITH GULF COOPERATION COUNCIL



INDIA'S TOP 3 IMPORTS



INDIA'S TOP 3 EXPORTS



How about the profile of GCC?

- The fall in global oil prices led to decline in GCC exports' share in the world market from 5.7% in 2013 to 3.3% in 2021.
- Owing to a revival in oil prices in 2022, the World Bank expects the economies of GCC to expand which might rise the trade deficit that India has with the GCC.
- Major GCC imports (2021) consist of electric machinery and equipment, machinery and mechanical appliance, vehicles and pharmaceutical products.
- Among the GCC, **Saudi Arabia** has the highest exports.

What is needed for the mutual benefit of the two countries?

- GCC provide for India's energy security, while India ensures their food security.
- India and the GCC need to go beyond the Free Trade Agreement (FTA) and include investments and services as a part of comprehensive economic partnership.
- In a rapidly emerging multipolar world, early and effective implementation of Comprehensive Economic Partnership Agreement CEPA would provide a boost to India and GCC countries.

India and the UAE signed a Comprehensive Economic Partnership Agreement (CEPA) in 2022.

Under the CEPA, Indian merchandise got preferential market access to the UAE for 99% of India's exports to the UAE in value terms, besides enhanced access to over 111 sub-sectors from 11 broad services sector.